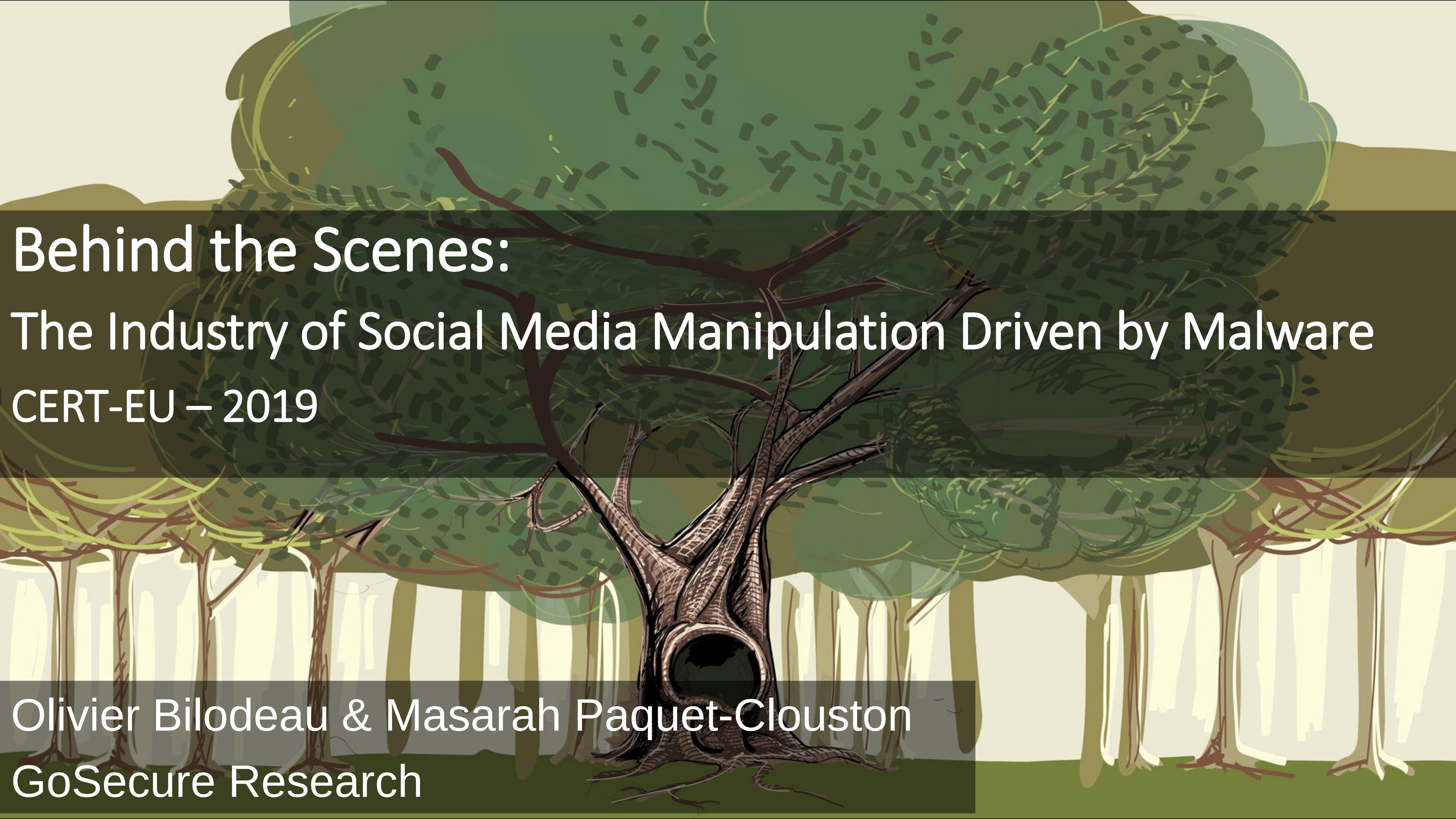


Behind the Scenes:

The Industry of Social Media Manipulation Driven by Malware

CERT-EU – 2019

Olivier Bilodeau & Masarah Paquet-Clouston
GoSecure Research

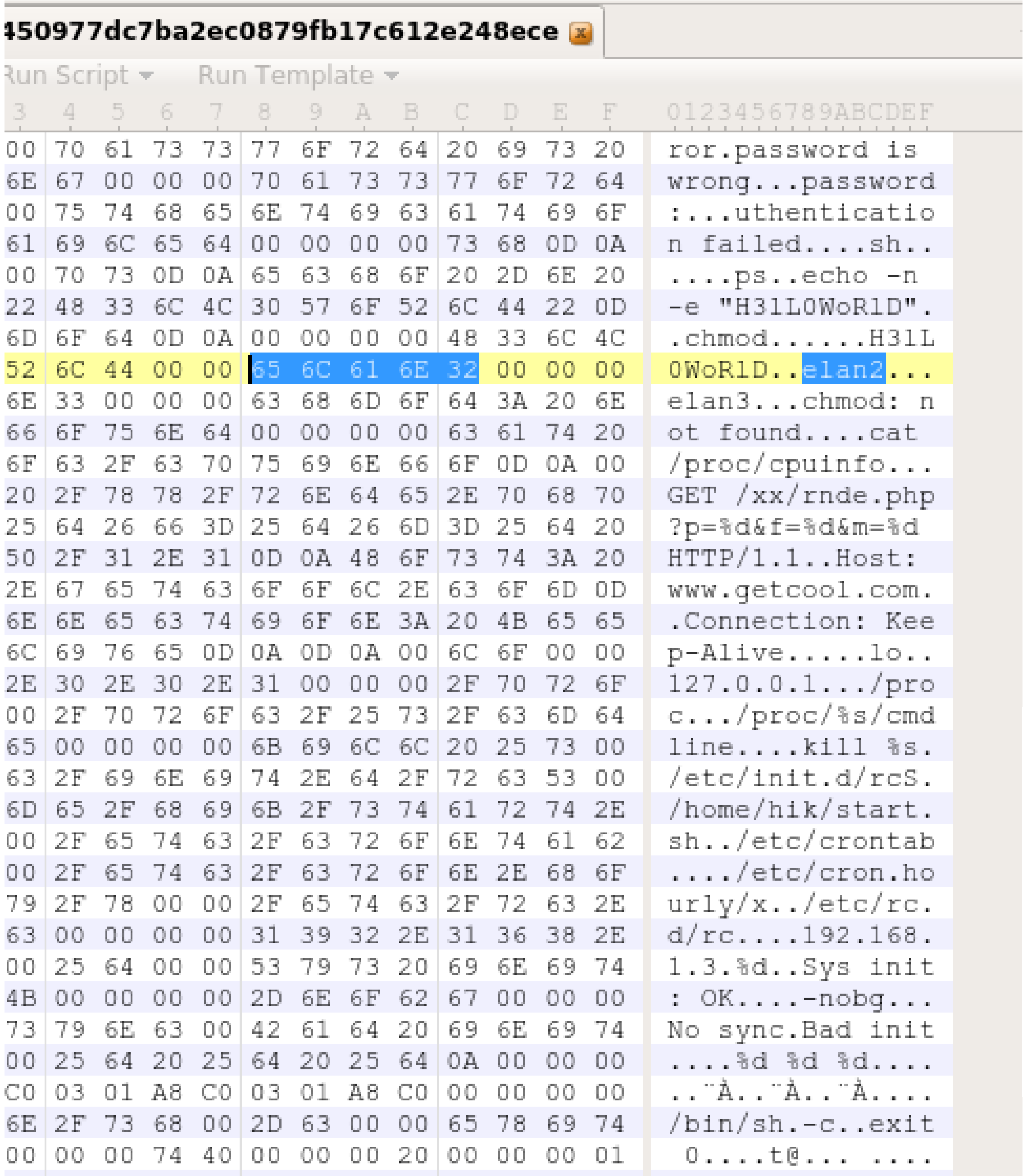
Back in 2015-2016

eset

Mitacs

Université de Montréal

Linux/Moose Botnet

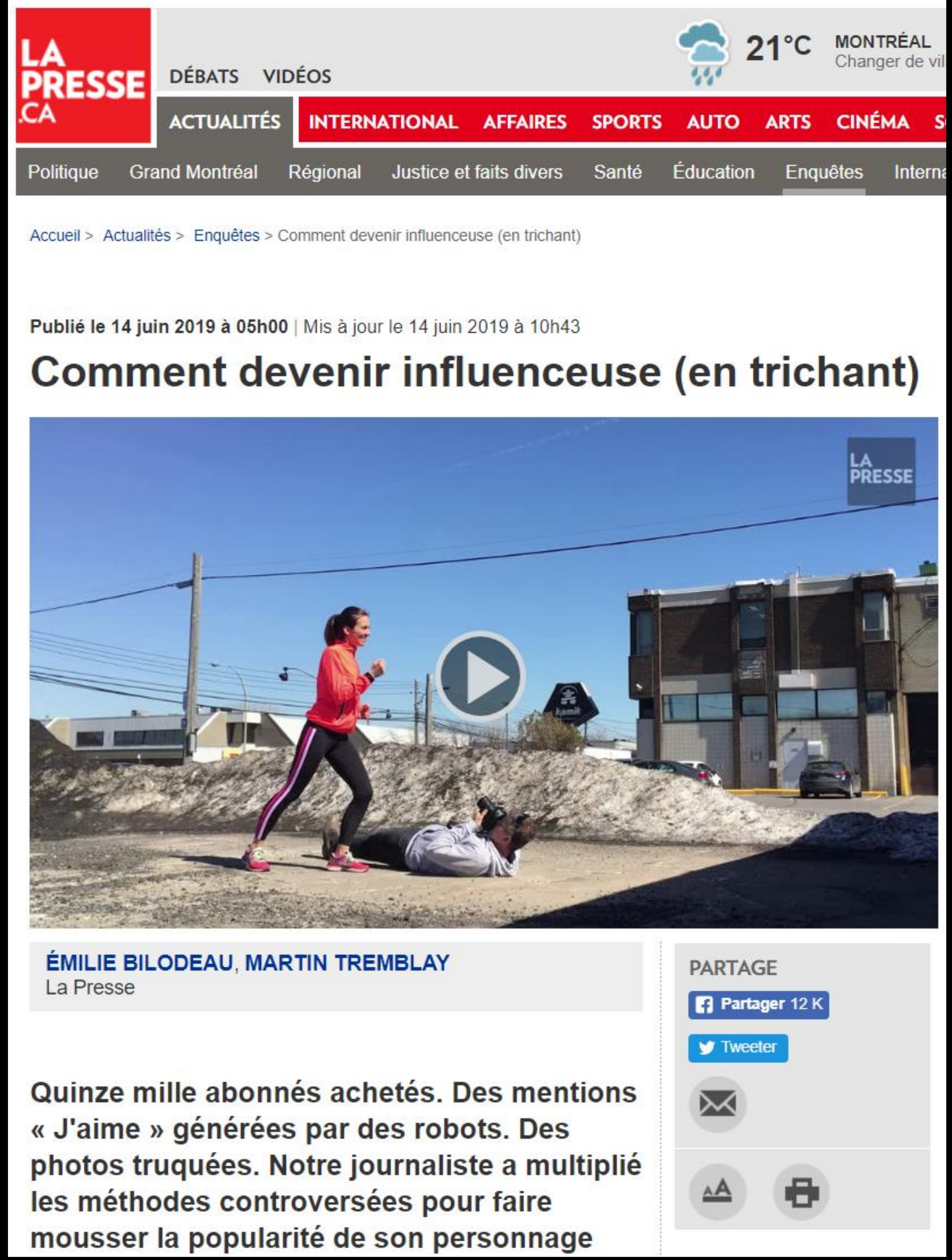


```
3  4  5  6  7  8  9  A  B  C  D  E  F   0123456789ABCDEF
00 70 61 73 73 77 6F 72 64 20 69 73 20  ror.password is
6E 67 00 00 00 70 61 73 73 77 6F 72 64  wrong...password
00 75 74 68 65 6E 74 69 63 61 74 69 6F  :...uthenticatio
61 69 6C 65 64 00 00 00 00 73 68 0D 0A  n failed....sh..
00 70 73 0D 0A 65 63 68 6F 20 2D 6E 20  ....ps..echo -n
22 48 33 6C 4C 30 57 6F 52 6C 44 22 0D  -e "H3lL0WoRlD".
6D 6F 64 0D 0A 00 00 00 00 48 33 6C 4C  .chmod......H3lL
52 6C 44 00 00 65 6C 61 6E 32 00 00 00  0WoRlD..elan2...
6E 33 00 00 00 63 68 6D 6F 64 3A 20 6E  elan3...chmod: n
66 6F 75 6E 64 00 00 00 00 63 61 74 20  ot found....cat
6F 63 2F 63 70 75 69 6E 66 6F 0D 0A 00  /proc/cpuinfo...
20 2F 78 78 2F 72 6E 64 65 2E 70 68 70  GET /xx/rnde.php
25 64 26 66 3D 25 64 26 6D 3D 25 64 20  ?p=%d&f=%d&m=%d
50 2F 31 2E 31 0D 0A 48 6F 73 74 3A 20  HTTP/1.1..Host:
2E 67 65 74 63 6F 6F 6C 2E 63 6F 6D 0D  www.getcool.com.
6E 6E 65 63 74 69 6F 6E 3A 20 4B 65 65  .Connection: Kee
6C 69 76 65 0D 0A 0D 0A 00 6C 6F 00 00  p-Alive.....lo..
2E 30 2E 30 2E 31 00 00 00 2F 70 72 6F  127.0.0.1.../pro
00 2F 70 72 6F 63 2F 25 73 2F 63 6D 64  c.../proc/%s/cmd
65 00 00 00 00 6B 69 6C 6C 20 25 73 00  line....kill %s.
63 2F 69 6E 69 74 2E 64 2F 72 63 53 00  /etc/init.d/rcS.
6D 65 2F 68 69 6B 2F 73 74 61 72 74 2E  /home/hik/start.
00 2F 65 74 63 2F 63 72 6F 6E 74 61 62  sh../etc/crontab
00 2F 65 74 63 2F 63 72 6F 6E 2E 68 6F  ..../etc/cron.ho
79 2F 78 00 00 2F 65 74 63 2F 72 63 2E  urly/x../etc/rc.
63 00 00 00 00 31 39 32 2E 31 36 38 2E  d/rc....192.168.
00 25 64 00 00 53 79 73 20 69 6E 69 74  1.3.%d..Sys init
4B 00 00 00 00 2D 6E 6F 62 67 00 00 00  : OK....-nobg...
73 79 6E 63 00 42 61 64 20 69 6E 69 74  No sync.Bad init
00 25 64 20 25 64 20 25 64 0A 00 00 00  ....%d %d %d....
C0 03 01 A8 C0 03 01 A8 C0 00 00 00 00  ..¨À..¨À..¨À....
6E 2F 73 68 00 2D 63 00 00 65 78 69 74  /bin/sh.-c..exit
00 00 00 74 40 00 00 00 20 00 00 00 01   0....t@... ....
```

Linux/Moose ?

Linux/Moose
An IoT botnet that conducts social media manipulation

Social Media Manipulation



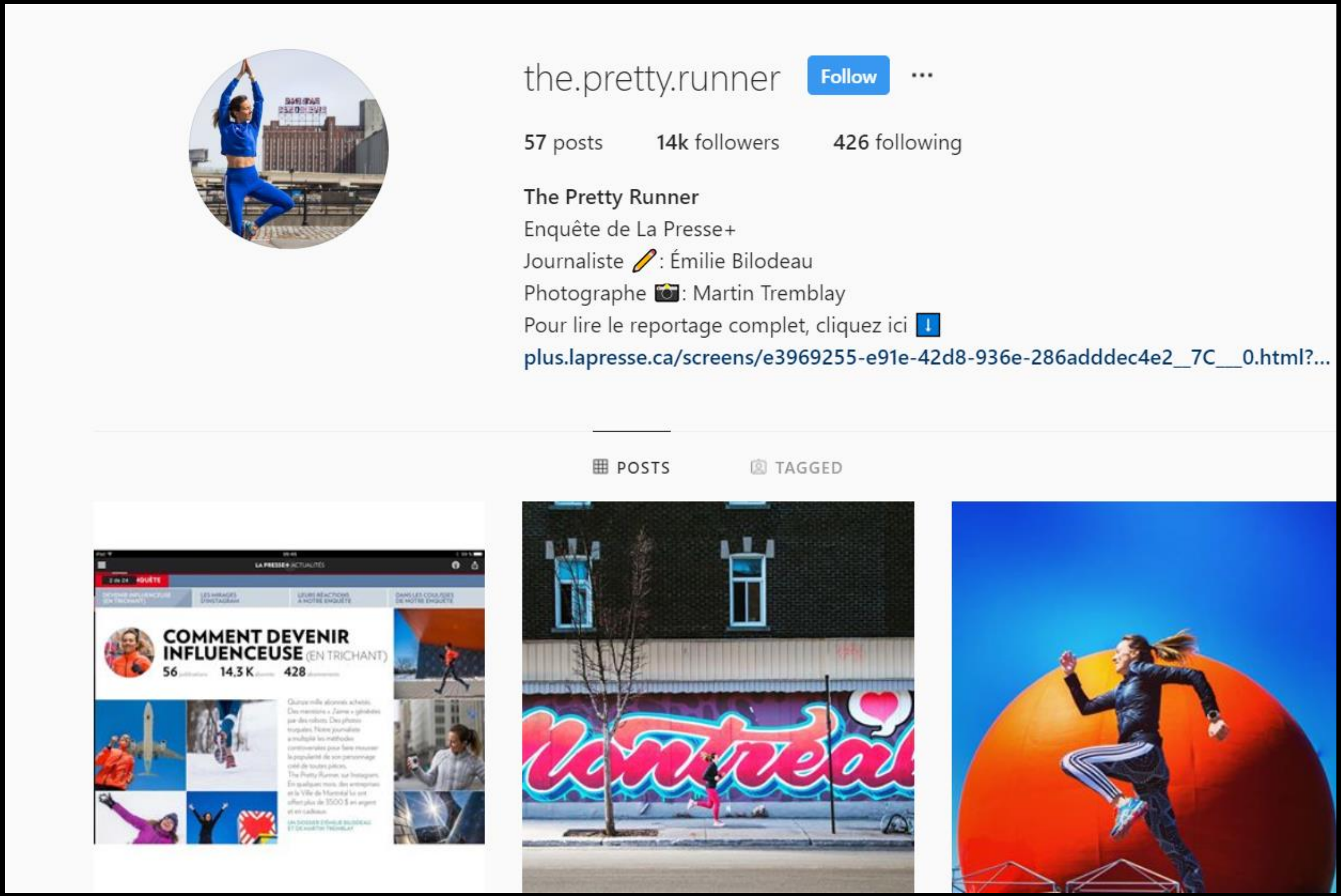
Accueil > Actualités > Enquêtes > Comment devenir influenceuse (en trichant)

Publié le 14 juin 2019 à 05h00 | Mis à jour le 14 juin 2019 à 10h43

Comment devenir influenceuse (en trichant)

ÉMILIE BILODEAU, **MARTIN TREMBLAY**
La Presse

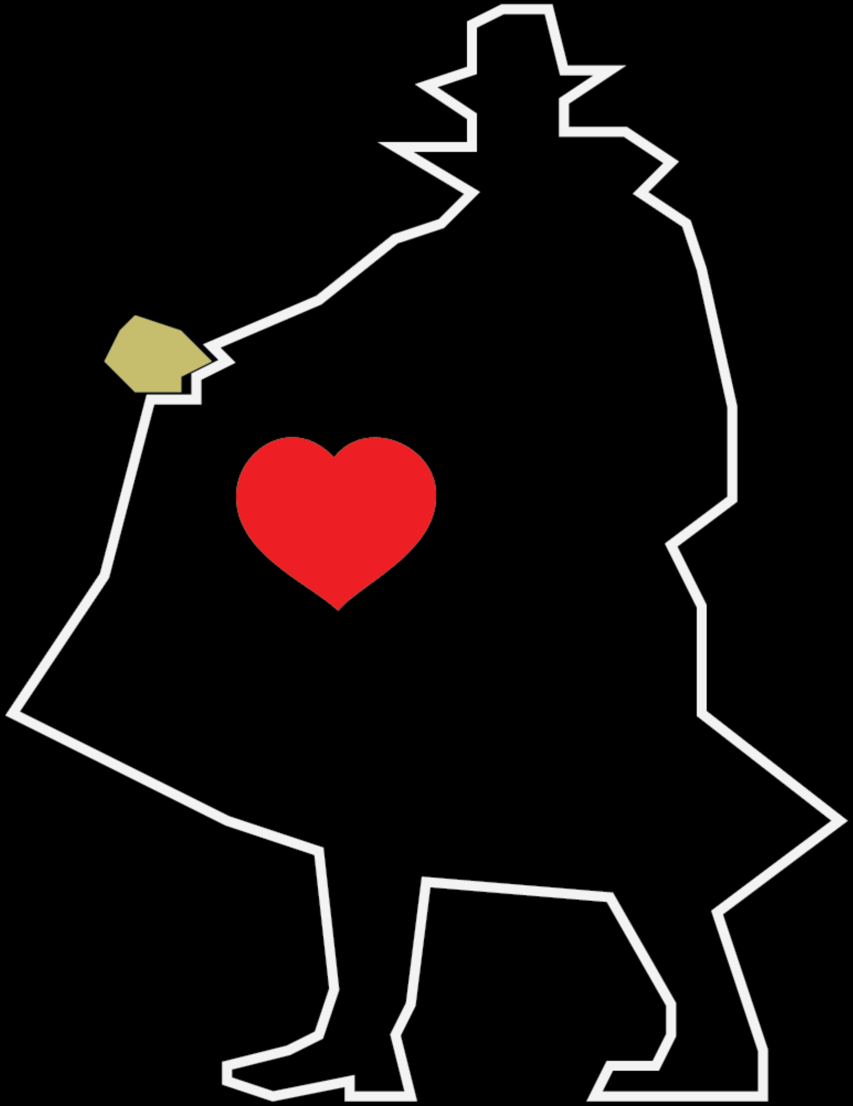
Quinze mille abonnés achetés. Des mentions « J'aime » générées par des robots. Des photos truquées. Notre journaliste a multiplié les méthodes controversées pour faire mousser la popularité de son personnage

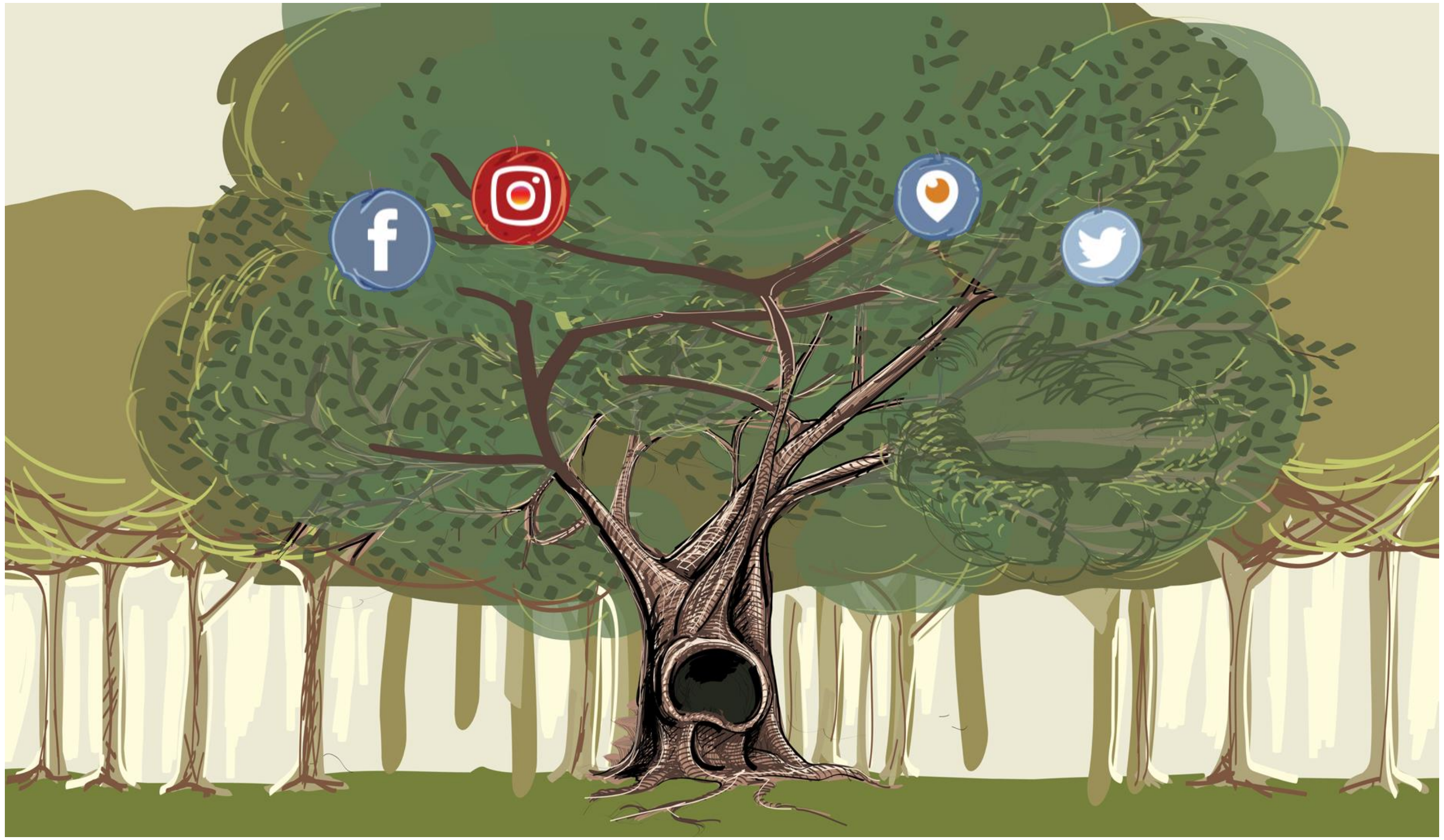


the.pretty.runner

57 posts 14k followers 426 following

The Pretty Runner
Enquête de La Presse+
Journaliste ✏: Émilie Bilodeau
Photographe 📷: Martin Tremblay
Pour lire le reportage complet, cliquez ici ⬇
plus.lapresse.ca/screens/e3969255-e91e-42d8-936e-286adddec4e2__7C___0.html?...



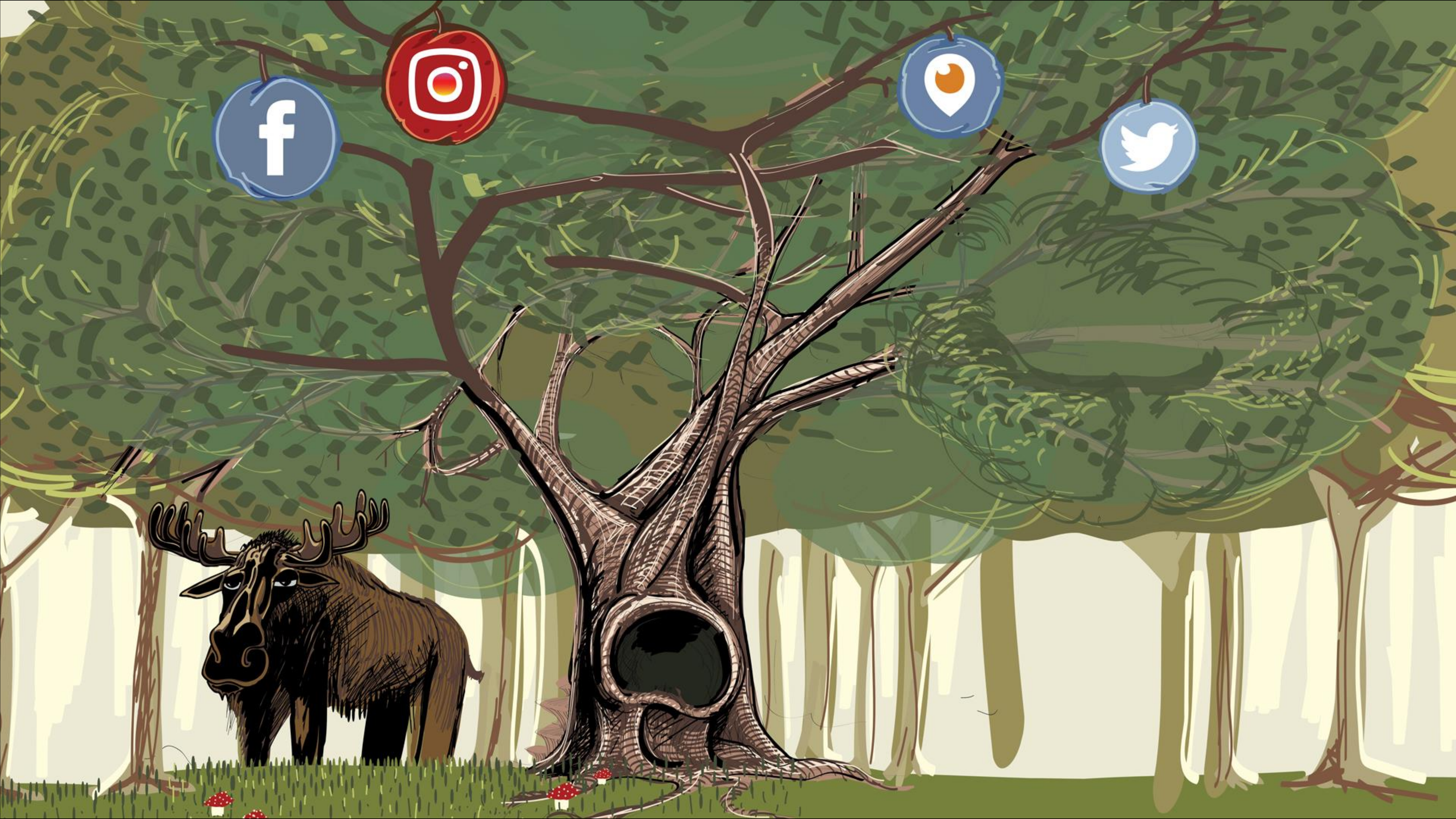


The Ecosystem of Social Media Manipulation

Presentation is about:

- A four-year long investigation
- Various investigative techniques
- A mapping of all actors involved

Linux / Moose

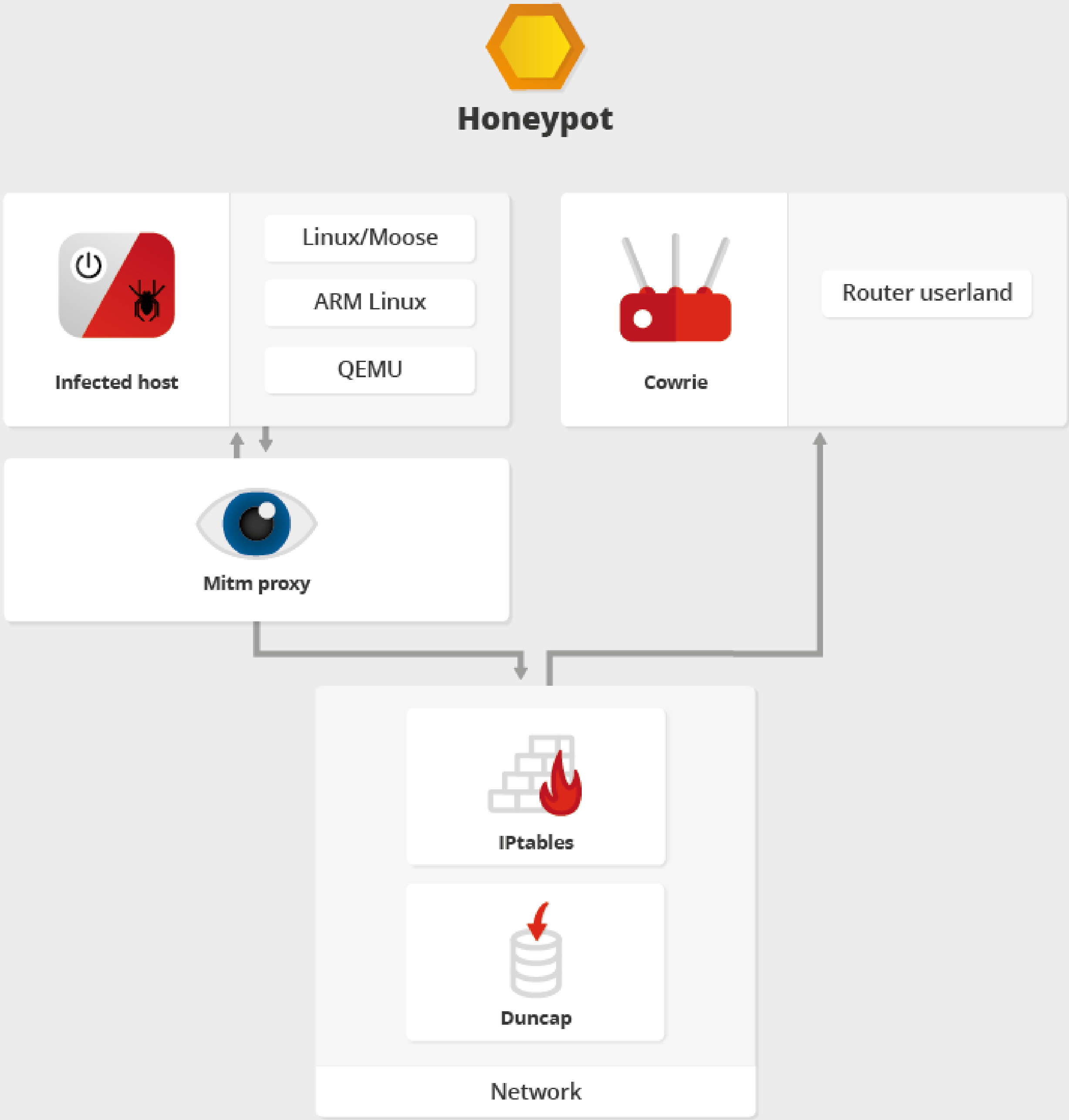


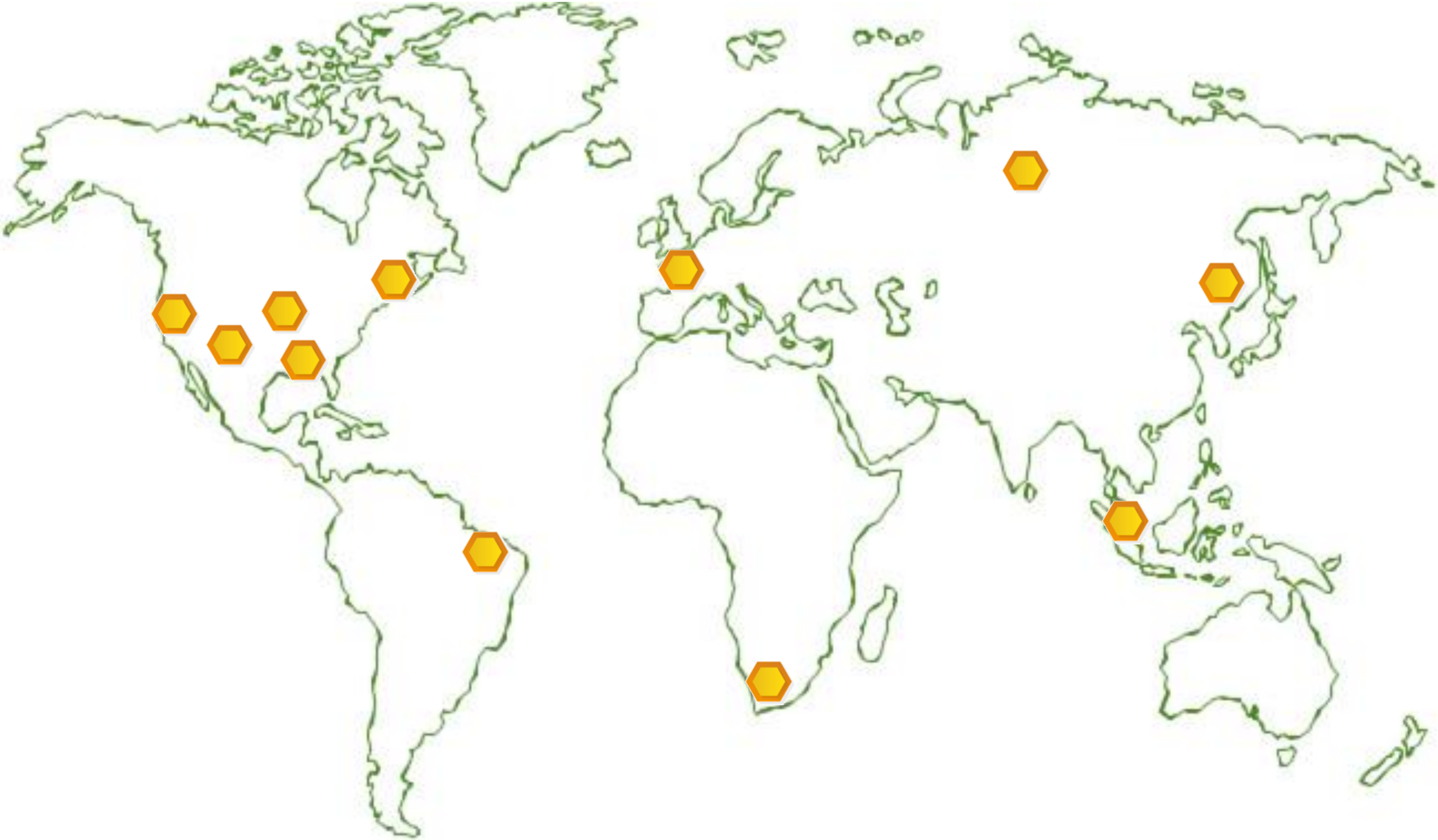
Linux/Moose

- Affects routers / Internet of Things (IoT)
  - Embedded Linux systems with busybox userland
- Worm-like behavior
  - Telnet credential brute force
- Payload: Proxy service
  - SOCKSv4/v5, HTTP, HTTPS

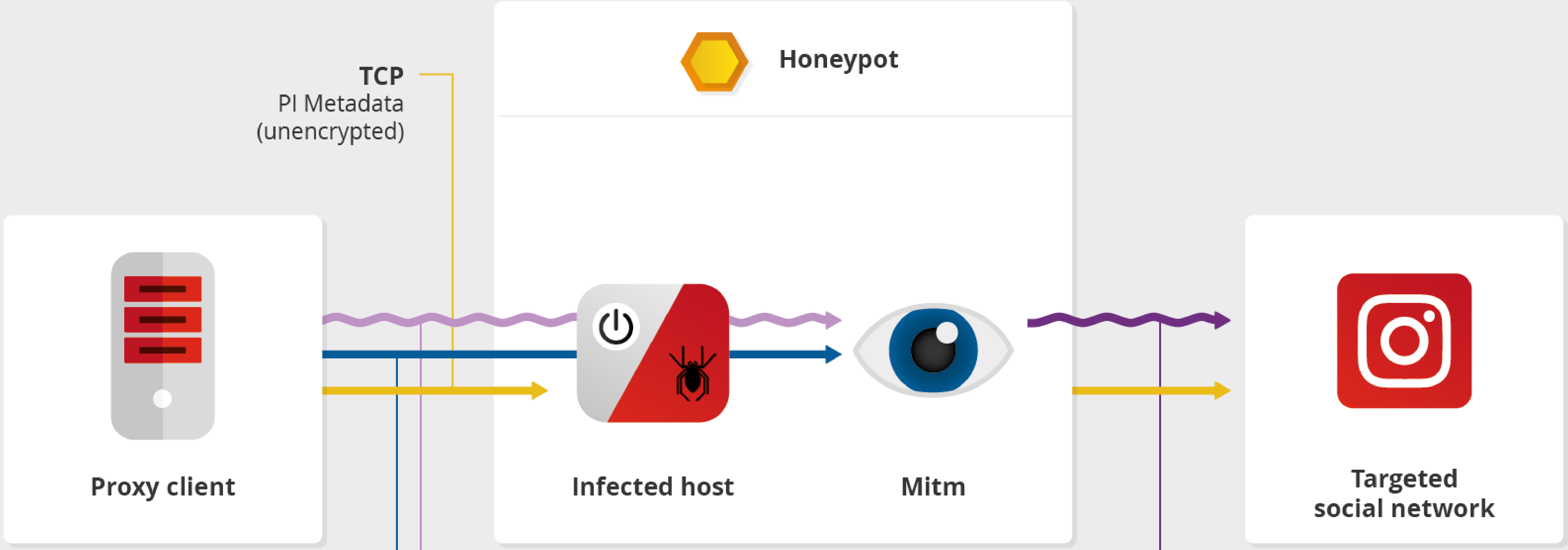
Honeypots

- Software-based
- Low interaction
- Side-loaded an ARM virtual machine
  - Which we infected





HTTPS Man-in-the-Middle (MITM) Attack



TCP
PI Metadata
(unencrypted)

SOCKS PROXY
End-to-end virtual tunnel (unencrypted
and terminated via redirection)

HTTPS
HTTP over TLS
(encrypted and **not** authenticated)

HTTPS
HTTP over TLS
(encrypted and authenticated)

Accessed the raw traffic!

What did we have?

- Several infected hosts used by operators
- HTTPS traffic in plaintext
- C&C traffic
- Publicly available seller market

Masarah Paquet-Clouston

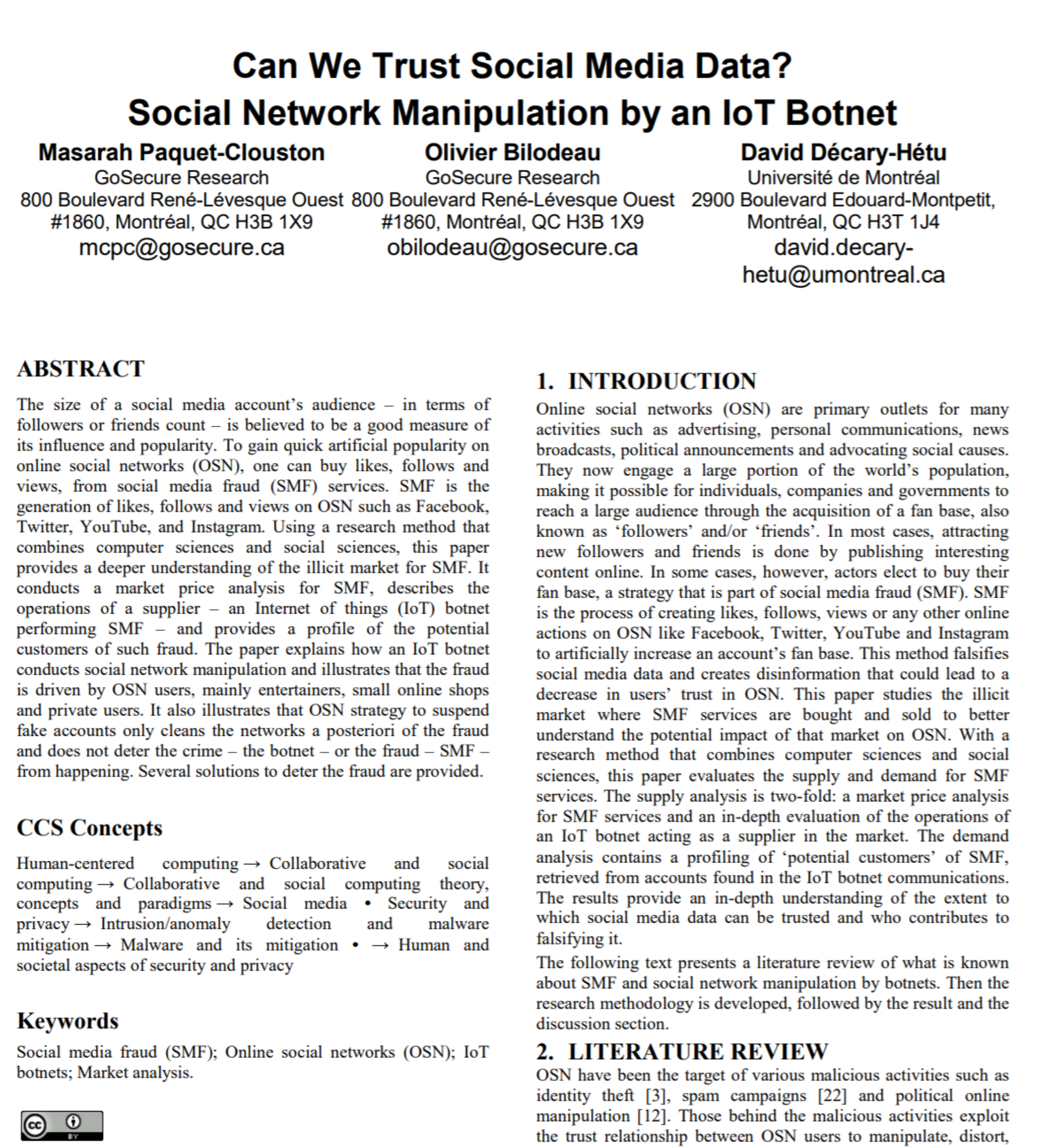
- Researcher at GoSecure Inc.
- Master student in Criminology at Université de Montréal
- Treasurer for the Northsec conference

Olivier Bilodeau

- Security Research Lead at GoSecure Inc.
- VP training for the Northsec Conference and CTF

EGO MARKET

When Greed
for Fame Benefits
Large-Scale Botnets



Can We Trust Social Media Data? Social Network Manipulation by an IoT Botnet

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ABSTRACT

The size of a social media account's audience – in terms of followers or friends count – is believed to be a good measure of its influence and popularity. To gain quick artificial popularity on online social networks (OSN), one can buy likes, follows and views, from social media fraud (SMF) services. SMF is the generation of likes, follows and views on OSN such as Facebook, Twitter, YouTube, and Instagram. Using a research method that combines computer sciences and social sciences, this paper provides a deeper understanding of the illicit market for SMF. It conducts a market price analysis for SMF, describes the operations of a supplier – an Internet of things (IoT) botnet performing SMF – and provides a profile of the potential customers of such fraud. The paper explains how an IoT botnet conducts social network manipulation and illustrates that the fraud is driven by OSN users, mainly entertainers, small online shops and private users. It also illustrates that OSN strategy to suspend fake accounts only cleans the networks a posteriori of the fraud and does not deter the crime – the botnet – or the fraud – SMF – from happening. Several solutions to deter the fraud are provided.

CCS Concepts

Human-centered computing → Collaborative and social computing → Collaborative and social computing theory, concepts and paradigms → Social media • Security and privacy → Intrusion/anomaly detection and malware mitigation → Malware and its mitigation • → Human and societal aspects of security and privacy

Keywords

Social media fraud (SMF); Online social networks (OSN); IoT botnets; Market analysis.

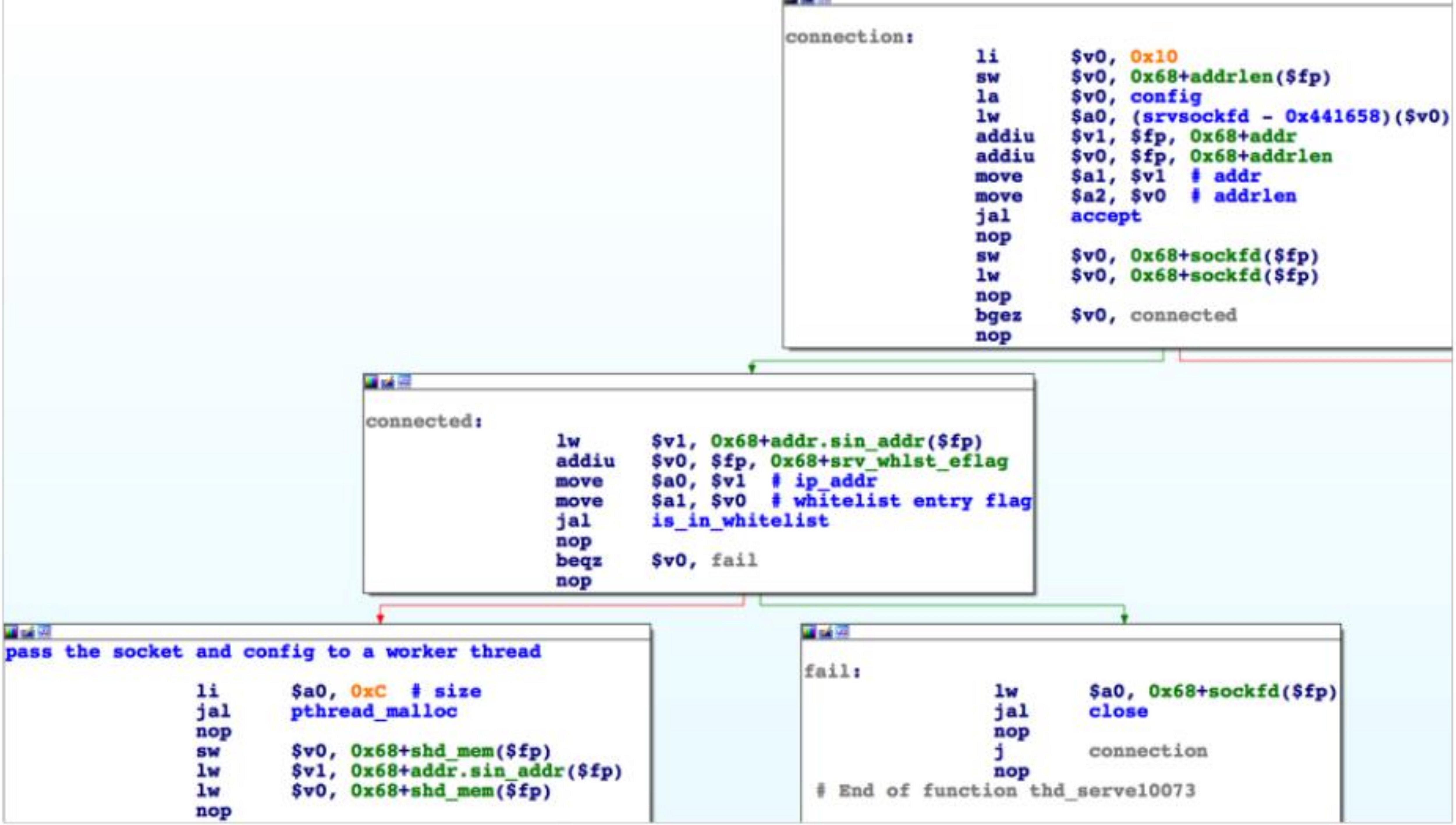
1. INTRODUCTION

Online social networks (OSN) are primary outlets for many activities such as advertising, personal communications, news broadcasts, political announcements and advocating social causes. They now engage a large portion of the world's population, making it possible for individuals, companies and governments to reach a large audience through the acquisition of a fan base, also known as 'followers' and/or 'friends'. In most cases, attracting new followers and friends is done by publishing interesting content online. In some cases, however, actors elect to buy their fan base, a strategy that is part of social media fraud (SMF). SMF is the process of creating likes, follows, views or any other online actions on OSN like Facebook, Twitter, YouTube and Instagram to artificially increase an account's fan base. This method falsifies social media data and creates disinformation that could lead to a decrease in users' trust in OSN. This paper studies the illicit market where SMF services are bought and sold to better understand the potential impact of that market on OSN. With a research method that combines computer sciences and social sciences, this paper evaluates the supply and demand for SMF services. The supply analysis is two-fold: a market price analysis for SMF services and an in-depth evaluation of the operations of an IoT botnet acting as a supplier in the market. The demand analysis contains a profiling of 'potential customers' of SMF, retrieved from accounts found in the IoT botnet communications. The results provide an in-depth understanding of the extent to which social media data can be trusted and who contributes to falsifying it.

The following text presents a literature review of what is known about SMF and social network manipulation by botnets. Then the research methodology is developed, followed by the result and the discussion section.

2. LITERATURE REVIEW

OSN have been the target of various malicious activities such as identity theft [3], spam campaigns [22] and political online manipulation [12]. Those behind the malicious activities exploit the trust relationship between OSN users to manipulate, distort,



```
connection:             li      $v0, 0x10
                        sw      $v0, 0x68+addrlen($fp)
                        la      $v0, config
                        lw      $a0, (srvsockfd - 0x441658)($v0)
                        addiu   $v1, $fp, 0x68+addr
                        addiu   $v0, $fp, 0x68+addrlen
                        move    $a1, $v1  # addr
                        move    $a2, $v0  # addrlen
                        jal     accept
                        nop
                        sw      $v0, 0x68+sockfd($fp)
                        lw      $v0, 0x68+sockfd($fp)
                        nop
                        bgez    $v0, connected
                        nop
```

```
connected:
                        lw      $v1, 0x68+addr.sin_addr($fp)
                        addiu   $v0, $fp, 0x68+srv_whlst_eflag
                        move    $a0, $v1  # ip_addr
                        move    $a1, $v0  # whitelist entry flag
                        jal     is_in_whitelist
                        nop
                        beqz    $v0, fail
                        nop
```

```
pass the socket and config to a worker thread

                li      $a0, 0xC  # size
                jal     pthread_malloc
                nop
                sw      $v0, 0x68+shd_mem($fp)
                lw      $v1, 0x68+addr.sin_addr($fp)
                lw      $v0, 0x68+shd_mem($fp)
                nop
```

```
fail:
                        lw      $a0, 0x68+sockfd($fp)
                        jal     close
                        nop
                        j       connection
                        nop
 # End of function thd_serve10073
```

Whitelisted IPs

Reseller model?

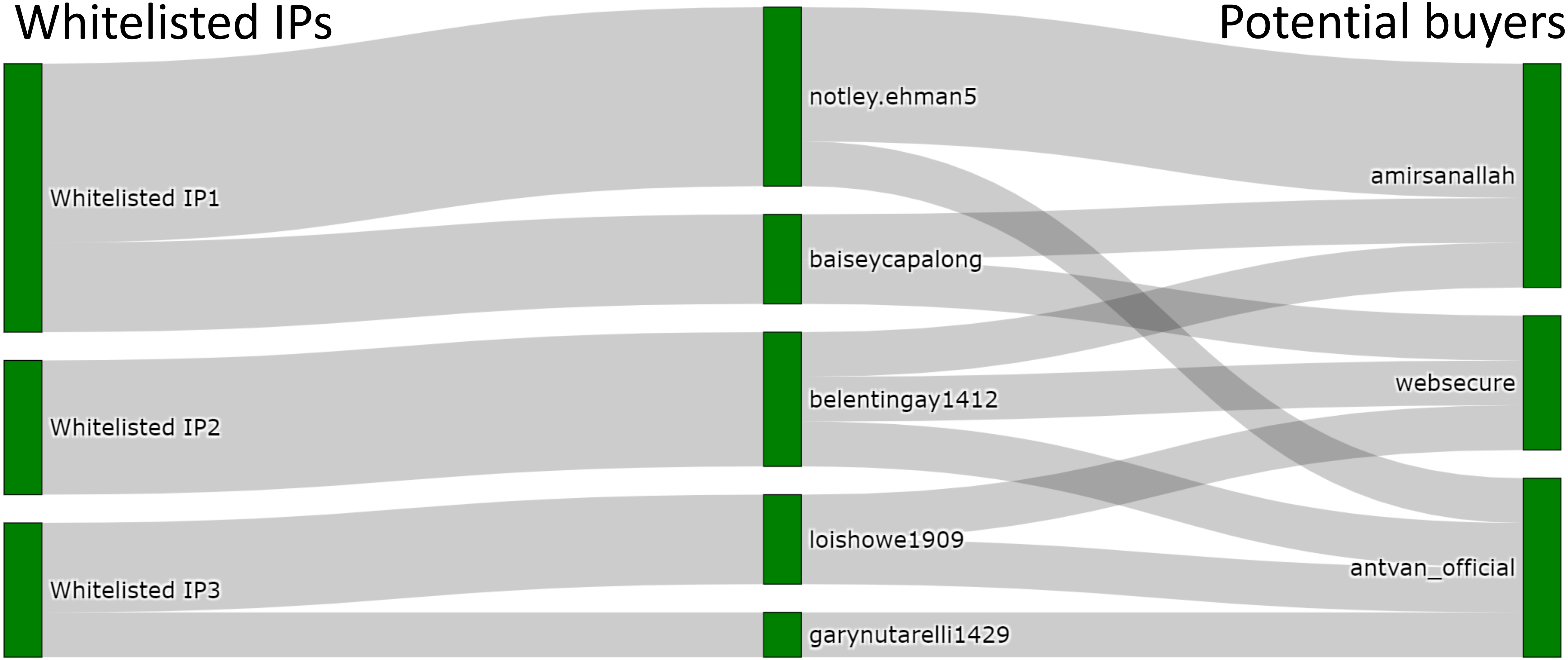
Traffic analysis

jupyterlab TNG

Variables	Honeypots used
	Websites targeted
	TLS fingerprints
	User agents
	API calls
	Timestamps
	Accounts created on social networks
	Accounts followed on social networks

Whitelisted IPs

Potential buyers



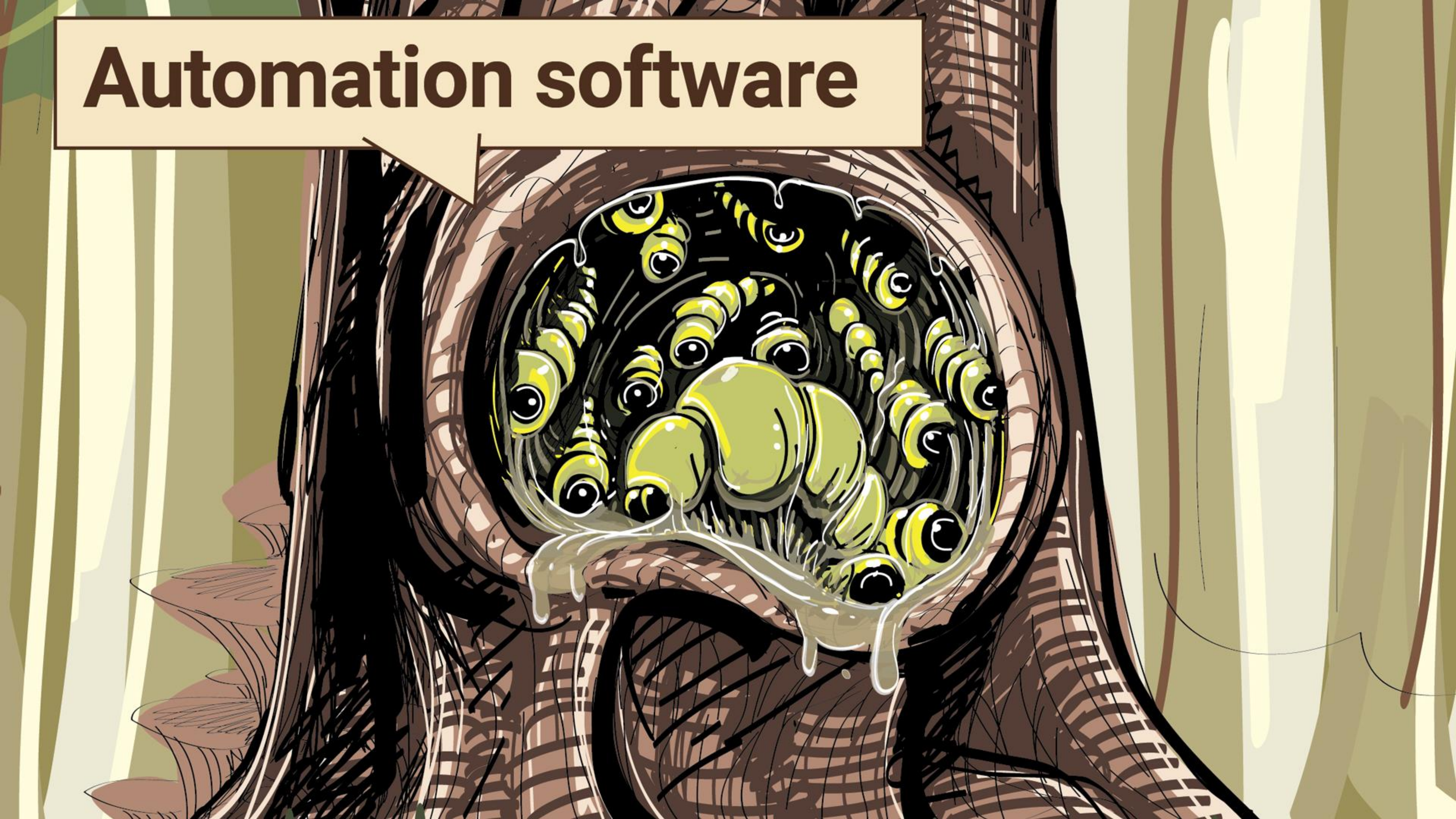
Fake accounts

Where do we stand?

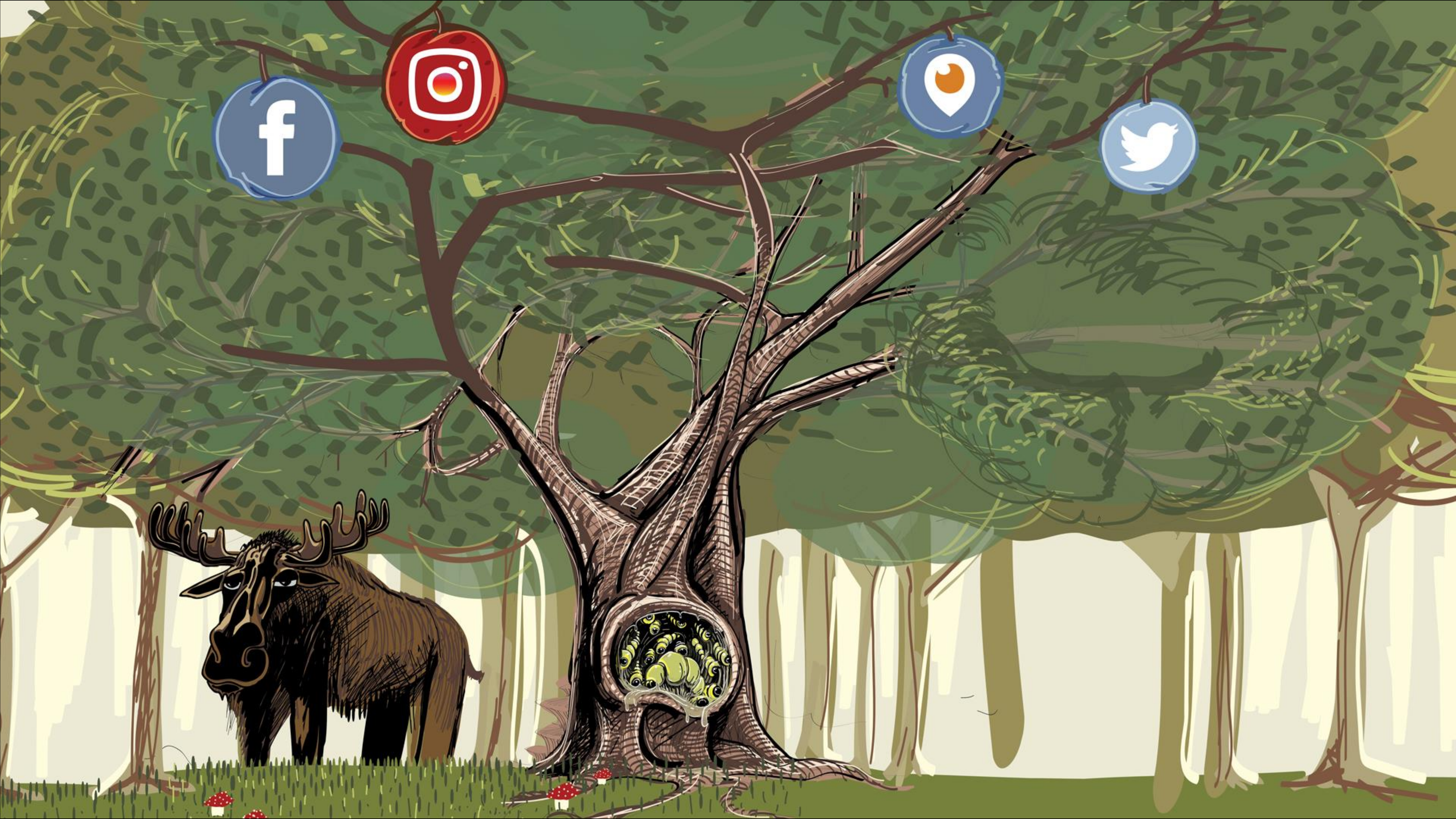
Each whitelisted IP addresses have their own list of fake accounts

Additionally, the whitelisted IP addresses:

- Run on Windows servers
- Remote desktop protocol is actively used



Automation software



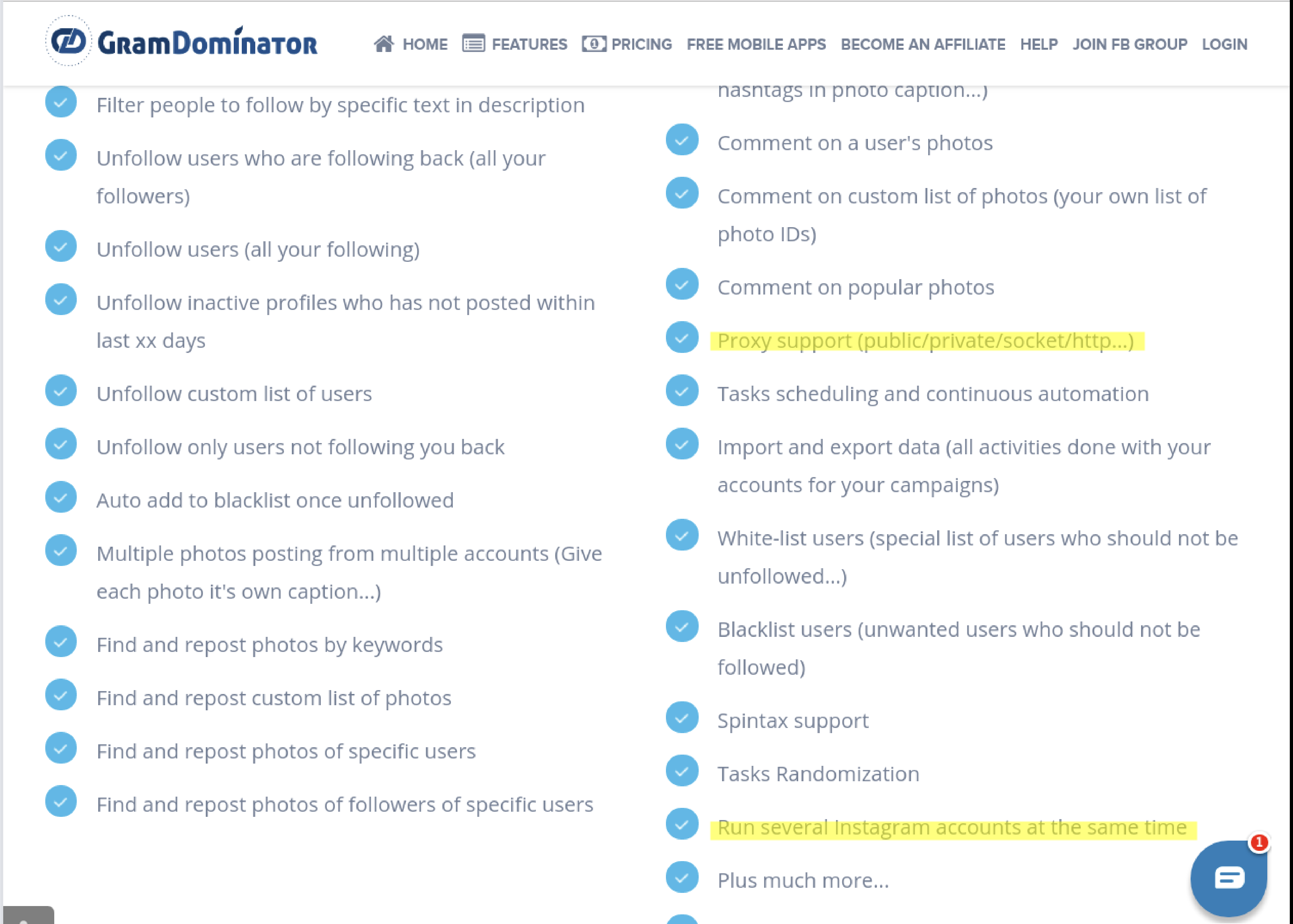
Automation Software

- We tried to find the Linux/Moose provider
  - Based on User-Agents: Mobile and Desktop
  - Socks proxy support
- Found different features
  - Scales Social Network Account Management (1000s of accounts)
  - Proxy-type HTTP / Socks
  - Per account User-Agents (Mobile and Desktop)
  - Custom browsing patterns
- Found different business models
  - Unlimited accounts
  - One-time fee / Pay-per-month / Pay-per-account

Everything You Need

to increase Instagram traffic and sales

Not just scheduling but complete automation



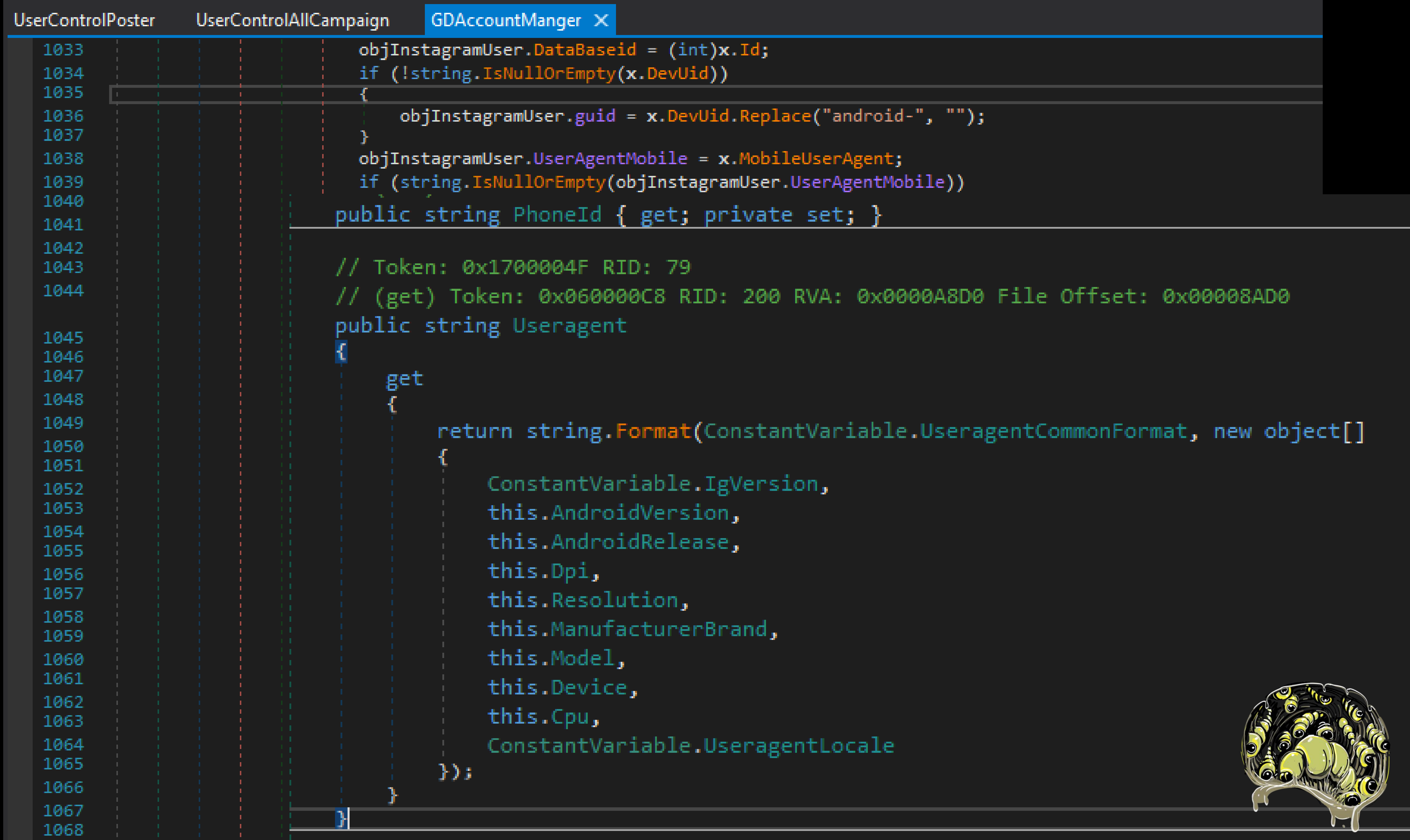
GramDominator

HOME FEATURES PRICING FREE MOBILE APPS BECOME AN AFFILIATE HELP JOIN FB GROUP LOGIN

- ✓ Filter people to follow by specific text in description
- ✓ Unfollow users who are following back (all your followers)
- ✓ Unfollow users (all your following)
- ✓ Unfollow inactive profiles who has not posted within last xx days
- ✓ Unfollow custom list of users
- ✓ Unfollow only users not following you back
- ✓ Auto add to blacklist once unfollowed
- ✓ Multiple photos posting from multiple accounts (Give each photo it's own caption...)
- ✓ Find and repost photos by keywords
- ✓ Find and repost custom list of photos
- ✓ Find and repost photos of specific users
- ✓ Find and repost photos of followers of specific users

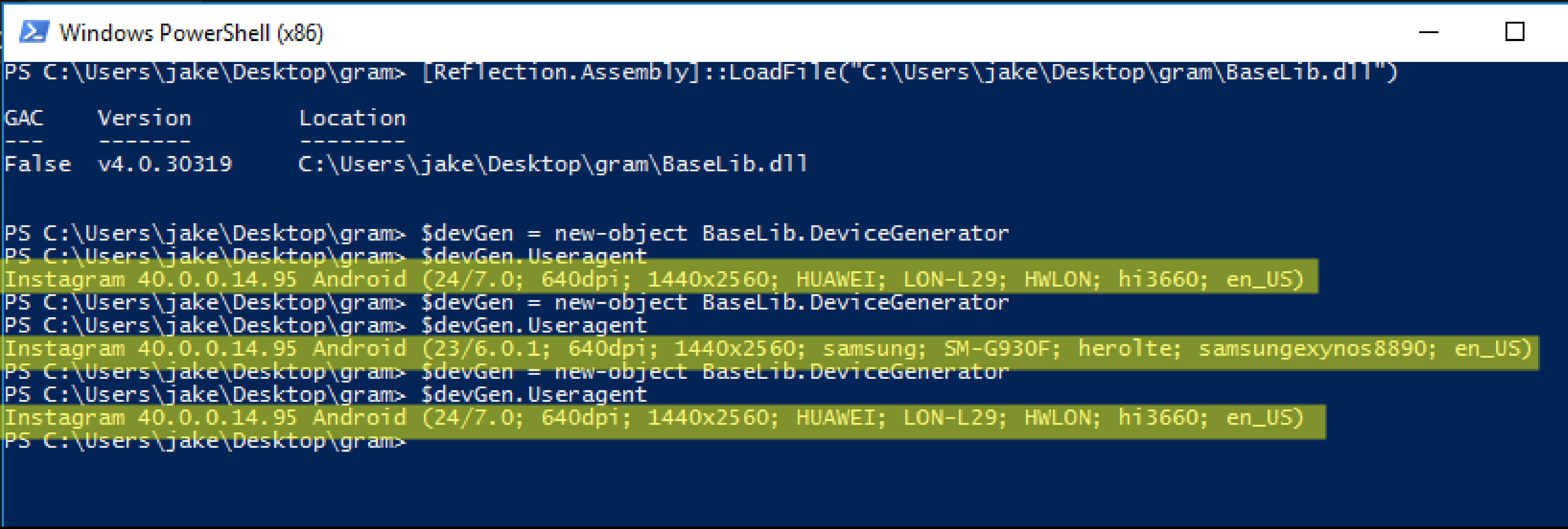
hashtags in photo caption...)

- ✓ Comment on a user's photos
- ✓ Comment on custom list of photos (your own list of photo IDs)
- ✓ Comment on popular photos
- ✓ Proxy support (public/private/socket/http...)
- ✓ Tasks scheduling and continuous automation
- ✓ Import and export data (all activities done with your accounts for your campaigns)
- ✓ White-list users (special list of users who should not be unfollowed...)
- ✓ Blacklist users (unwanted users who should not be followed)
- ✓ Spintax support
- ✓ Tasks Randomization
- ✓ Run several Instagram accounts at the same time
- ✓ Plus much more...

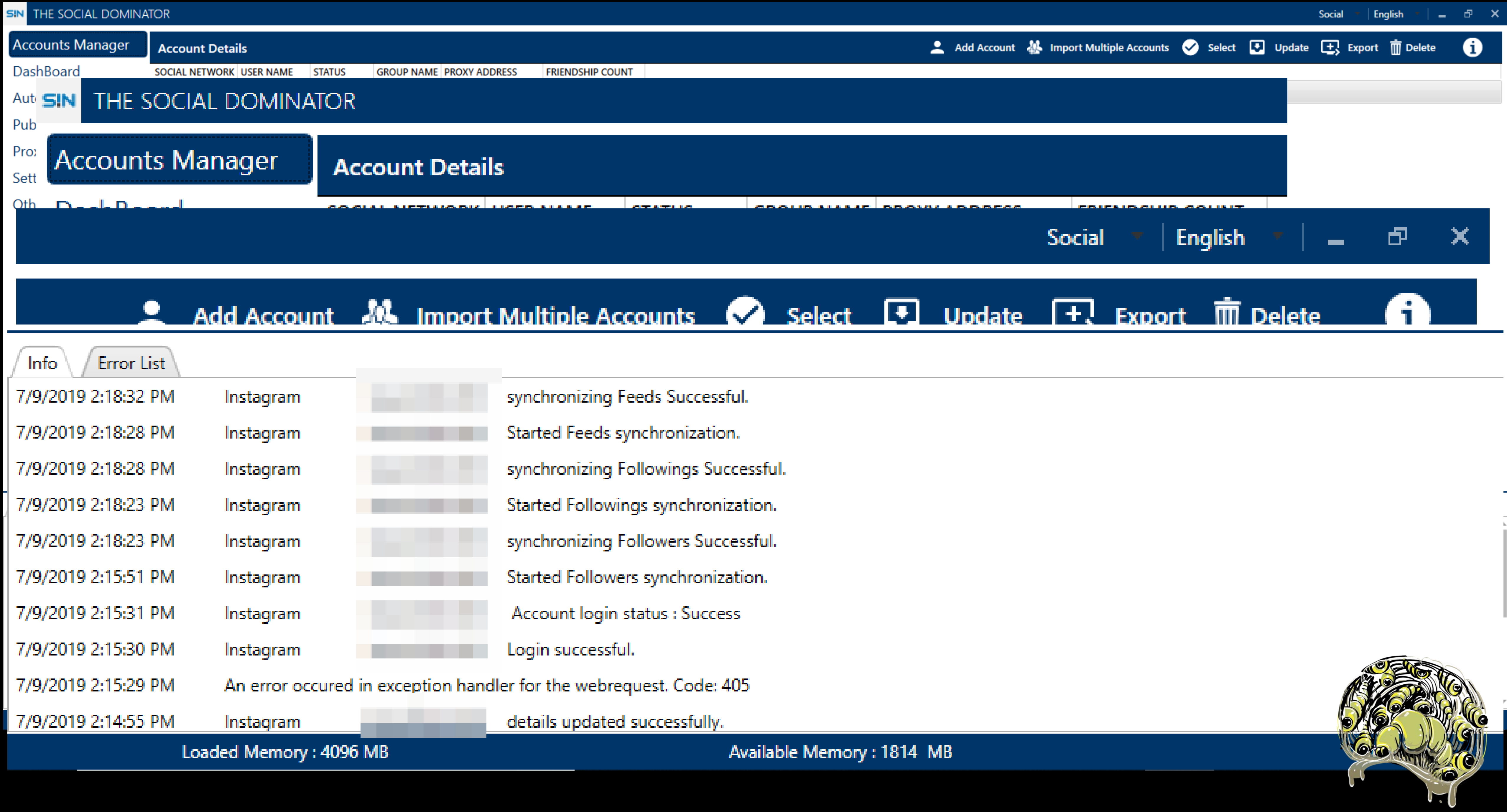


```
objInstagramUser.DataBaseid = (int)x.Id;
if (!string.IsNullOrEmpty(x.DevUid))
{
    objInstagramUser.guid = x.DevUid.Replace("android-", "");
}
objInstagramUser.UserAgentMobile = x.MobileUserAgent;
if (string.IsNullOrEmpty(objInstagramUser.UserAgentMobile))
```

```
public string PhoneId { get; private set; }

// Token: 0x1700004F RID: 79
// (get) Token: 0x060000C8 RID: 200 RVA: 0x0000A8D0 File Offset: 0x00008AD0
public string Useragent
{
    get
    {
        return string.Format(ConstantVariable.UseragentCommonFormat, new object[]
        {
            ConstantVariable.IgVersion,
            this.AndroidVersion,
            this.AndroidRelease,
            this.Dpi,
            this.Resolution,
            this.ManufacturerBrand,
            this.Model,
            this.Device,
            this.Cpu,
            ConstantVariable.UseragentLocale
        });
    }
}
```

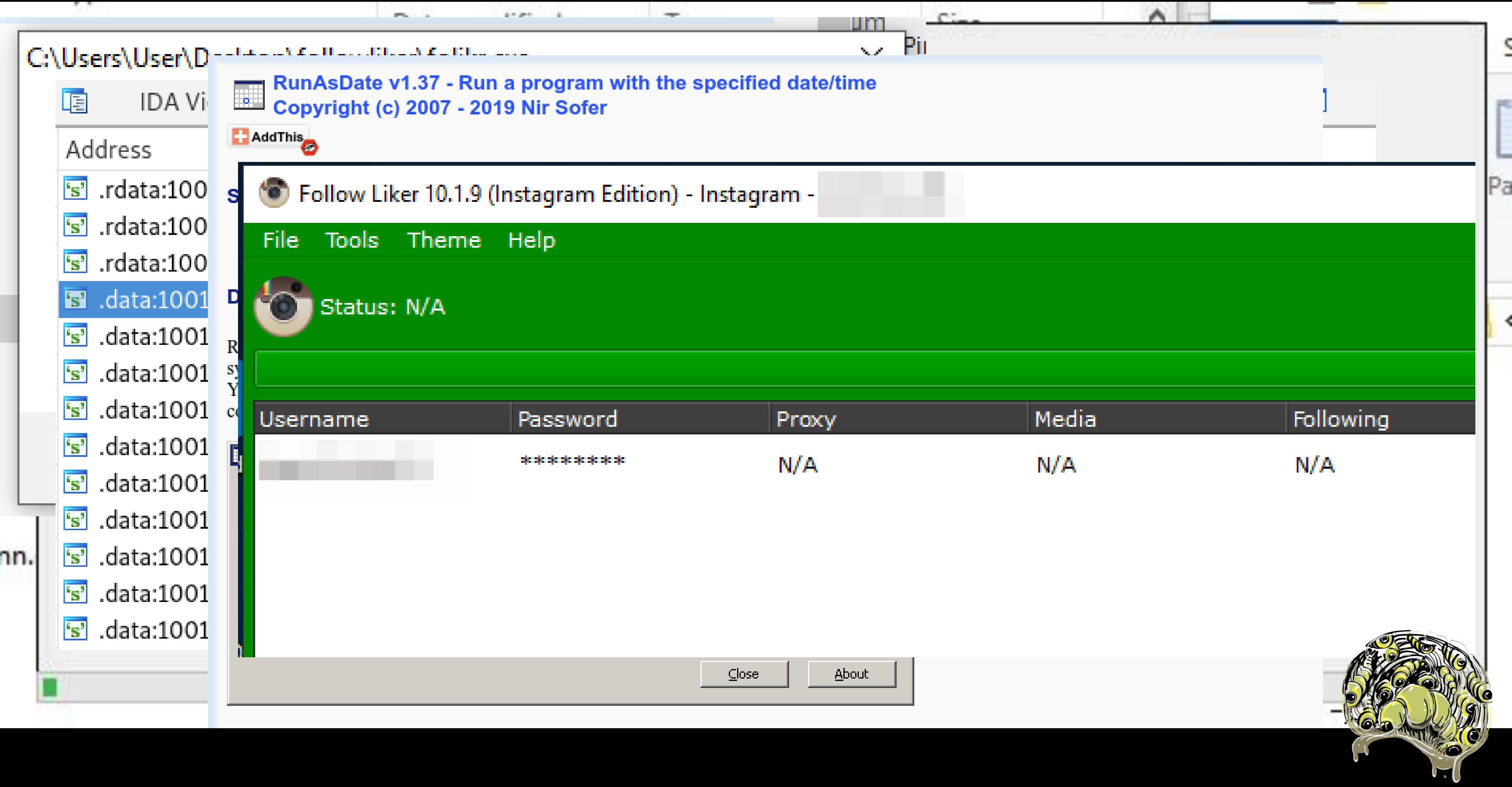


```
PS C:\Users\jake\Desktop\gram> [Reflection.Assembly]::LoadFile("C:\Users\jake\Desktop\gram\BaseLib.dll")

GAC    Version        Location
---    -------        --------
False  v4.0.30319     C:\Users\jake\Desktop\gram\BaseLib.dll


PS C:\Users\jake\Desktop\gram> $devGen = new-object BaseLib.DeviceGenerator
PS C:\Users\jake\Desktop\gram> $devGen.Useragent
Instagram 40.0.0.14.95 Android (24/7.0; 640dpi; 1440x2560; HUAWEI; LON-L29; HWLON; hi3660; en_US)
PS C:\Users\jake\Desktop\gram> $devGen = new-object BaseLib.DeviceGenerator
PS C:\Users\jake\Desktop\gram> $devGen.Useragent
Instagram 40.0.0.14.95 Android (23/6.0.1; 640dpi; 1440x2560; samsung; SM-G930F; herolte; samsungexynos8890; en_US)
PS C:\Users\jake\Desktop\gram> $devGen = new-object BaseLib.DeviceGenerator
PS C:\Users\jake\Desktop\gram> $devGen.Useragent
Instagram 40.0.0.14.95 Android (24/7.0; 640dpi; 1440x2560; HUAWEI; LON-L29; HWLON; hi3660; en_US)
PS C:\Users\jake\Desktop\gram>
```



```
7/9/2019 2:18:32 PM    Instagram    [redacted]    synchronizing Feeds Successful.
7/9/2019 2:18:28 PM    Instagram    [redacted]    Started Feeds synchronization.
7/9/2019 2:18:28 PM    Instagram    [redacted]    synchronizing Followings Successful.
7/9/2019 2:18:23 PM    Instagram    [redacted]    Started Followings synchronization.
7/9/2019 2:18:23 PM    Instagram    [redacted]    synchronizing Followers Successful.
7/9/2019 2:15:51 PM    Instagram    [redacted]    Started Followers synchronization.
7/9/2019 2:15:31 PM    Instagram    [redacted]     Account login status : Success
7/9/2019 2:15:30 PM    Instagram    [redacted]    Login successful.
7/9/2019 2:15:29 PM    An error occured in exception handler for the webrequest. Code: 405
7/9/2019 2:14:55 PM    Instagram    [redacted]    details updated successfully.
```

Loaded Memory : 4096 MB   Available Memory : 1814 MB



C:\Users\User\D

IDA Vi

```
Address
.rdata:100
.rdata:100
.rdata:100
.data:1001
.data:1001
.data:1001
.data:1001
.data:1001
.data:1001
.data:1001
.data:1001
.data:1001
.data:1001
```

RunAsDate v1.37 - Run a program with the specified date/time
Copyright (c) 2007 - 2019 Nir Sofer

Follow Liker 10.1.9 (Instagram Edition) - Instagram - [redacted]

Status: N/A

Username	Password	Proxy	Media	Following
[redacted]	********	N/A	N/A	N/A

Automation Software Summary

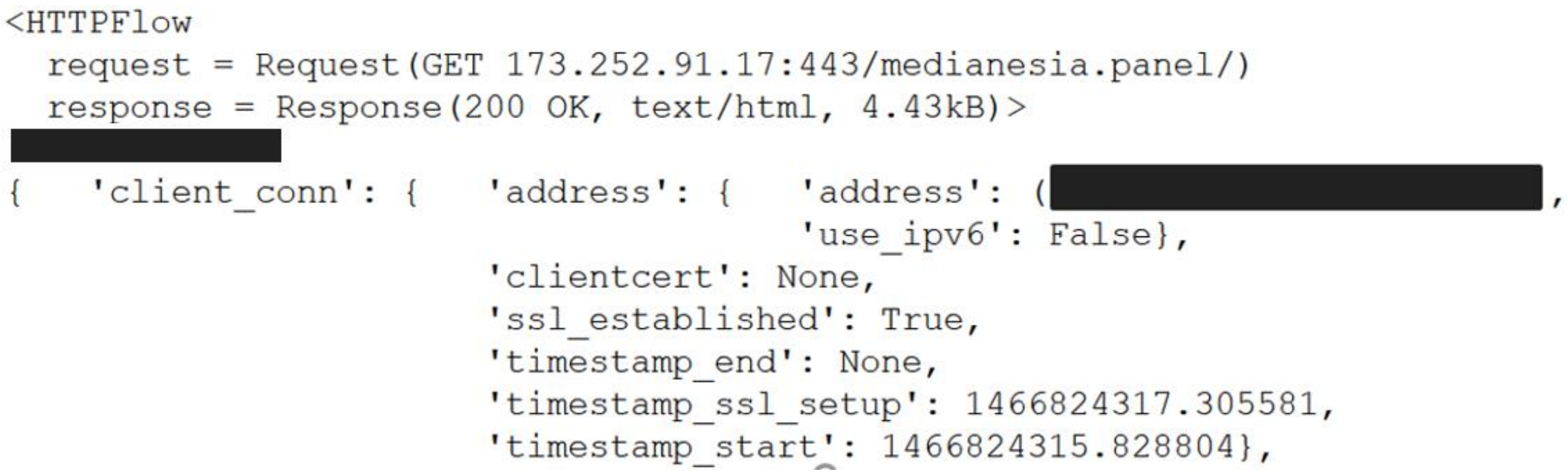
	Architecture	Browser	Packer	Our Target?
GramDominator / Socinator	.Net	CEF	Not packed	No socks proxy support
FollowAdder	Xojo / REALBasic	CEF	Obscure Xojo framework	No unlimited accounts
MassPlanner	C++ / .Net	CEF	Themida / WinLicense 2.x	Only one overridable User-Agent
FollowingLike	.Net	BotSocial, a custom browser in .Net	ILProtector	Custom User-Agent feature too recent
FollowLiker	Java compiled to native code	HtmlUnit Java Library	Excelsior JET	Doesn’t interact with Instagram similarly

Where do we stand?

Found several automation software vendors

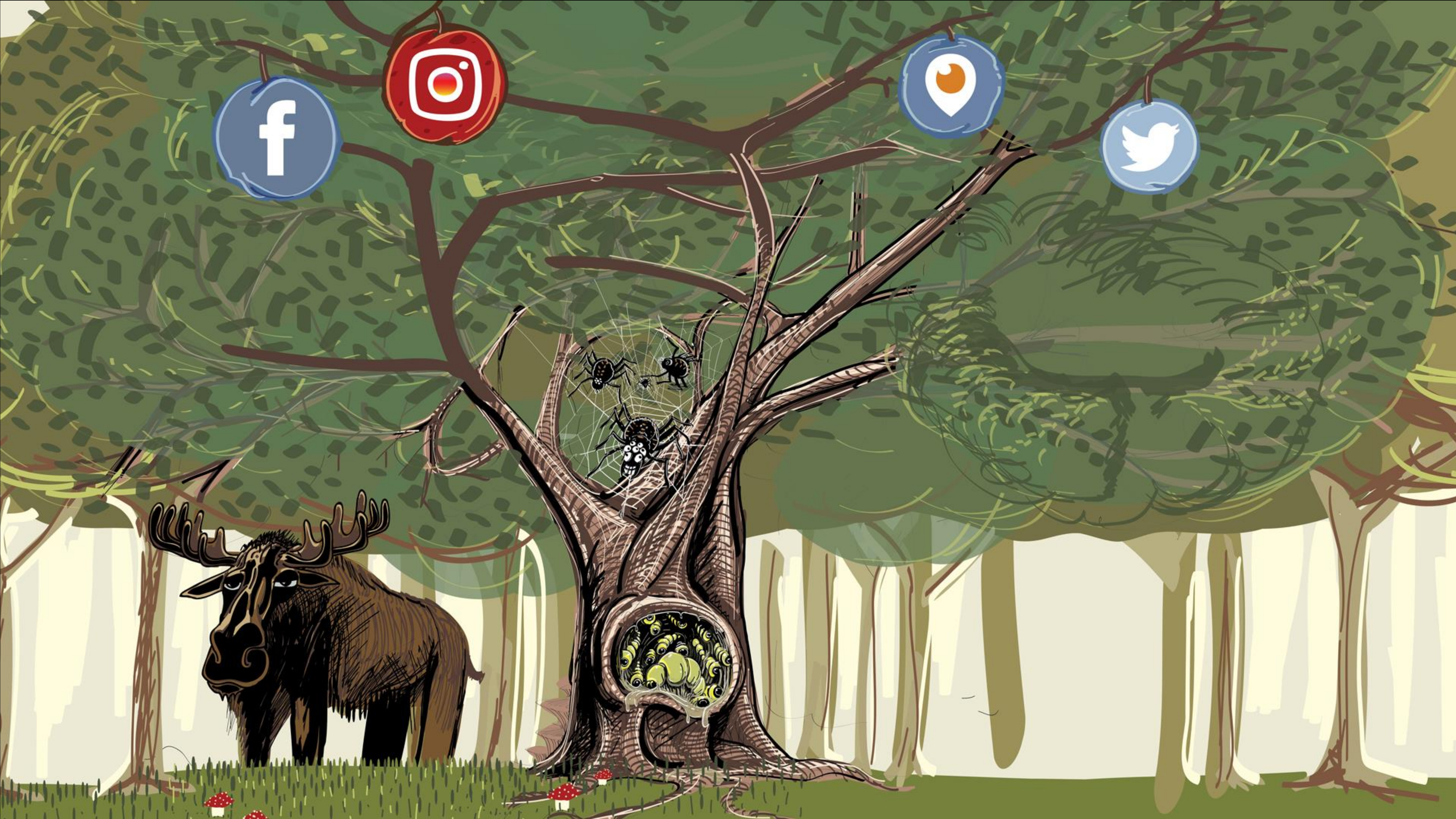
Reseller model is not at the botnet level

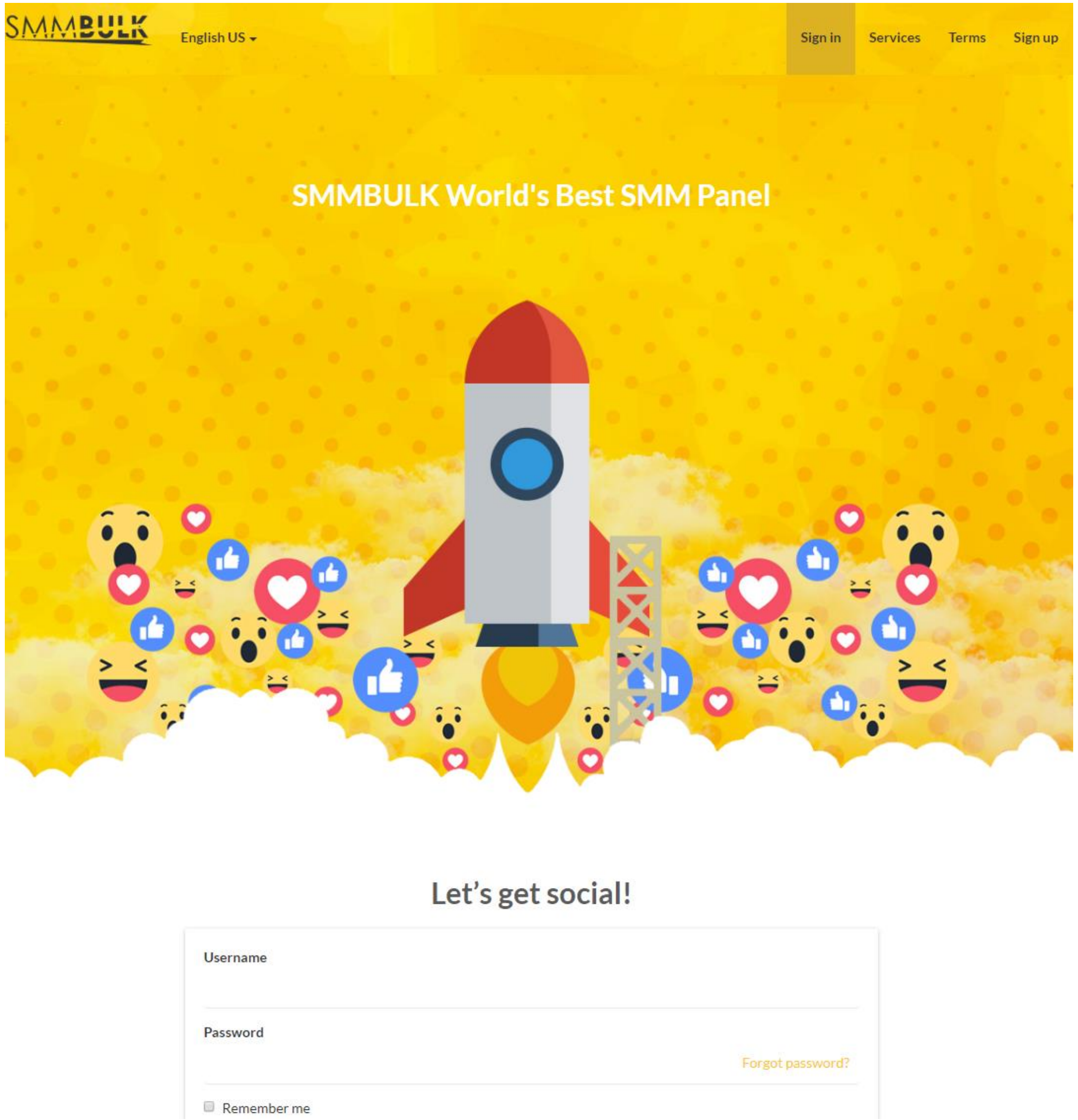
Found in the decrypted traffic



```
<HTTPFlow
  request = Request(GET 173.252.91.17:443/medianesia.panel/)
  response = Response(200 OK, text/html, 4.43kB)>
[redacted]
{   'client_conn': {   'address': {   'address': ([redacted],
                                      'use_ipv6': False},
                       'clientcert': None,
                       'ssl_established': True,
                       'timestamp_end': None,
                       'timestamp_ssl_setup': 1466824317.305581,
                       'timestamp_start': 146682431 5.828804},
```

Reseller panels





SMMBULK World's Best SMM Panel

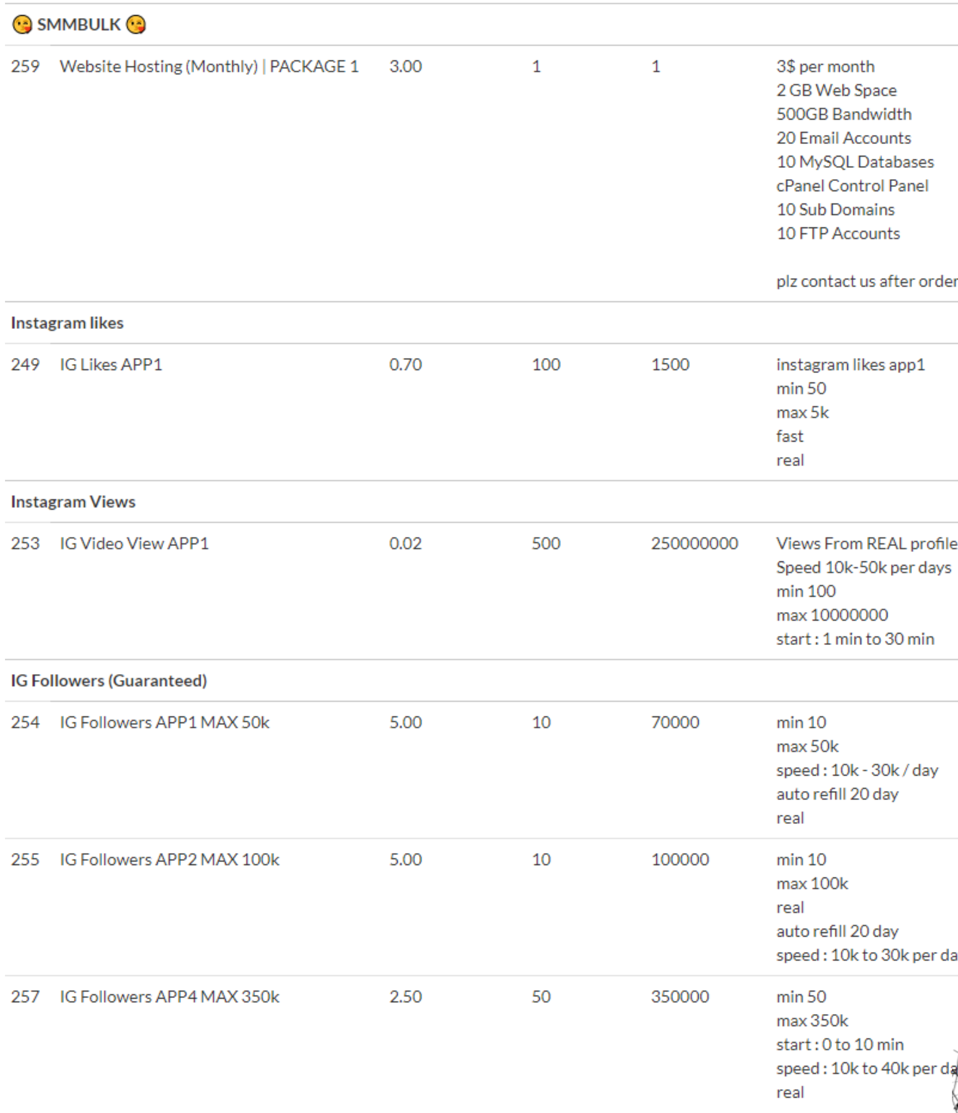
Let's get social!

Username

Password

Forgot password?

□ Remember me

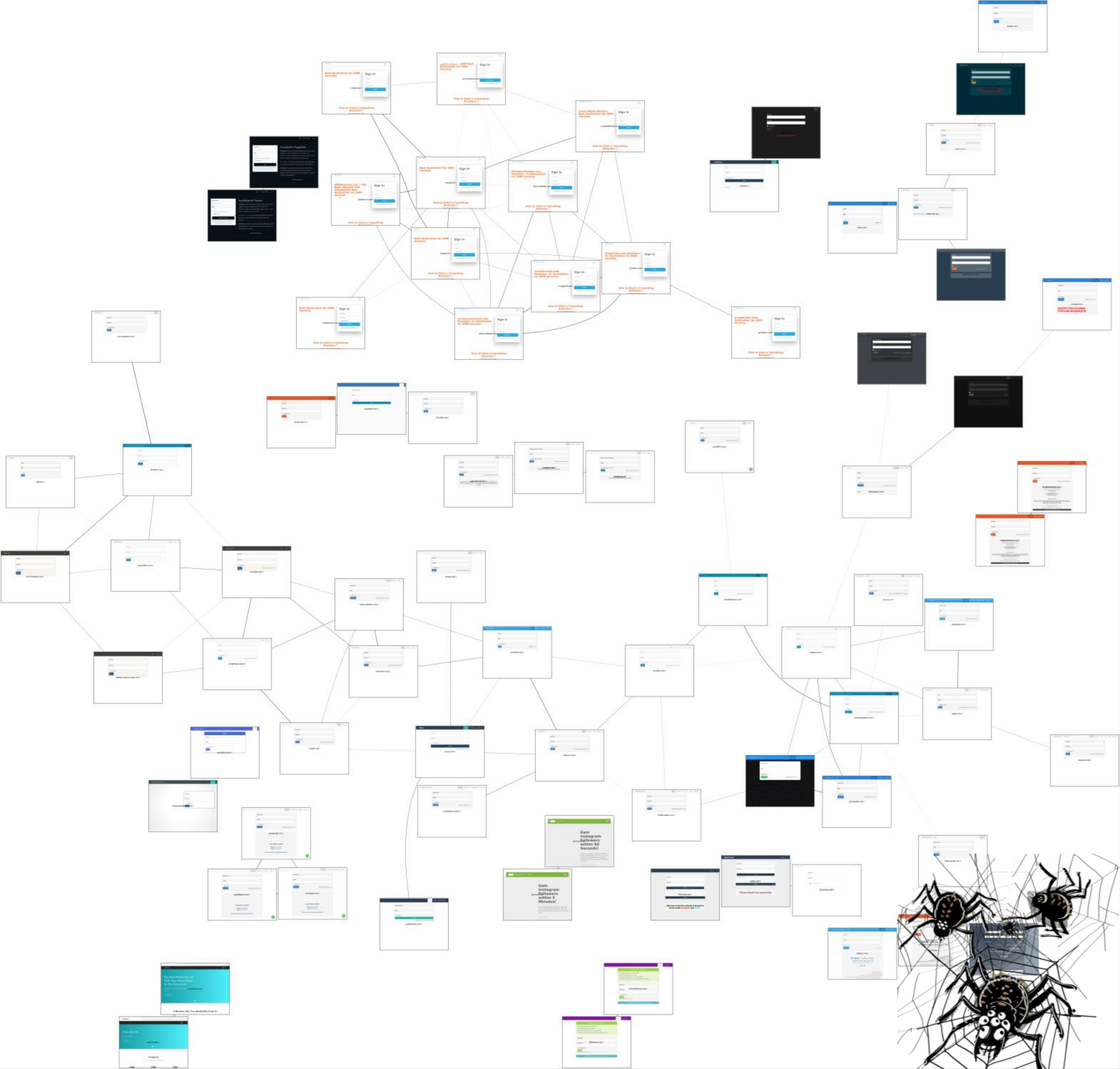


😘 SMMBULK 😘

259	Website Hosting (Monthly) | PACKAGE 1	3.00	1	1	3$ per month 2 GB Web Space 500GB Bandwidth 20 Email Accounts 10 MySQL Databases cPanel Control Panel 10 Sub Domains 10 FTP Accounts plz contact us after order
Instagram likes					
249	IG Likes APP1	0.70	100	1500	instagram likes app1 min 50 max 5k fast real
Instagram Views					
253	IG Video View APP1	0.02	500	250000000	Views From REAL profile Speed 10k-50k per days min 100 max 10000000 start : 1 min to 30 min
IG Followers (Guaranteed)					
254	IG Followers APP1 MAX 50k	5.00	10	70000	min 10 max 50k speed : 10k - 30k / day auto refill 20 day real
255	IG Followers APP2 MAX 100k	5.00	10	100000	min 10 max 100k real auto refill 20 day speed : 10k to 30k per day
257	IG Followers APP4 MAX 350k	2.50	50	350000	min 50 max 350k start : 0 to 10 min speed : 10k to 40k per da real

Reseller panels

- Sell popularity in bulk
- All look alike



Gain Instagram Followers within 60 Seconds!
Gain Instagram Followers within 5 Minutes!

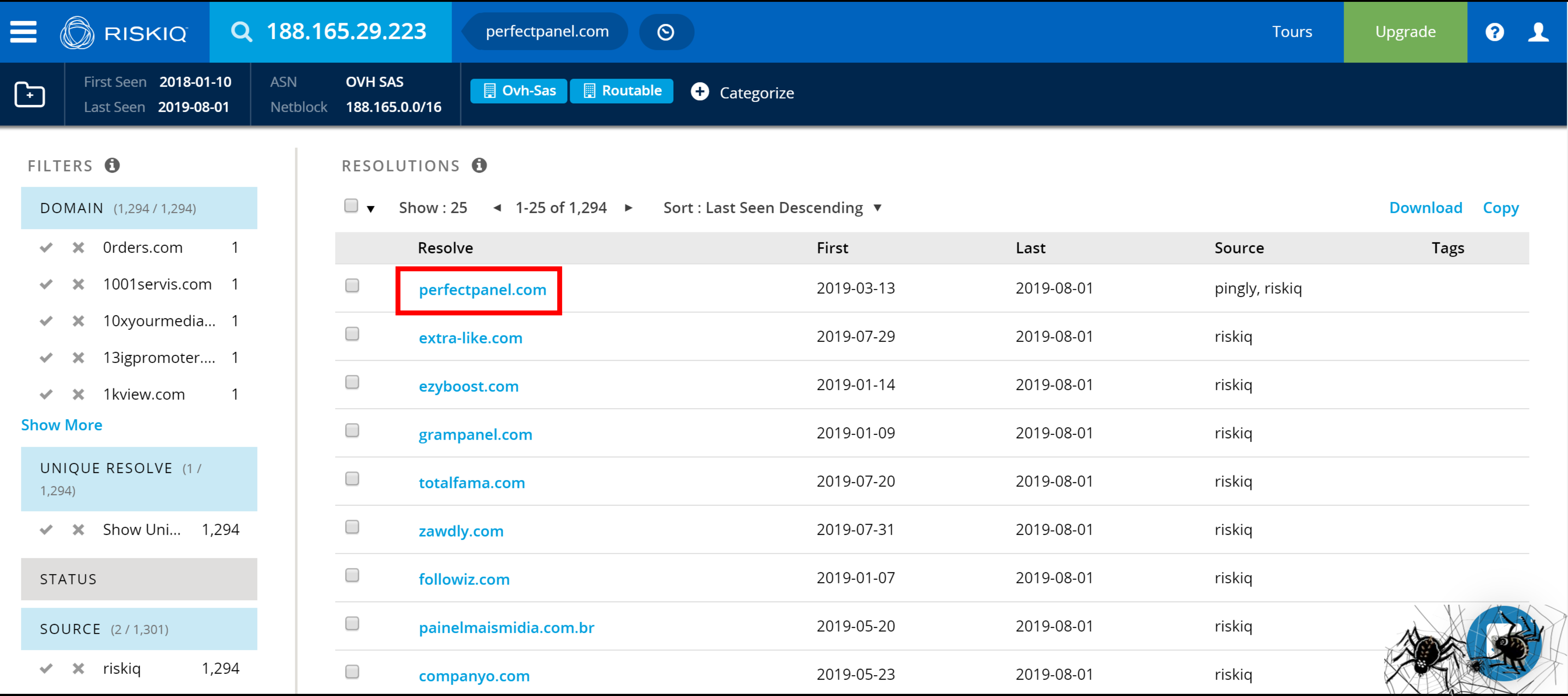
Simple Investigation N=343

Fingerprint of the web application

Domain registration information

HTML content

IP address



First Seen 2018-01-10
Last Seen 2019-08-01
ASN OVH SAS
Netblock 188.165.0.0/16

FILTERS

DOMAIN (1,294 / 1,294)

0rders.com	1
1001servis.com	1
10xyourmedia...	1
13igpromoter....	1
1kview.com	1

UNIQUE RESOLVE (1 / 1,294)

Show Uni...	1,294

STATUS

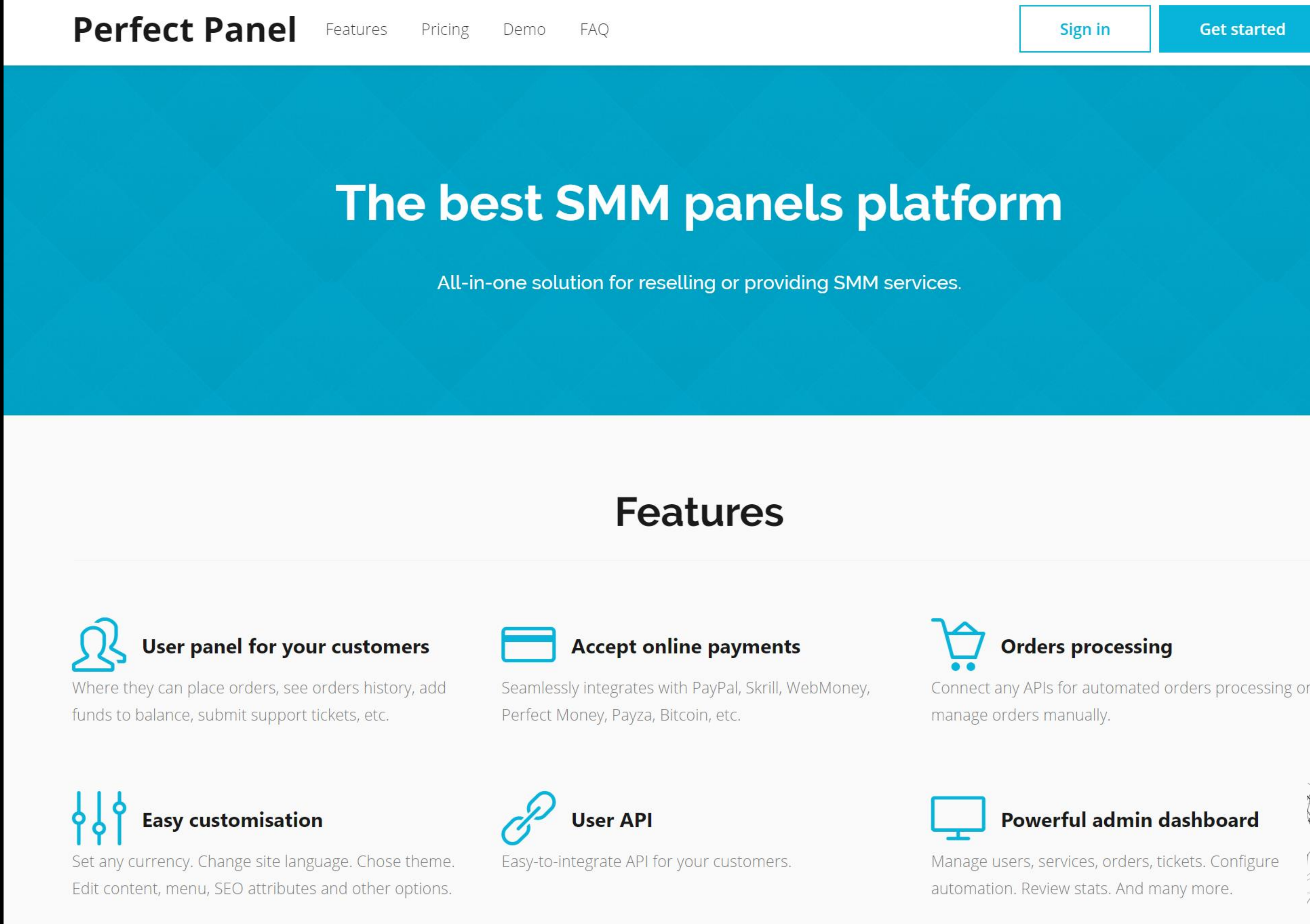
SOURCE (2 / 1,301)

riskiq	1,294

RESOLUTIONS

Show : 25 1-25 of 1,294 Sort : Last Seen Descending

Resolve	First	Last	Source	Tags
perfectpanel.com	2019-03-13	2019-08-01	pingly, riskiq	
extra-like.com	2019-07-29	2019-08-01	riskiq	
ezyboost.com	2019-01-14	2019-08-01	riskiq	
grampanel.com	2019-01-09	2019-08-01	riskiq	
totalfama.com	2019-07-20	2019-08-01	riskiq	
zawdly.com	2019-07-31	2019-08-01	riskiq	
followiz.com	2019-01-07	2019-08-01	riskiq	
painelmaismidia.com.br	2019-05-20	2019-08-01	riskiq	
companyo.com	2019-05-23	2019-08-01	riskiq	



The best SMM panels platform

All-in-one solution for reselling or providing SMM services.

Features

User panel for your customers

Where they can place orders, see orders history, add funds to balance, submit support tickets, etc.

Accept online payments

Seamlessly integrates with PayPal, Skrill, WebMoney, Perfect Money, Payza, Bitcoin, etc.

Orders processing

Connect any APIs for automated orders processing or manage orders manually.

Easy customisation

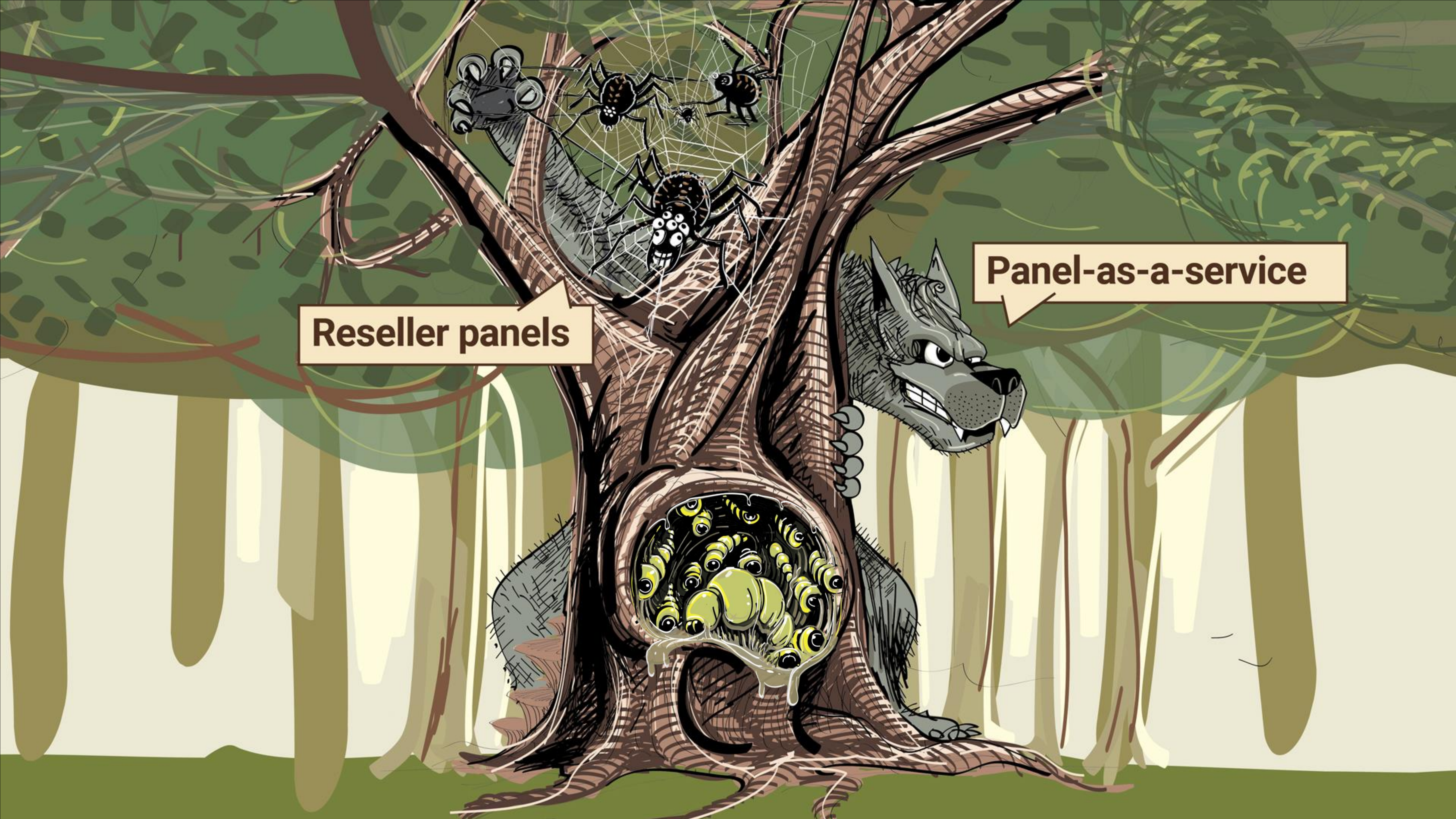
Set any currency. Change site language. Chose theme. Edit content, menu, SEO attributes and other options.

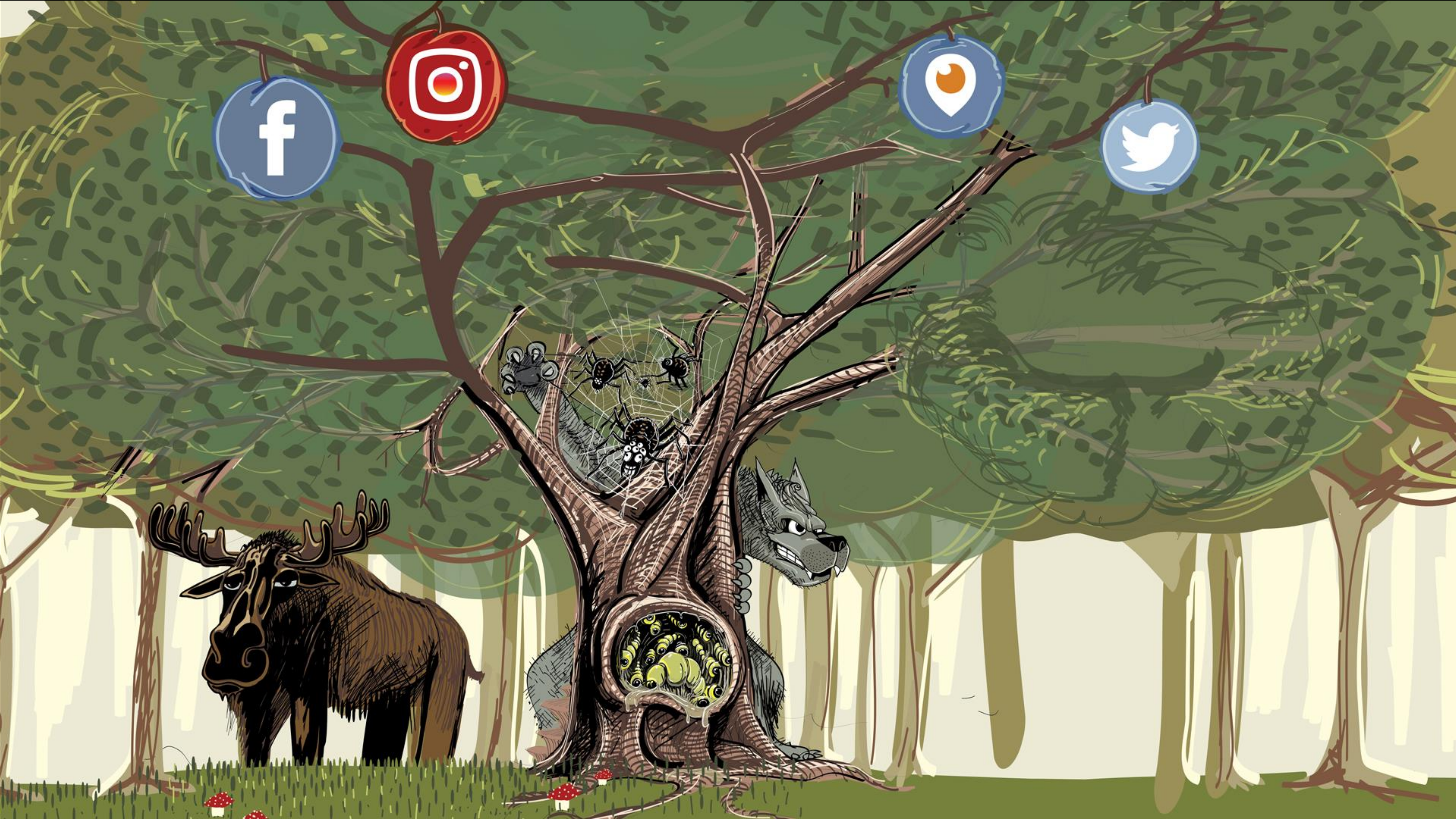
User API

Easy-to-integrate API for your customers.

Powerful admin dashboard

Manage users, services, orders, tickets. Configure automation. Review stats. And many more.


Reseller panels
Panel-as-a-service



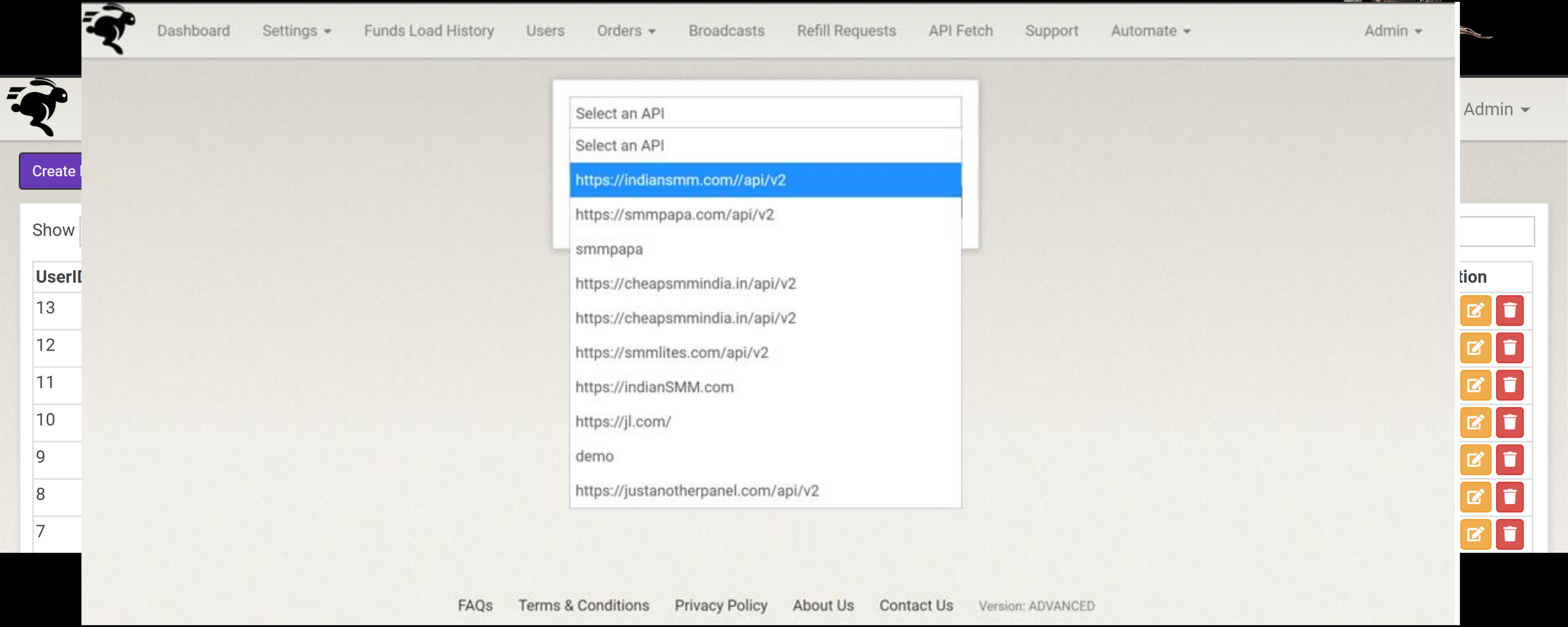
Panel-as-a-Service

All in one solution :

- Ready to go software
- Provides web hosting
- Domain name sometimes included

Features:

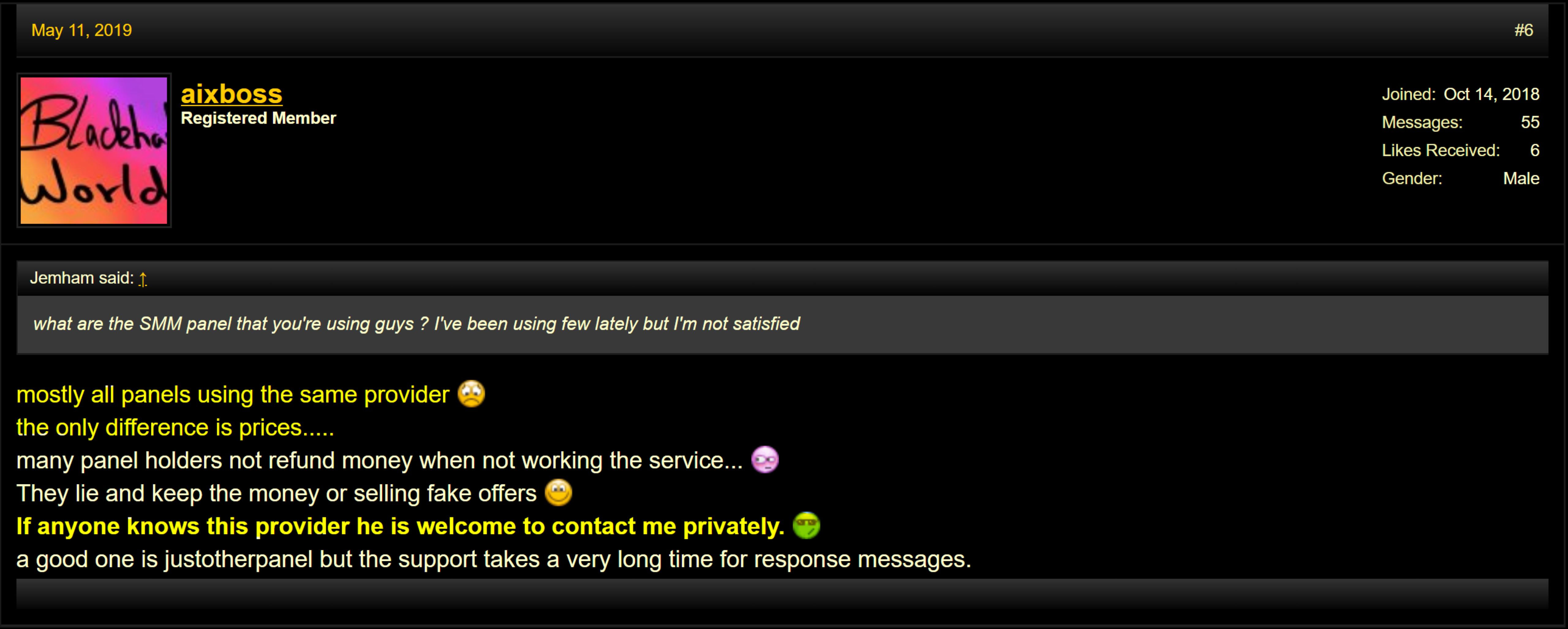
- API to receive orders
- API to send orders
- Track your workers



Select an API

Select an API
https://indiansmm.com//api/v2
https://smmpapa.com/api/v2
smmpapa
https://cheapsmmindia.in/api/v2
https://cheapsmmindia.in/api/v2
https://smmlites.com/api/v2
https://indianSMM.com
https://jl.com/
demo
https://justanotherpanel.com/api/v2

Conversations on BlackHatWorld about finding the main SMM provider



May 11, 2019 #6

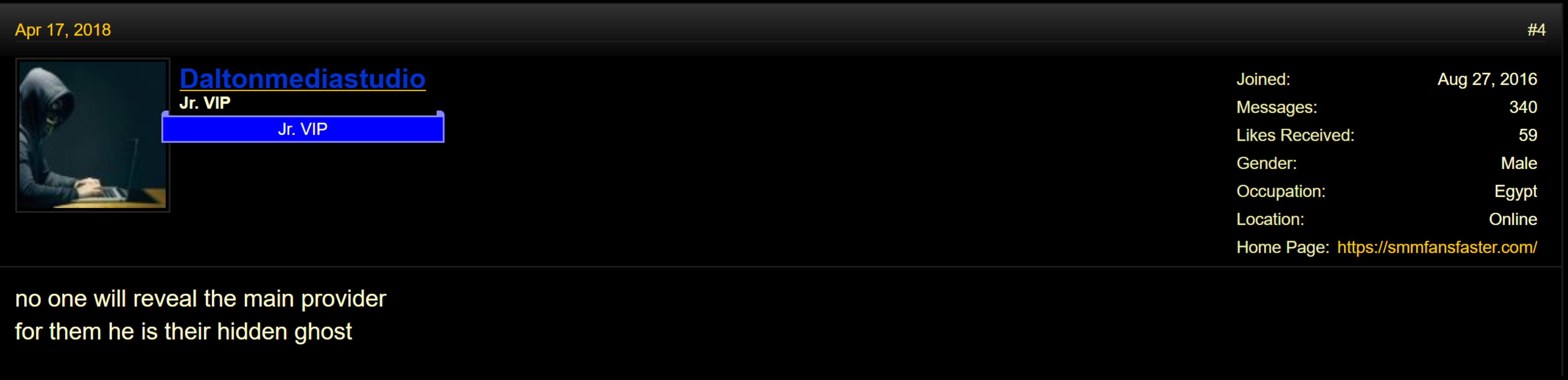
aixboss
Registered Member

Joined: Oct 14, 2018
Messages: 55
Likes Received: 6
Gender: Male

> Jemham said: ↑
>
> *what are the SMM panel that you're using guys ? I've been using few lately but I'm not satisfied*

mostly all panels using the same provider 😟
the only difference is prices.....
many panel holders not refund money when not working the service... 😒
They lie and keep the money or selling fake offers 😊
If anyone knows this provider he is welcome to contact me privately. 🤑
a good one is justotherpanel but the support takes a very long time for response messages.

Conversations on BlackHatWorld about finding the main SMM provider



Apr 17, 2018 #4

Daltonmediastudio

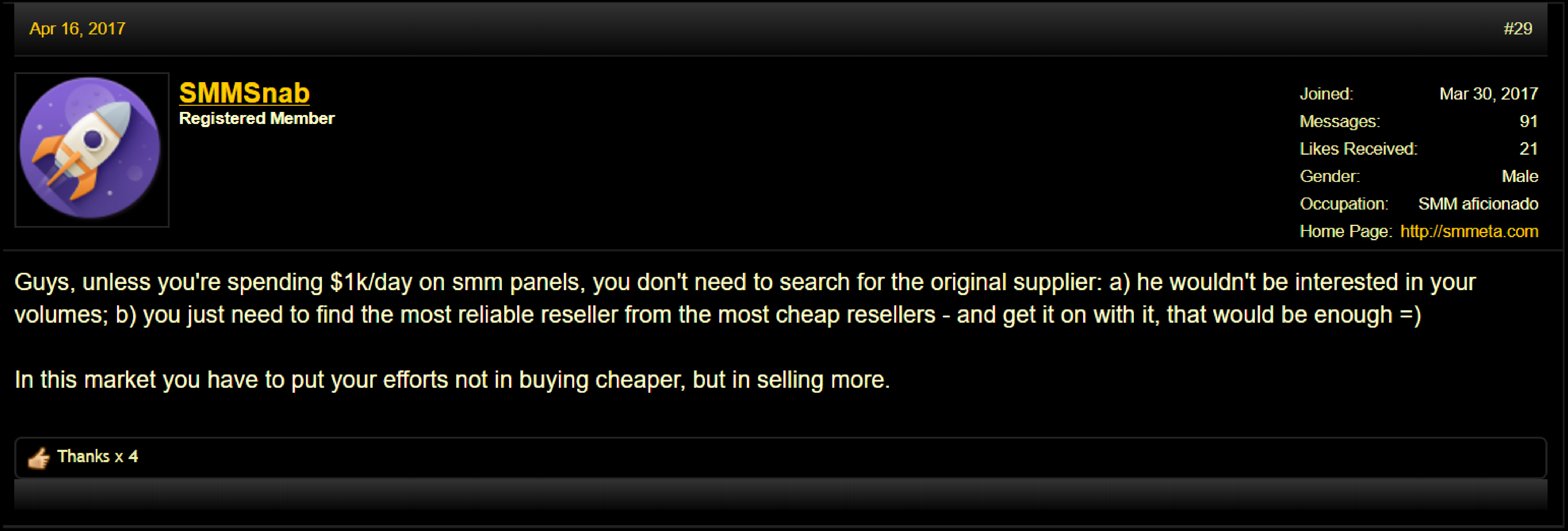
Jr. VIP

Jr. VIP

Joined:	Aug 27, 2016
Messages:	340
Likes Received:	59
Gender:	Male
Occupation:	Egypt
Location:	Online
Home Page:	https://smmfansfaster.com/

no one will reveal the main provider
for them he is their hidden ghost

Conversations on BlackHatWorld about finding the main SMM provider



Apr 16, 2017 #29

SMMSnab
Registered Member

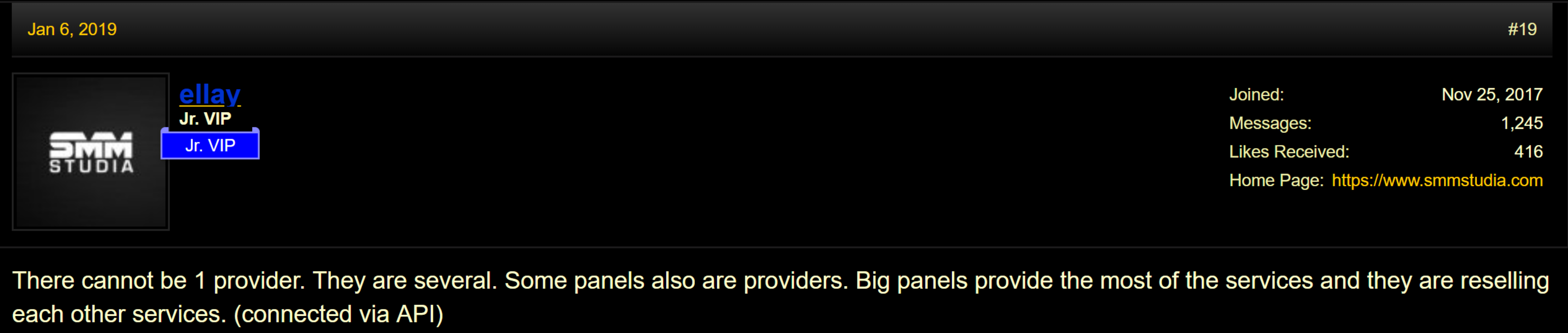
Joined:	Mar 30, 2017
Messages:	91
Likes Received:	21
Gender:	Male
Occupation:	SMM aficionado
Home Page:	http://smmeta.com

Guys, unless you're spending $1k/day on smm panels, you don't need to search for the original supplier: a) he wouldn't be interested in your volumes; b) you just need to find the most reliable reseller from the most cheap resellers - and get it on with it, that would be enough =)

In this market you have to put your efforts not in buying cheaper, but in selling more.

👍 Thanks x 4

Conversations on BlackHatWorld about finding the main SMM provider



Jan 6, 2019 #19

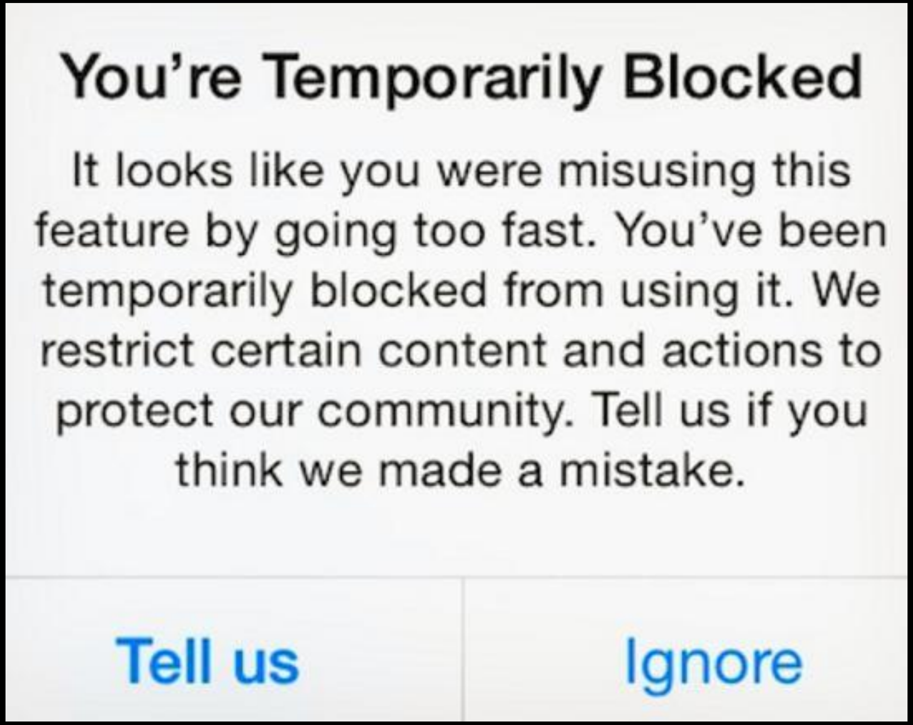
ellay
Jr. VIP
Jr. VIP

Joined: Nov 25, 2017
Messages: 1,245
Likes Received: 416
Home Page: https://www.smmstudia.com

There cannot be 1 provider. They are several. Some panels also are providers. Big panels provide the most of the services and they are reselling each other services. (connected via API)

Where do we stand?

- A system of resellers and panel-as-a-service providers
- Automation software to create and orchestrate fake accounts

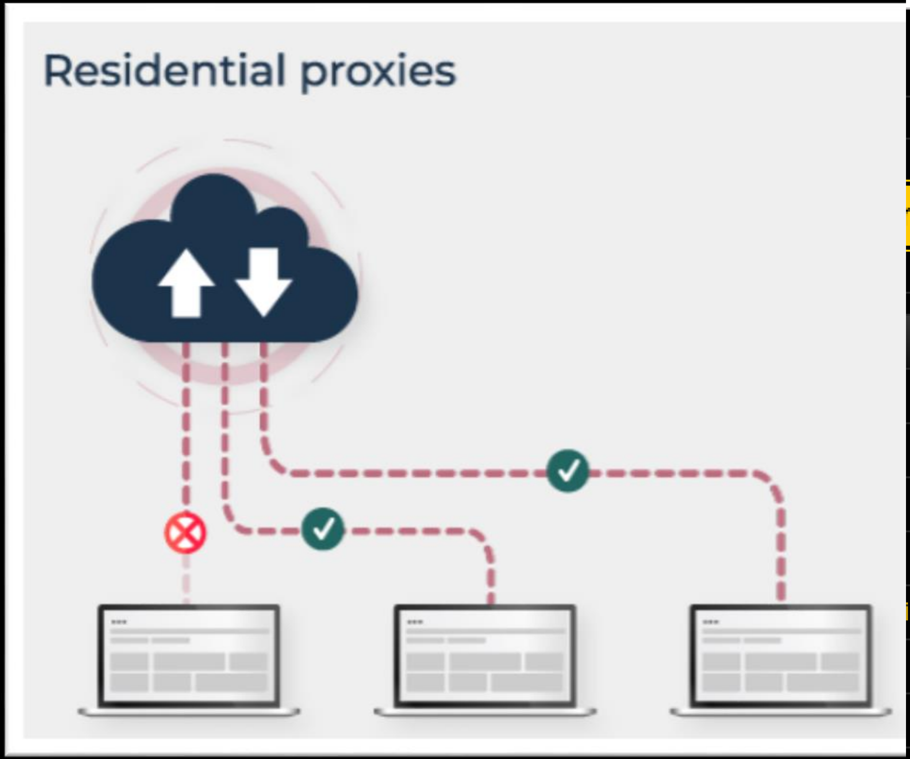


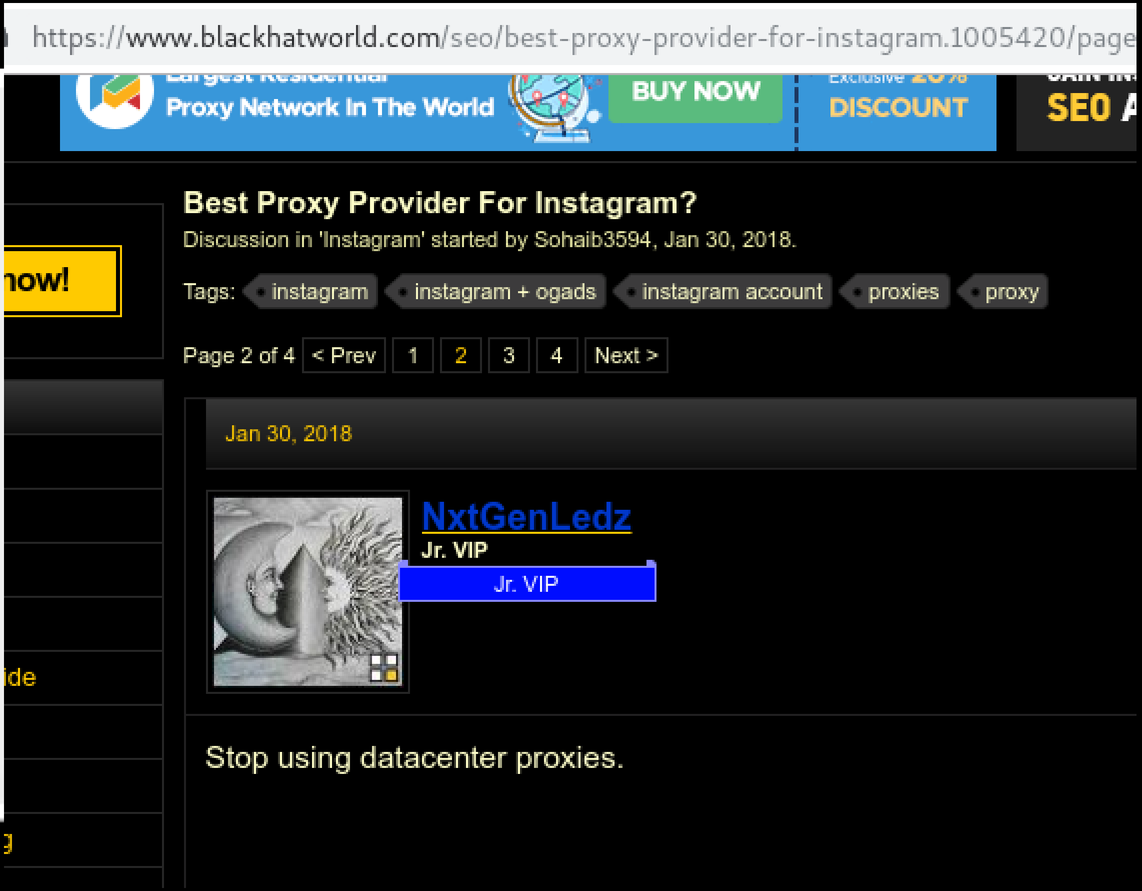
You're Temporarily Blocked

It looks like you were misusing this feature by going too fast. You've been temporarily blocked from using it. We restrict certain content and actions to protect our community. Tell us if you think we made a mistake.

Working around Blocks

- Automation software supports proxy lists




https://www.blackhatworld.com/seo/best-proxy-provider-for-instagram.1005420/page

Best Proxy Provider For Instagram?

Discussion in 'Instagram' started by Sohaib3594, Jan 30, 2018.

Tags: instagram instagram + ogads instagram account proxies proxy

Page 2 of 4 < Prev 1 2 3 4 Next >

Jan 30, 2018

NxtGenLedz
Jr. VIP
Jr. VIP

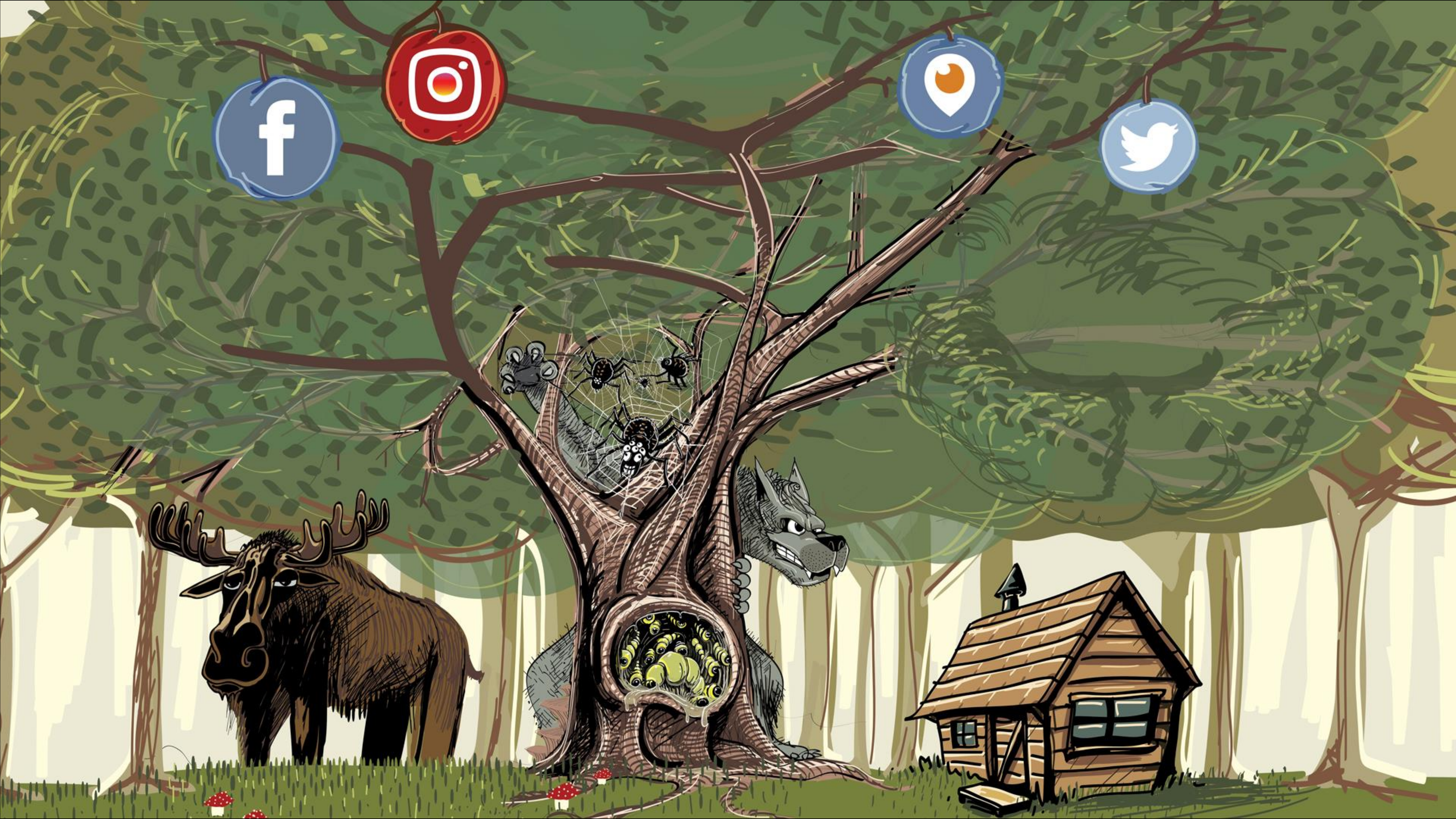
Stop using datacenter proxies.

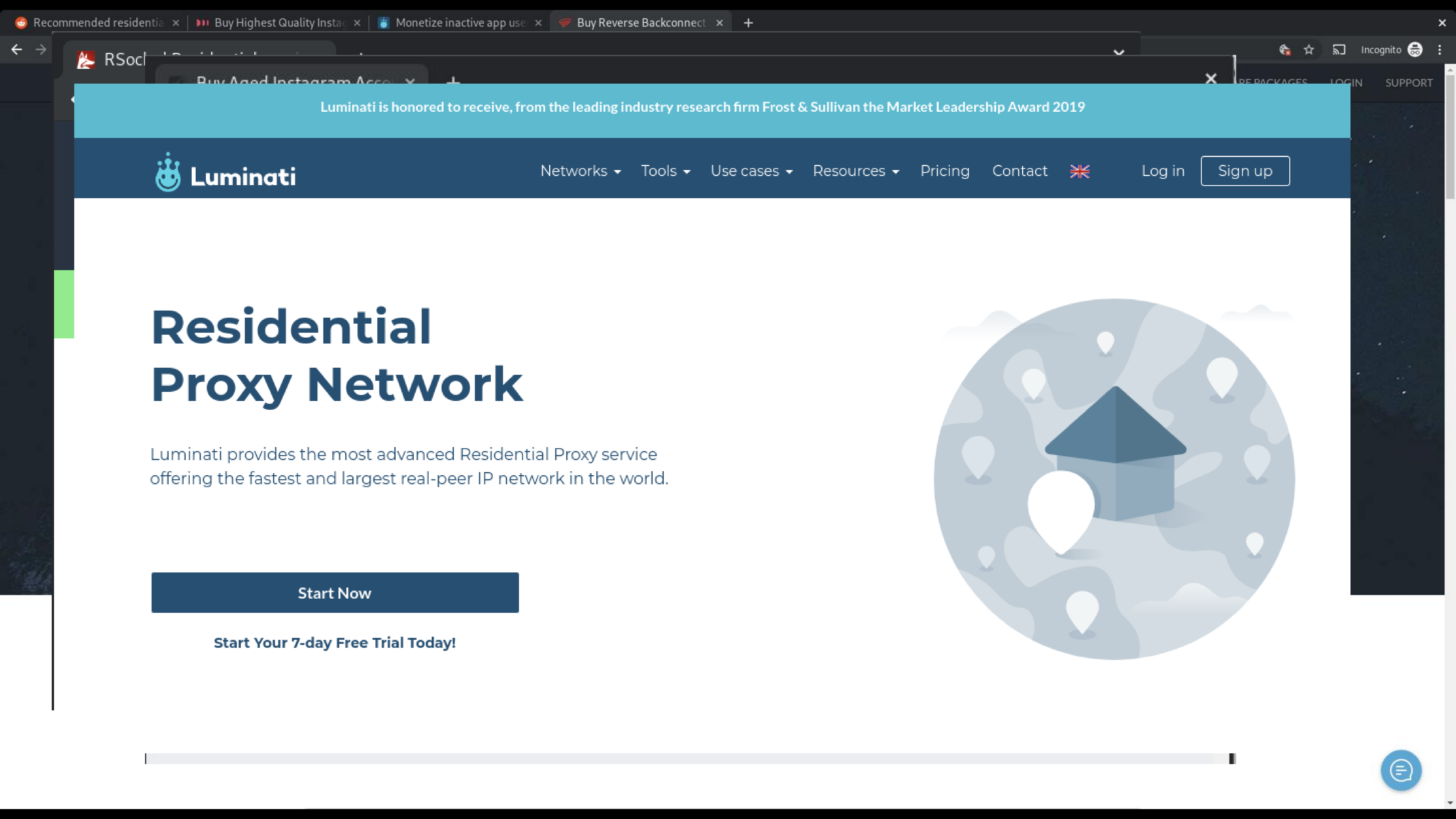
A New Actor Enters the Game

Previously Studied Botnet

Residential Proxy Services

Residential proxy services



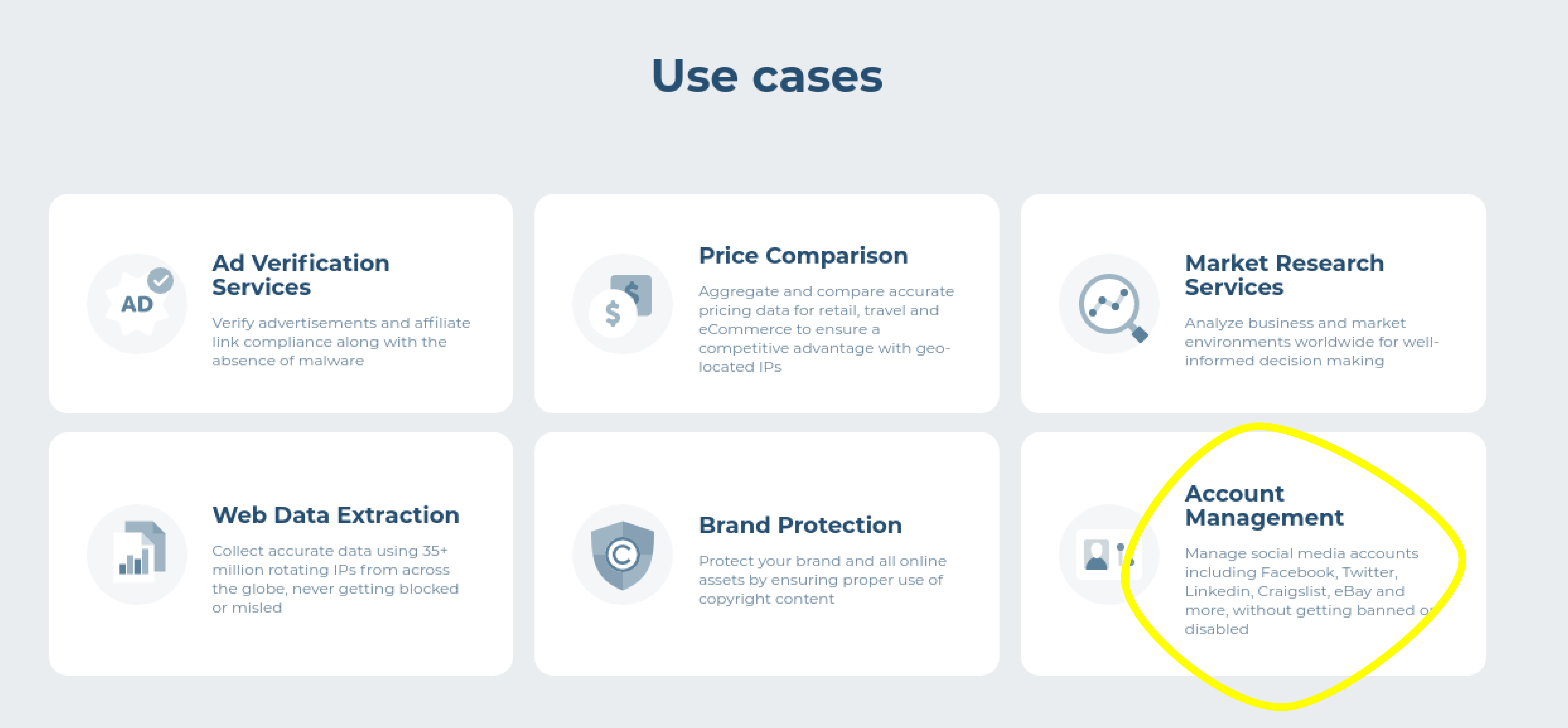


Luminati is honored to receive, from the leading industry research firm Frost & Sullivan the Market Leadership Award 2019

Residential Proxy Network

Luminati provides the most advanced Residential Proxy service offering the fastest and largest real-peer IP network in the world.

Start Your 7-day Free Trial Today!



Use cases

Ad Verification Services

Verify advertisements and affiliate link compliance along with the absence of malware

Price Comparison

Aggregate and compare accurate pricing data for retail, travel and eCommerce to ensure a competitive advantage with geo-located IPs

Market Research Services

Analyze business and market environments worldwide for well-informed decision making

Web Data Extraction

Collect accurate data using 35+ million rotating IPs from across the globe, never getting blocked or misled

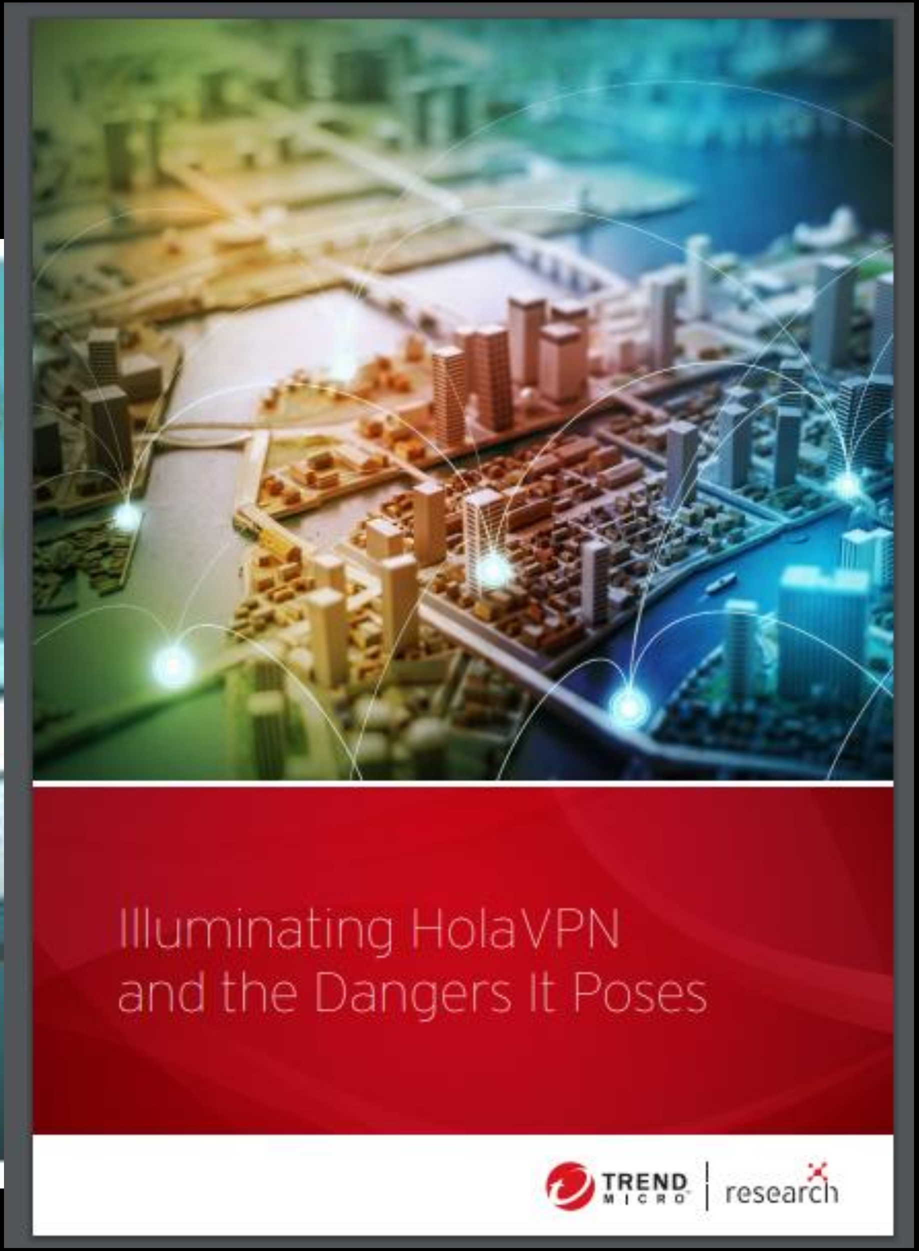
Brand Protection

Protect your brand and all online assets by ensuring proper use of copyright content

Account Management

Manage social media accounts including Facebook, Twitter, Linkedin, Craigslist, eBay and more, without getting banned or disabled

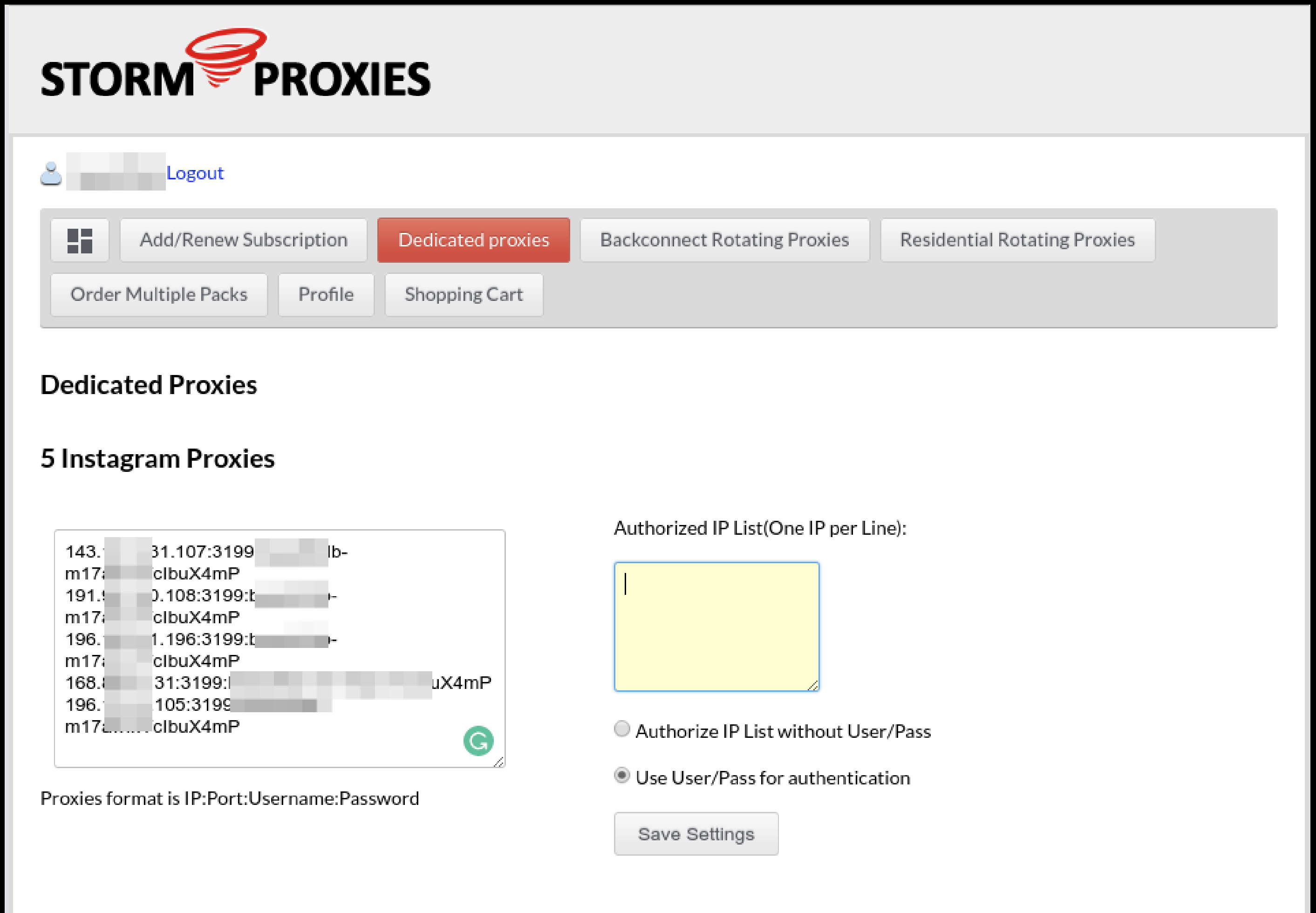
Shocking Business Model


Illuminating HolaVPN
and the Dangers It Poses

TREND MICRO | research

Storm Proxies

- Received IPs from USA: Kansas City, Lincoln NE and Sunnyvale CA
- ISPs have conflicting information:
  - Digital Energy Technologies Chile with Org Host1Plus
  - Victoria Mahe with Org Joe's Datacenter, LLC
- Traceroute leads to the US



[redacted] Logout

Add/Renew Subscription | Dedicated proxies | Backconnect Rotating Proxies | Residential Rotating Proxies | Order Multiple Packs | Profile | Shopping Cart

Dedicated Proxies

5 Instagram Proxies

```
143.[redacted]31.107:3199[redacted]lb-
m17[redacted]clbuX4mP
191.[redacted]0.108:3199:b[redacted]-
m17[redacted]clbuX4mP
196.[redacted]1.196:3199:b[redacted]-
m17[redacted]clbuX4mP
168.[redacted]31:3199:[redacted]uX4mP
196.[redacted]105:3199[redacted]
m17[redacted]clbuX4mP
```

Proxies format is IP:Port:Username:Password

Authorized IP List(One IP per Line):

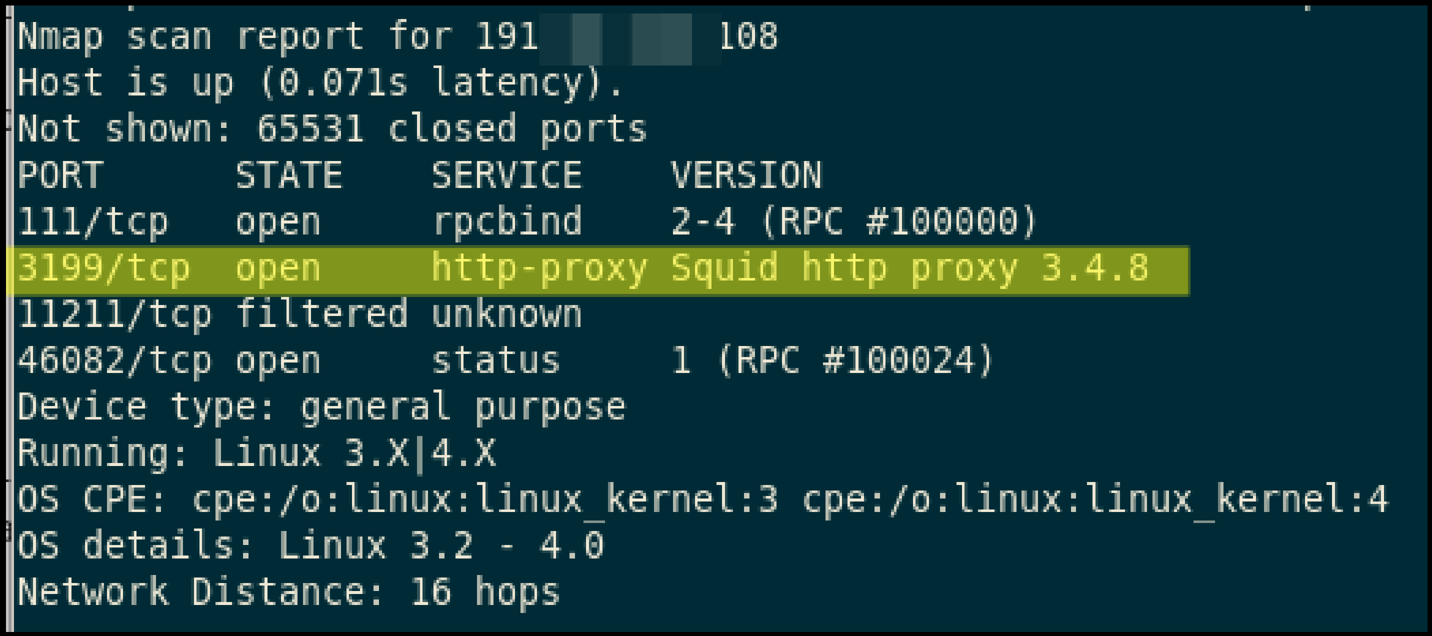
○ Authorize IP List without User/Pass

● Use User/Pass for authentication

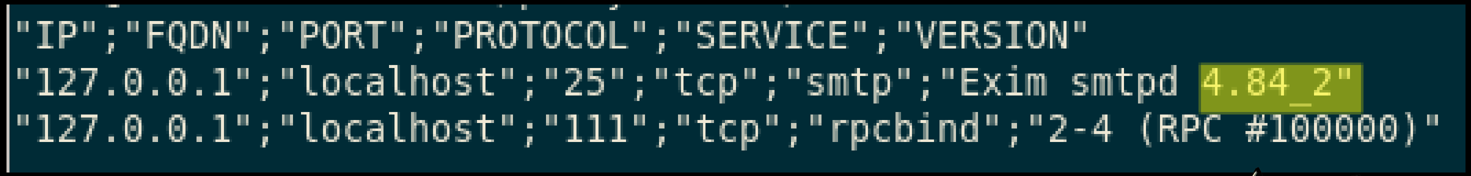
Save Settings

Storm Proxies (cont)

- Uses Squid for proxying
- Doesn’t protect scans to localhost
- Linux system
- Most likely Debian Jessie
  - Exim 4.84_2
  - Squid 3.4.8



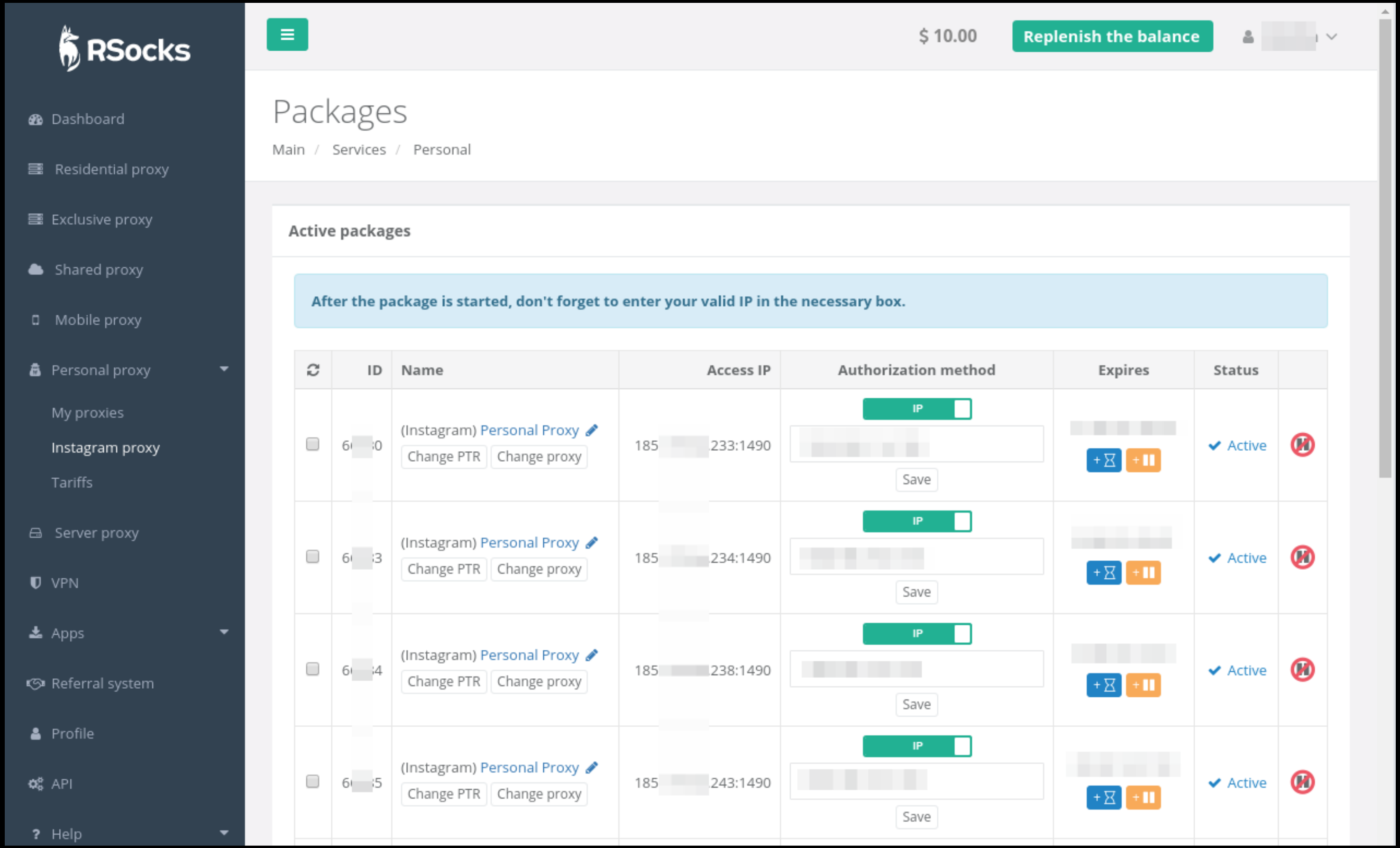
```
Nmap scan report for 191[redacted]108
Host is up (0.071s latency).
Not shown: 65531 closed ports
PORT      STATE    SERVICE    VERSION
111/tcp   open     rpcbind    2-4 (RPC #100000)
3199/tcp  open     http-proxy Squid http proxy 3.4.8
11211/tcp filtered unknown
46082/tcp open     status     1 (RPC #100024)
Device type: general purpose
Running: Linux 3.X|4.X
OS CPE: cpe:/o:linux:linux_kernel:3 cpe:/o:linux:linux_kernel:4
OS details: Linux 3.2 - 4.0
Network Distance: 16 hops
```



```
"IP";"FQDN";"PORT";"PROTOCOL";"SERVICE";"VERSION"
"127.0.0.1";"localhost";"25";"tcp";"smtp";"Exim smtpd 4.84_2"
"127.0.0.1";"localhost";"111";"tcp";"rpcbind";"2-4 (RPC #100000)"
```

RSocks

- Received IPs all from same subnet in Russia
- ISP: Adman LLC
- Traceroute confirms Russia



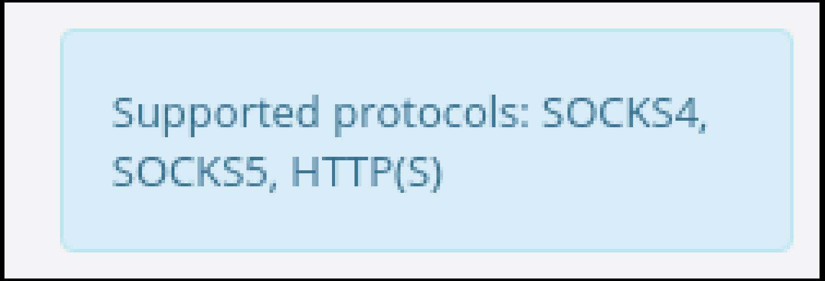
Packages

Main / Services / Personal

Active packages

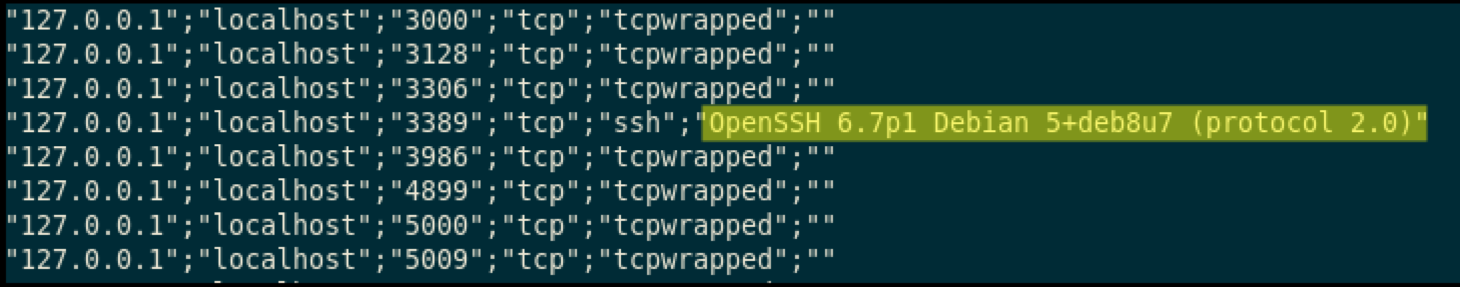
After the package is started, don't forget to enter your valid IP in the necessary box.

	ID	Name	Access IP	Authorization method	Expires	Status	
☐	6[redacted]0	(Instagram) Personal Proxy Change PTR Change proxy	185[redacted]233:1490	IP [redacted] Save	[redacted] +⌛ +⏸	✓ Active	
☐	6[redacted]3	(Instagram) Personal Proxy Change PTR Change proxy	185[redacted]234:1490	IP [redacted] Save	[redacted] +⌛ +⏸	✓ Active	
☐	6[redacted]4	(Instagram) Personal Proxy Change PTR Change proxy	185[redacted]238:1490	IP [redacted] Save	[redacted] +⌛ +⏸	✓ Active	
☐	6[redacted]5	(Instagram) Personal Proxy Change PTR Change proxy	185[redacted]243:1490	IP [redacted] Save	[redacted] +⌛ +⏸	✓ Active	


Supported protocols: SOCKS4, SOCKS5, HTTP(S)

RSocks (cont)

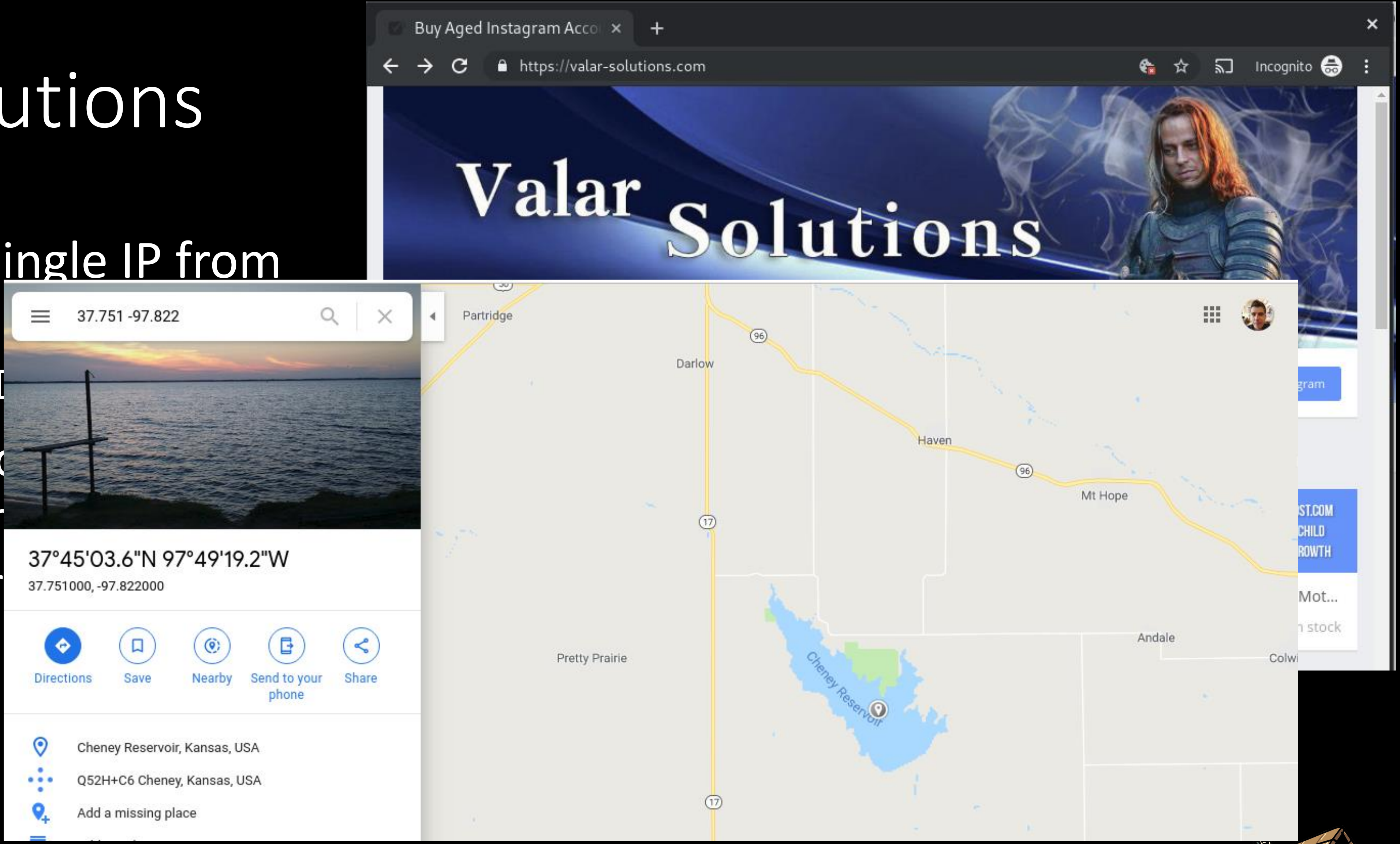
- Exposes SSH on 3389
- Doesn't protect scans to localhost
- Unable to fingerprint proxy service
- Most likely Debian Jessie
  - SSH banner deb8u7



```
"127.0.0.1";"localhost";"3000";"tcp";"tcpwrapped";""
"127.0.0.1";"localhost";"3128";"tcp";"tcpwrapped";""
"127.0.0.1";"localhost";"3306";"tcp";"tcpwrapped";""
"127.0.0.1";"localhost";"3389";"tcp";"ssh";"OpenSSH 6.7p1 Debian 5+deb8u7 (protocol 2.0)"
"127.0.0.1";"localhost";"3986";"tcp";"tcpwrapped";""
"127.0.0.1";"localhost";"4899";"tcp";"tcpwrapped";""
"127.0.0.1";"localhost";"5000";"tcp";"tcpwrapped";""
"127.0.0.1";"localhost";"5009";"tcp";"tcpwrapped";""
```

Valar Solutions

- Received a single IP from France
  - Scaleway, [
- Traffic goes c address in th
  - AT&T Inter



Buy Aged Instagram Acco

https://valar-solutions.com

Incognito

Valar Solutions

37.751 -97.822

37°45'03.6"N 97°49'19.2"W

37.751000, -97.822000

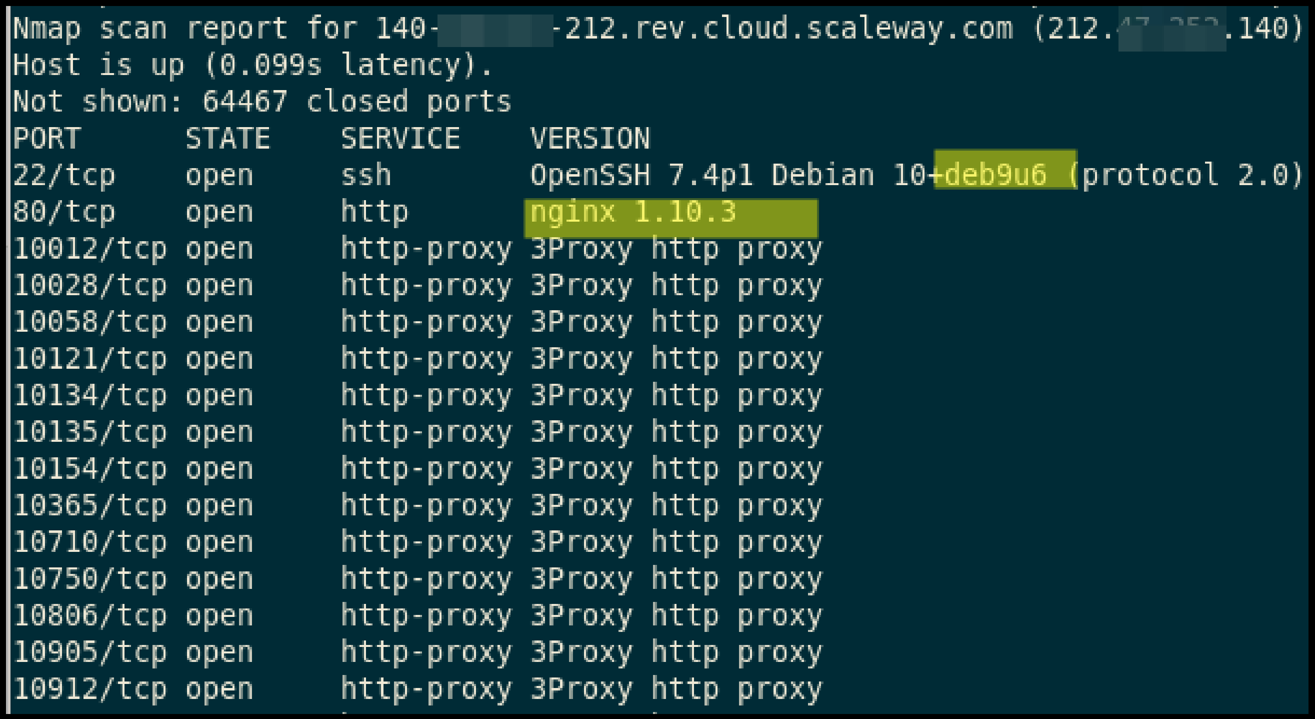
Cheney Reservoir, Kansas, USA

Q52H+C6 Cheney, Kansas, USA

Add a missing place

Valar (cont)

- Uses 3Proxy
  - on 1067 non-continuous ports
  - Identified by nmap
  - Confirmed by error message strings that match source code
- Protects from localhost scans
  - Both IPv4 and IPv6
- IPv6 sealed from outside
- Proxy entry is Debian 9
  - Nginx + OpenSSH

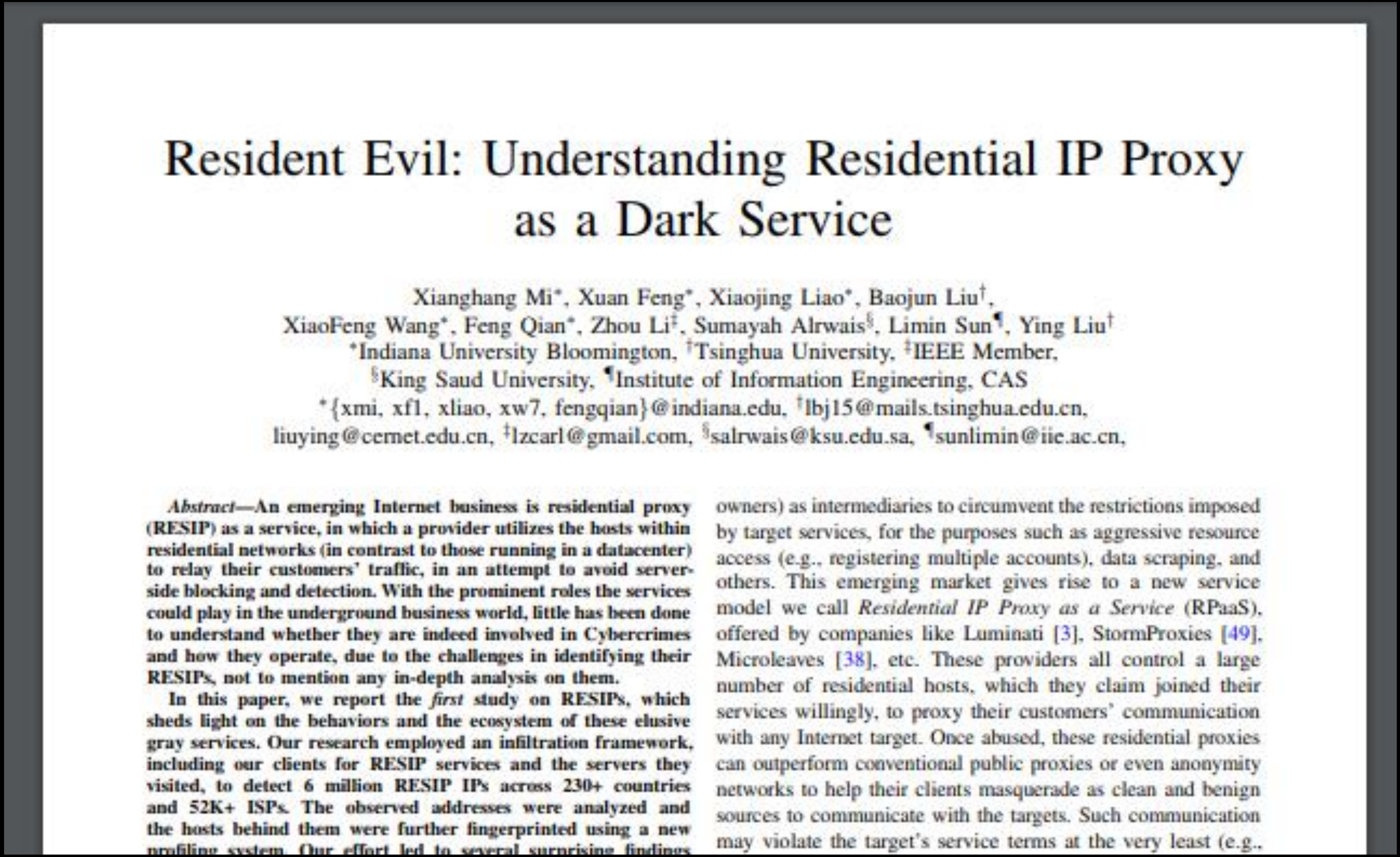


```
Nmap scan report for 140-[redacted]-212.rev.cloud.scaleway.com (212.[redacted].140)
Host is up (0.099s latency).
Not shown: 64467 closed ports
PORT       STATE    SERVICE    VERSION
22/tcp     open     ssh        OpenSSH 7.4p1 Debian 10+deb9u6 (protocol 2.0)
80/tcp     open     http       nginx 1.10.3
10012/tcp open     http-proxy 3Proxy http proxy
10028/tcp open     http-proxy 3Proxy http proxy
10058/tcp open     http-proxy 3Proxy http proxy
10121/tcp open     http-proxy 3Proxy http proxy
10134/tcp open     http-proxy 3Proxy http proxy
10135/tcp open     http-proxy 3Proxy http proxy
10154/tcp open     http-proxy 3Proxy http proxy
10365/tcp open     http-proxy 3Proxy http proxy
10710/tcp open     http-proxy 3Proxy http proxy
10750/tcp open     http-proxy 3Proxy http proxy
10806/tcp open     http-proxy 3Proxy http proxy
10905/tcp open     http-proxy 3Proxy http proxy
10912/tcp open     http-proxy 3Proxy http proxy
```

Residential Proxy Providers Summary

	Infrastructure	**Geoip / Whois**	**Powered by Malware?**
Luminati	Leveraging willing participants' phones	Unknown	Unlikely
Storm Proxies	Debian 8 (Jessie) with Squid	Misleading information	Unlikely
RSocks	Debian 8 (Jessie) with unknown proxy	Small unknown ISP	Unlikely
High Proxies	CentOS/RHEL 7 with Squid	Misleading information	Unlikely
Valar Solutions	Debian 9 (Stretch) with 3Proxy. Tunnel between France and USA. IPv6.	Legit AT&T Internet Services	Unlikely

For More



Resident Evil: Understanding Residential IP Proxy as a Dark Service

Xianghang Mi*, Xuan Feng*, Xiaojing Liao*, Baojun Liu†,
XiaoFeng Wang*, Feng Qian*, Zhou Li‡, Sumayah Alrwais§, Limin Sun¶, Ying Liu†
*Indiana University Bloomington, †Tsinghua University, ‡IEEE Member,
§King Saud University, ¶Institute of Information Engineering, CAS
*{xmi, xf1, xliao, xw7, fengqian}@indiana.edu, †lbj15@mails.tsinghua.edu.cn,
liuying@cernet.edu.cn, ‡lzcarl@gmail.com, §salrwais@ksu.edu.sa, ¶sunlimin@iie.ac.cn,

***Abstract*—An emerging Internet business is residential proxy (RESIP) as a service, in which a provider utilizes the hosts within residential networks (in contrast to those running in a datacenter) to relay their customers' traffic, in an attempt to avoid server-side blocking and detection. With the prominent roles the services could play in the underground business world, little has been done to understand whether they are indeed involved in Cybercrimes and how they operate, due to the challenges in identifying their RESIPs, not to mention any in-depth analysis on them.**

In this paper, we report the *first* study on RESIPs, which sheds light on the behaviors and the ecosystem of these elusive gray services. Our research employed an infiltration framework, including our clients for RESIP services and the servers they visited, to detect 6 million RESIP IPs across 230+ countries and 52K+ ISPs. The observed addresses were analyzed and the hosts behind them were further fingerprinted using a new profiling system. Our effort led to several surprising findings

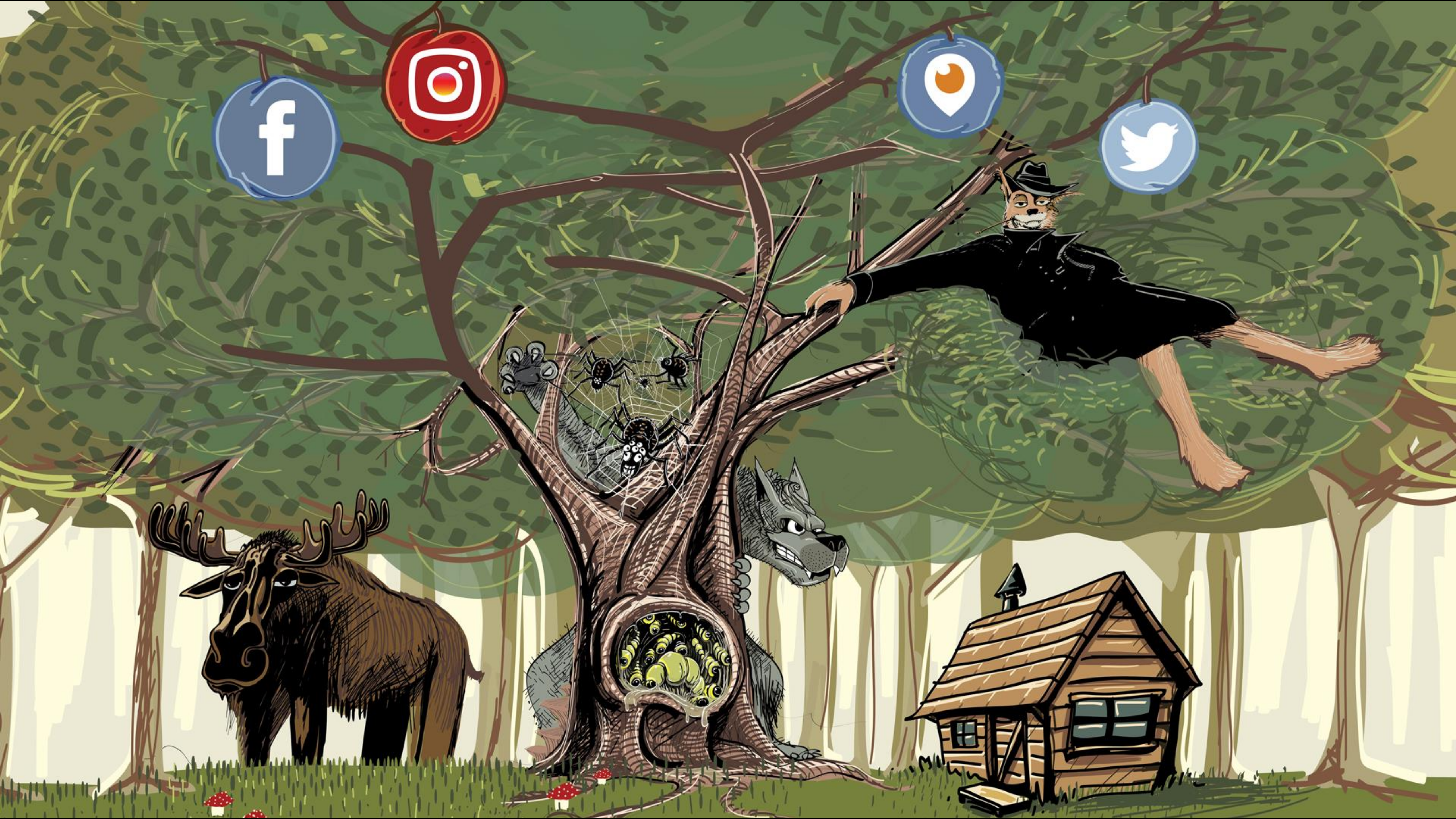
owners) as intermediaries to circumvent the restrictions imposed by target services, for the purposes such as aggressive resource access (e.g., registering multiple accounts), data scraping, and others. This emerging market gives rise to a new service model we call *Residential IP Proxy as a Service* (RPaaS), offered by companies like Luminati [3], StormProxies [49], Microleaves [38], etc. These providers all control a large number of residential hosts, which they claim joined their services willingly, to proxy their customers' communication with any Internet target. Once abused, these residential proxies can outperform conventional public proxies or even anonymity networks to help their clients masquerade as clean and benign sources to communicate with the targets. Such communication may violate the target's service terms at the very least (e.g.,

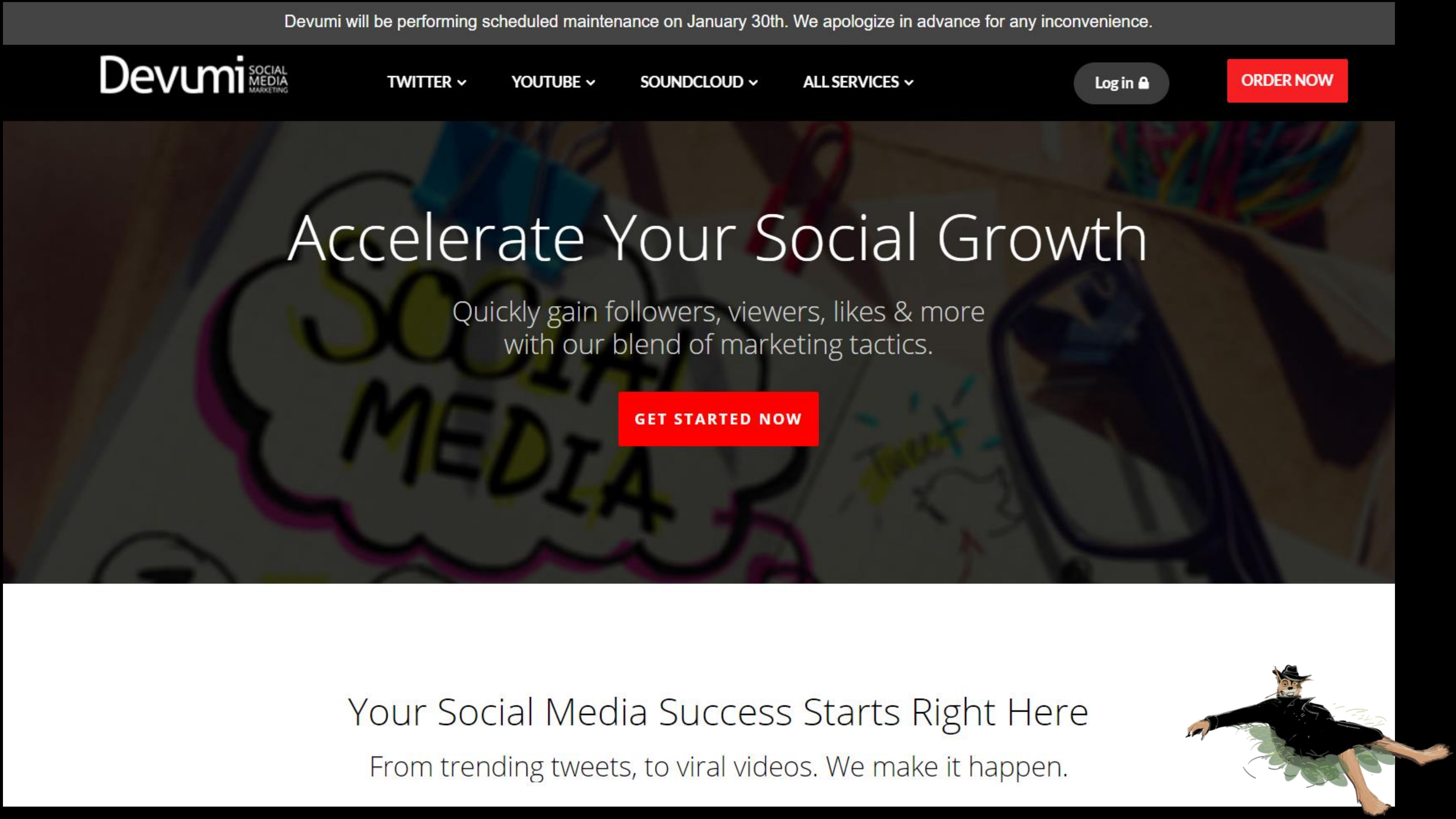
Where do we stand?

- IoT botnet or residential proxy services
- Automation software
- Reseller panels and panel-as-a-service providers

Who buys from reseller panels?

Customer-facing sellers





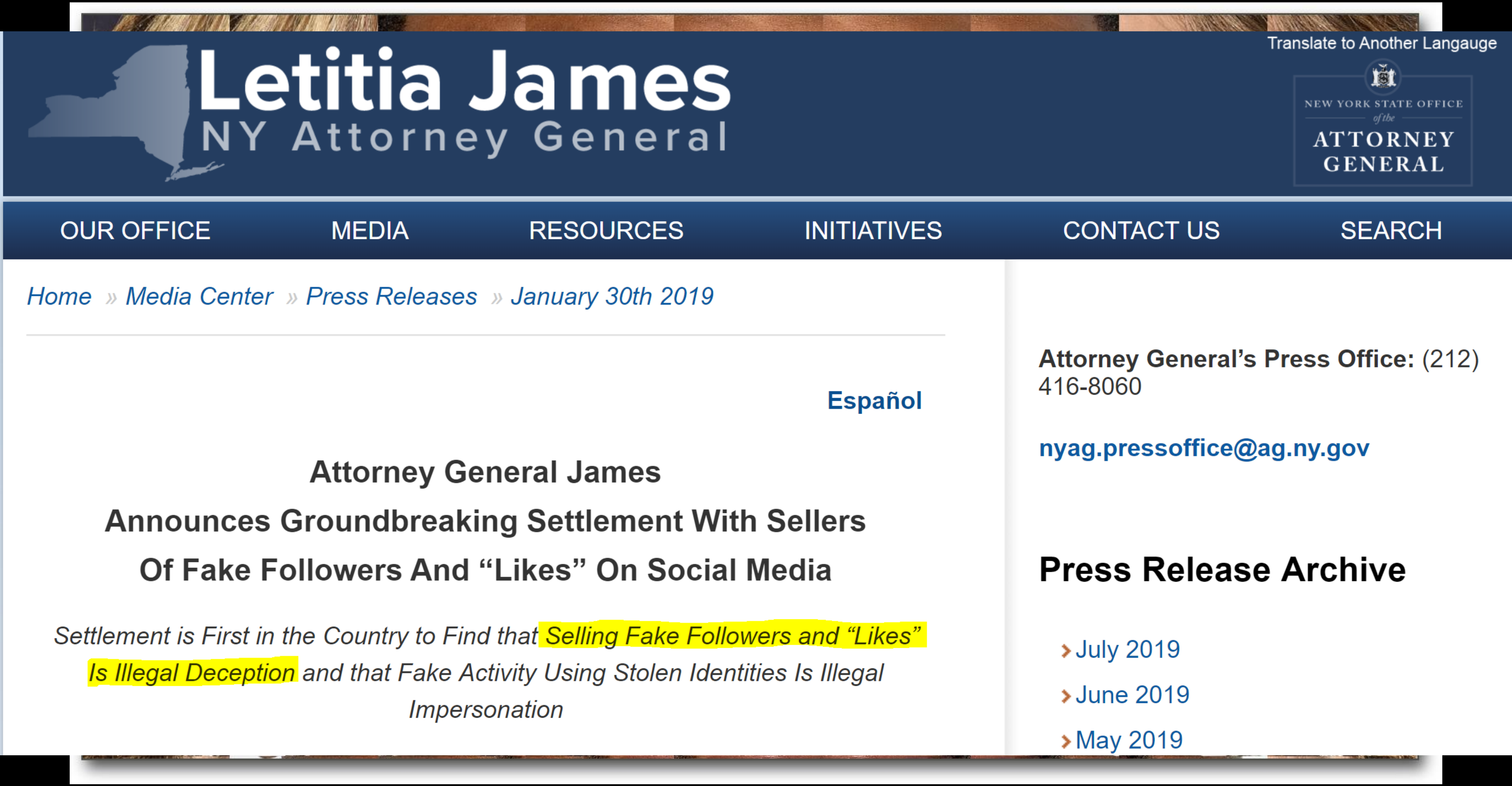
Devumi will be performing scheduled maintenance on January 30th. We apologize in advance for any inconvenience.

Accelerate Your Social Growth

Quickly gain followers, viewers, likes & more
with our blend of marketing tactics.

Your Social Media Success Starts Right Here

From trending tweets, to viral videos. We make it happen.


Translate to Another Langauge
Letitia James
NY Attorney General
NEW YORK STATE OFFICE of the ATTORNEY GENERAL
OUR OFFICE
MEDIA
RESOURCES
INITIATIVES
CONTACT US
SEARCH
Home » Media Center » Press Releases » January 30th 2019
Español

Attorney General James
Announces Groundbreaking Settlement With Sellers Of Fake Followers And "Likes" On Social Media

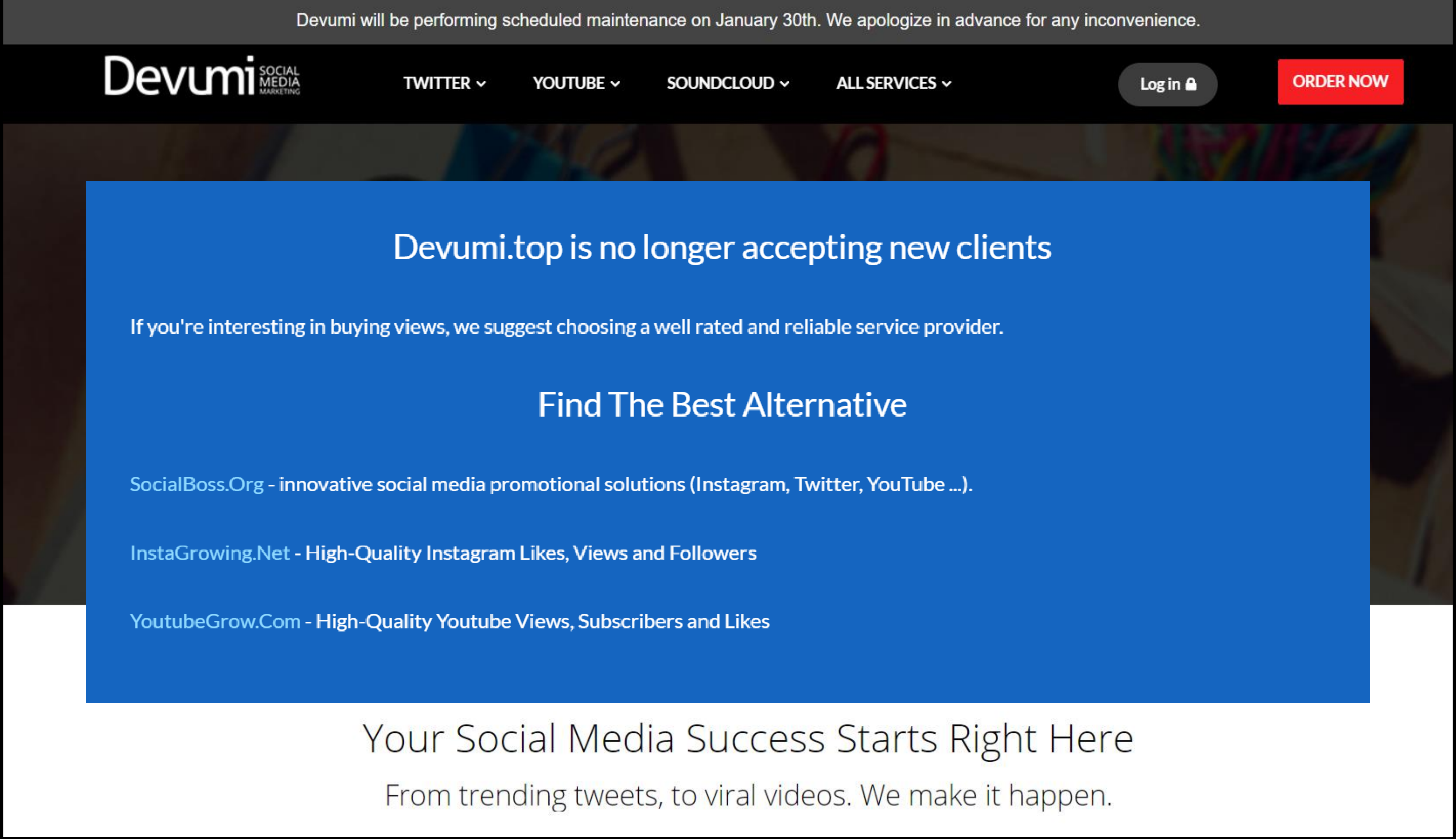
Settlement is First in the Country to Find that Selling Fake Followers and "Likes" Is Illegal Deception and that Fake Activity Using Stolen Identities Is Illegal Impersonation

Attorney General's Press Office: (212) 416-8060

nyag.pressoffice@ag.ny.gov

Press Release Archive

- July 2019
- June 2019
- May 2019



Devumi will be performing scheduled maintenance on January 30th. We apologize in advance for any inconvenience.

Devumi.top is no longer accepting new clients

If you're interesting in buying views, we suggest choosing a well rated and reliable service provider.

Find The Best Alternative

SocialBoss.Org - innovative social media promotional solutions (Instagram, Twitter, YouTube ...).

InstaGrowing.Net - High-Quality Instagram Likes, Views and Followers

YoutubeGrow.Com - High-Quality Youtube Views, Subscribers and Likes

Your Social Media Success Starts Right Here

From trending tweets, to viral videos. We make it happen.

Buyers

Potential Buyers

Linux/Moose

86% of the relayed traffic focused on Instagram

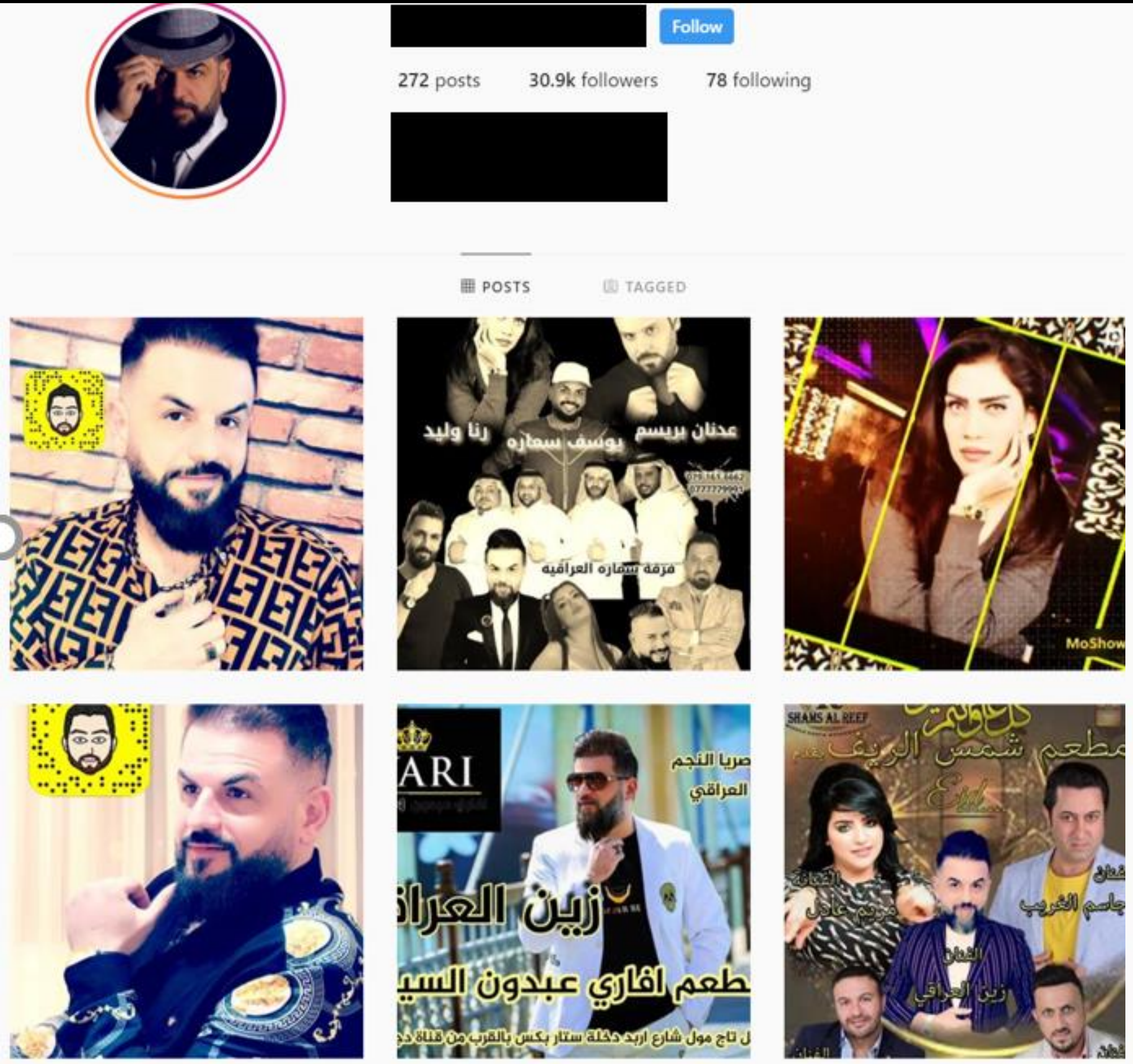
List of potential customers:

522 accounts

Method:

Content analysis

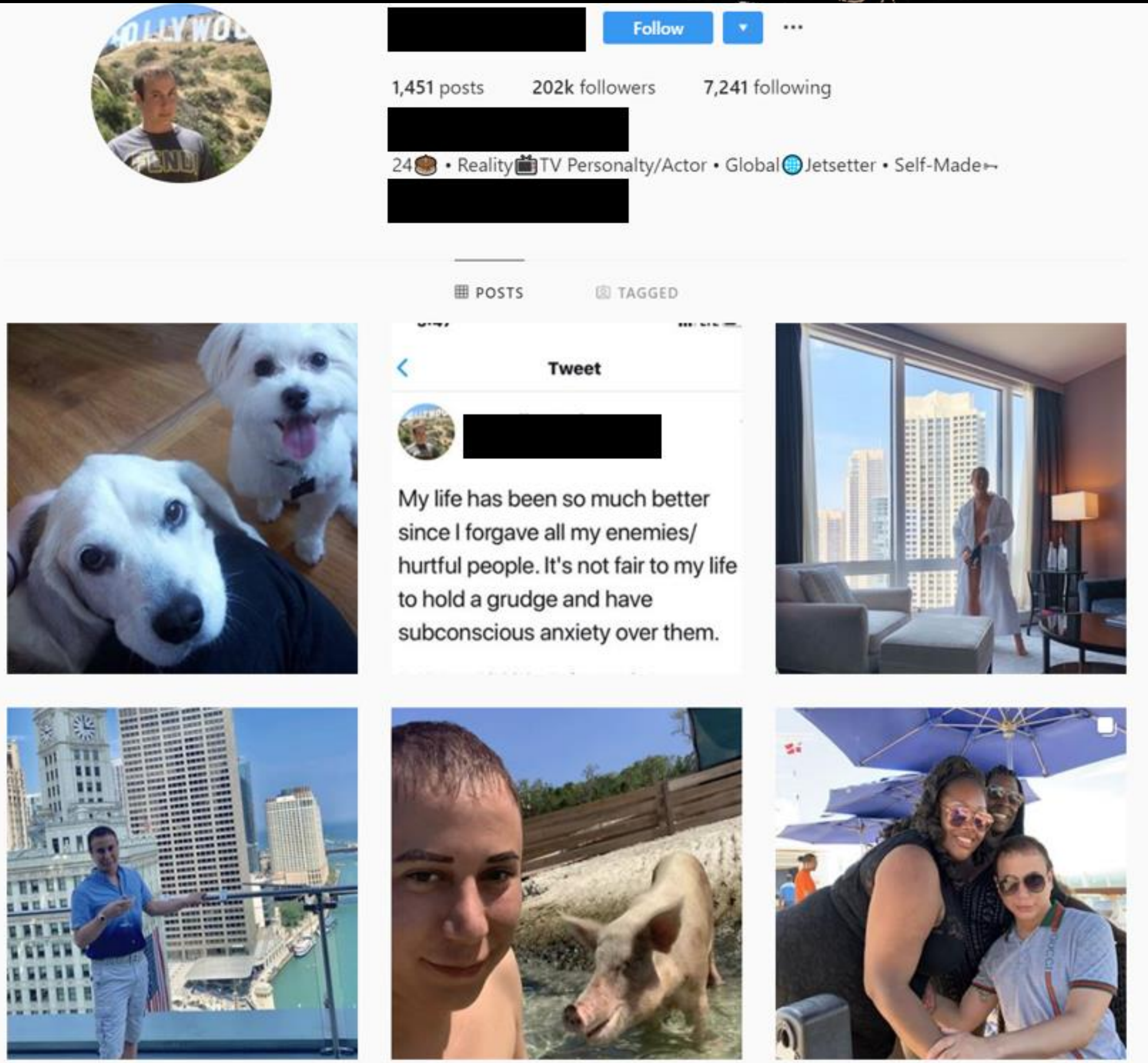
Entertainment Industry (20%)



[redacted] Follow

272 posts 30.9k followers 78 following

[redacted]



[redacted] Follow ▾ ···

1,451 posts 202k followers 7,241 following

[redacted]

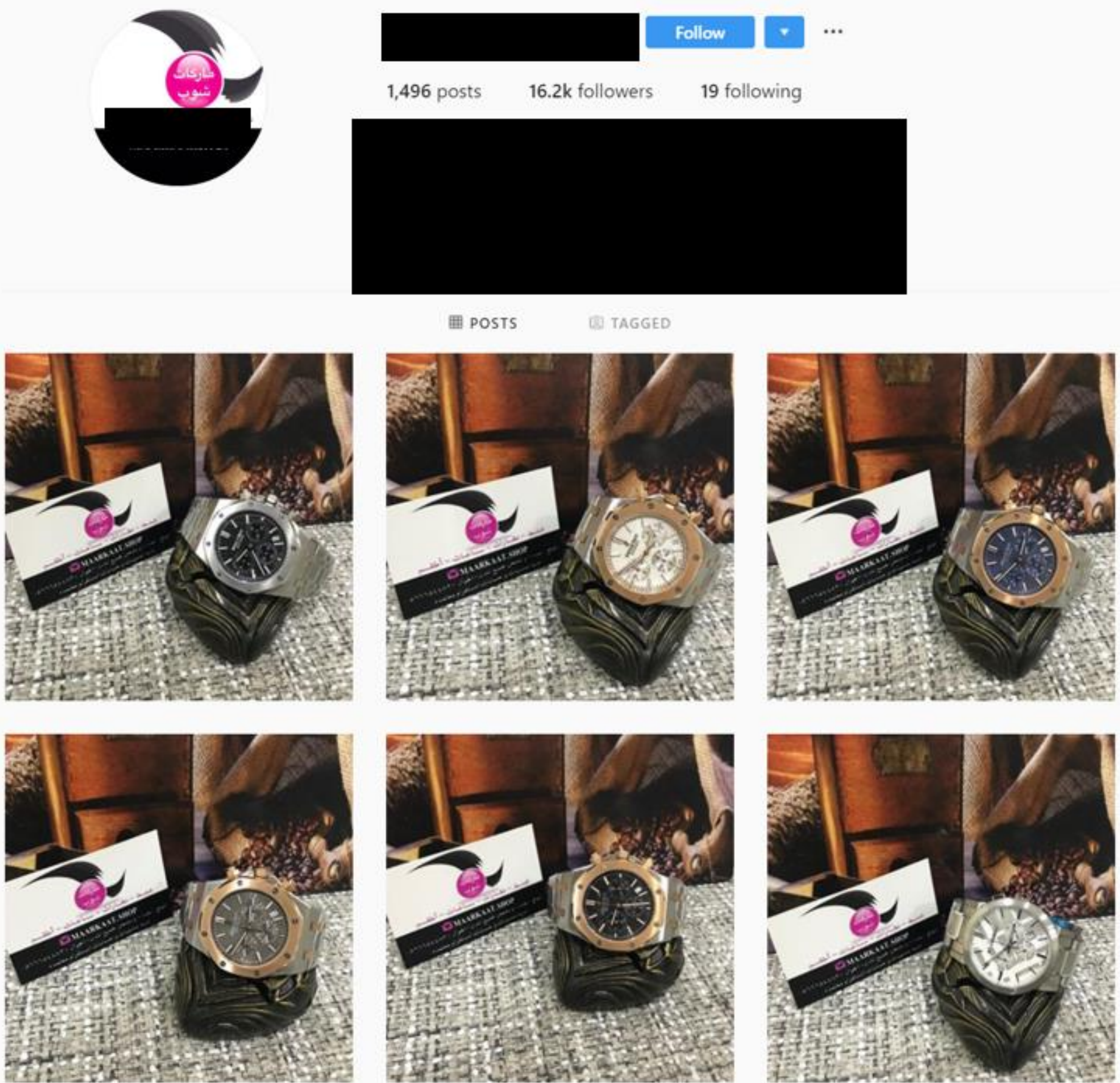
24🎂 • Reality📺TV Personalty/Actor • Global🌐Jetsetter • Self-Made↦

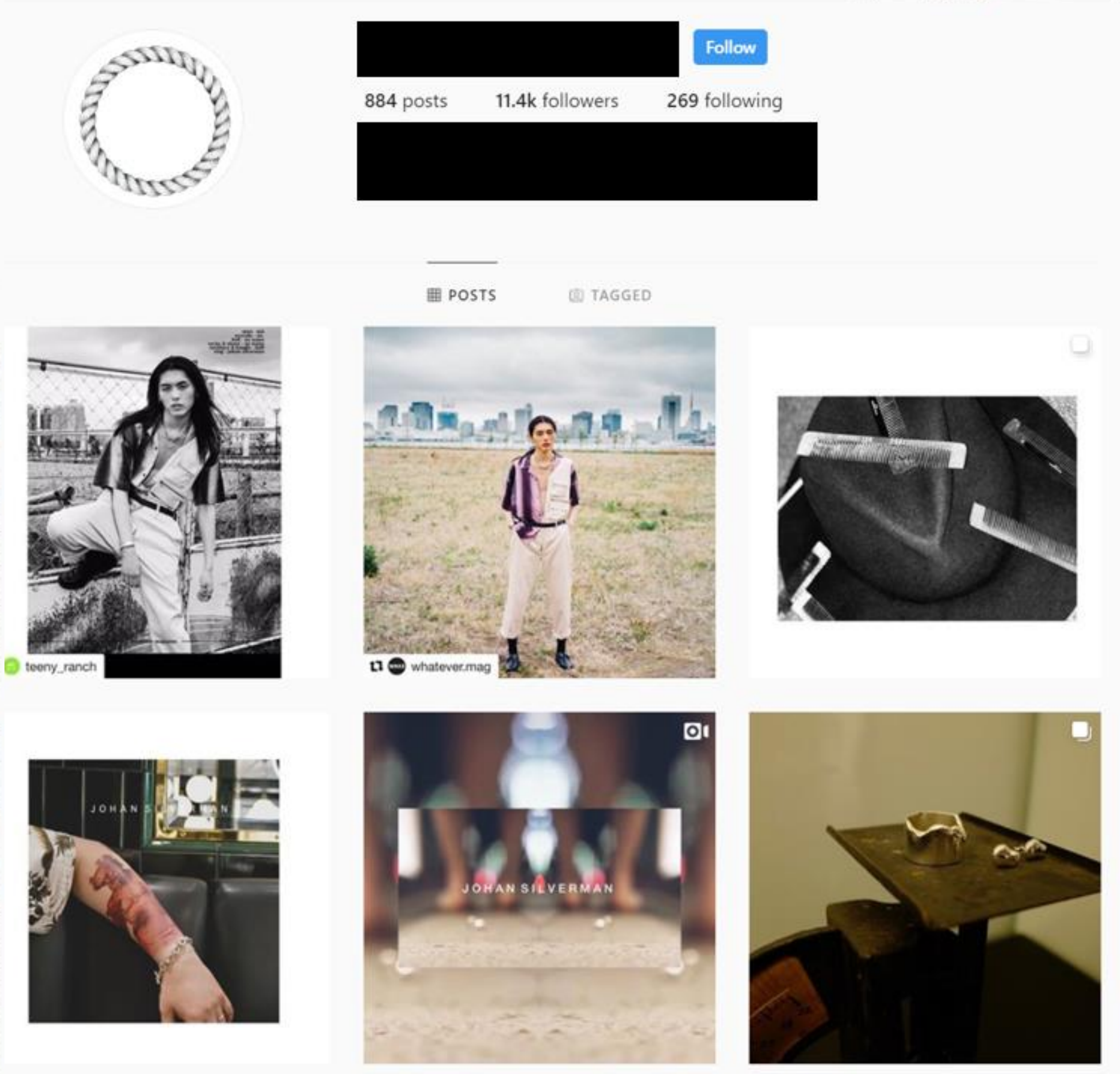
[redacted]

[redacted]

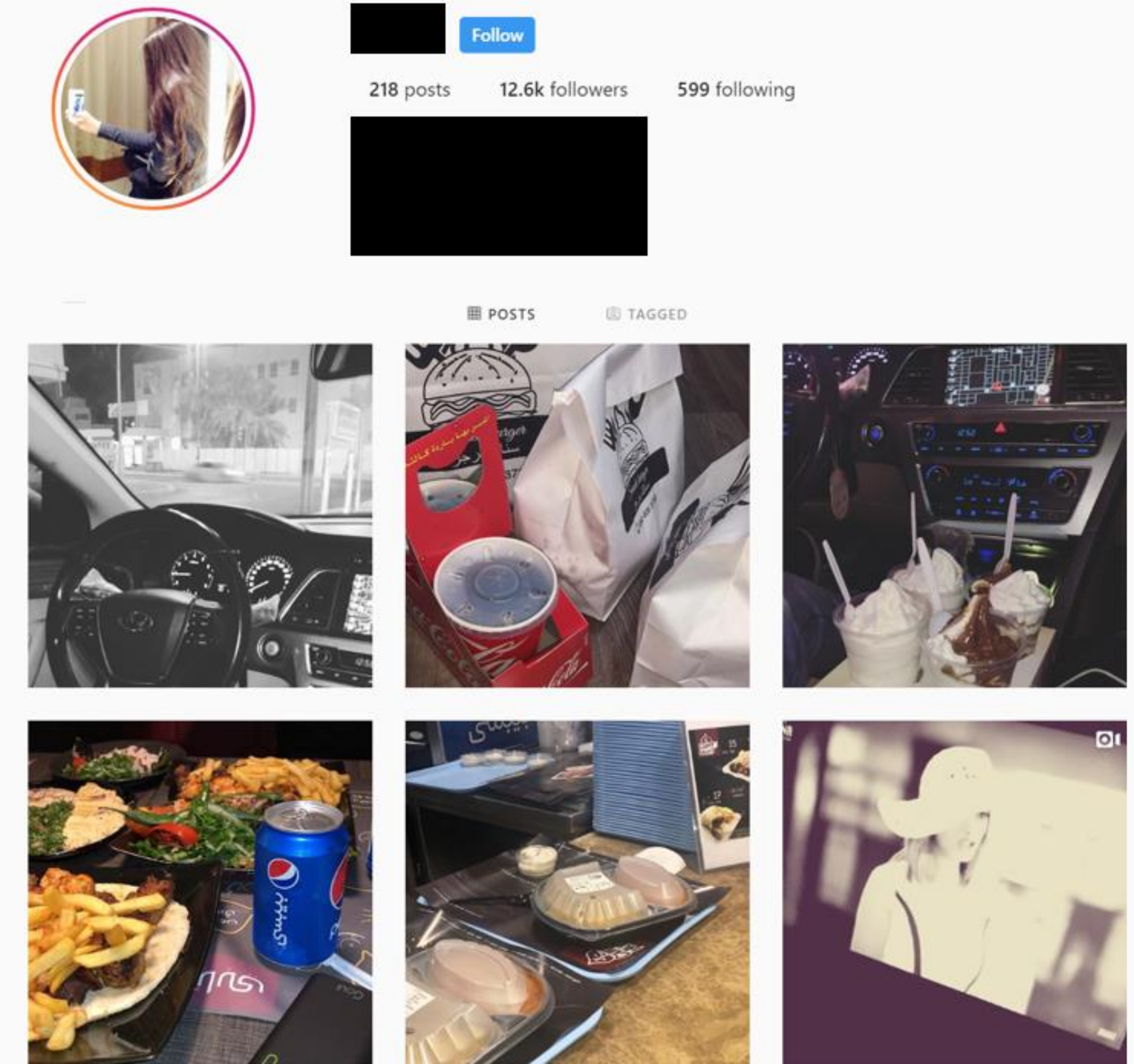
My life has been so much better since I forgave all my enemies/ hurtful people. It's not fair to my life to hold a grudge and have subconscious anxiety over them.

Selling Products and Services (21%)





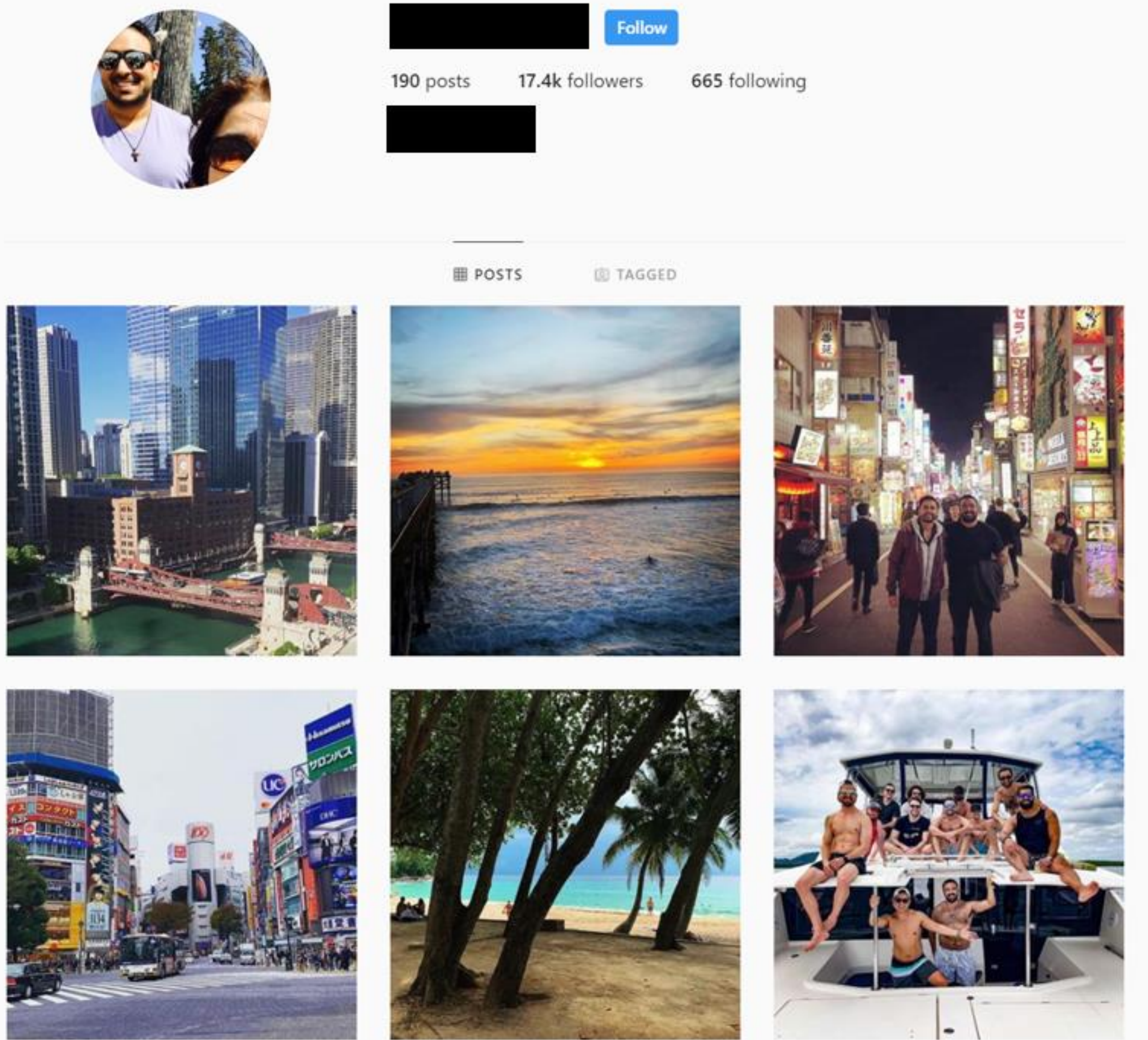
Personal Profiles (26%)



[redacted]

218 posts 12.6k followers 599 following

[redacted]

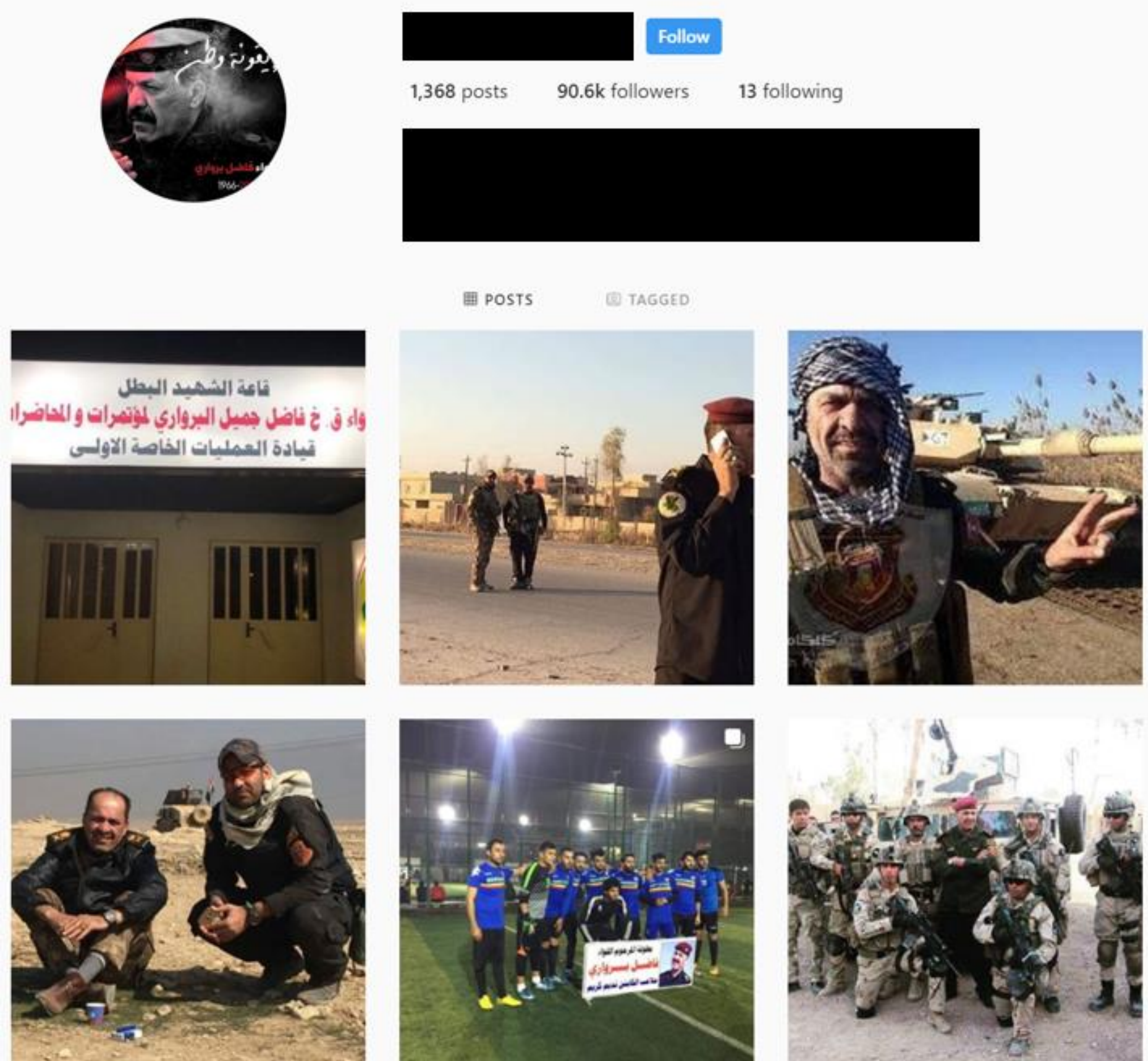


[redacted]

190 posts 17.4k followers 665 following

[redacted]

The Unexpected Ones



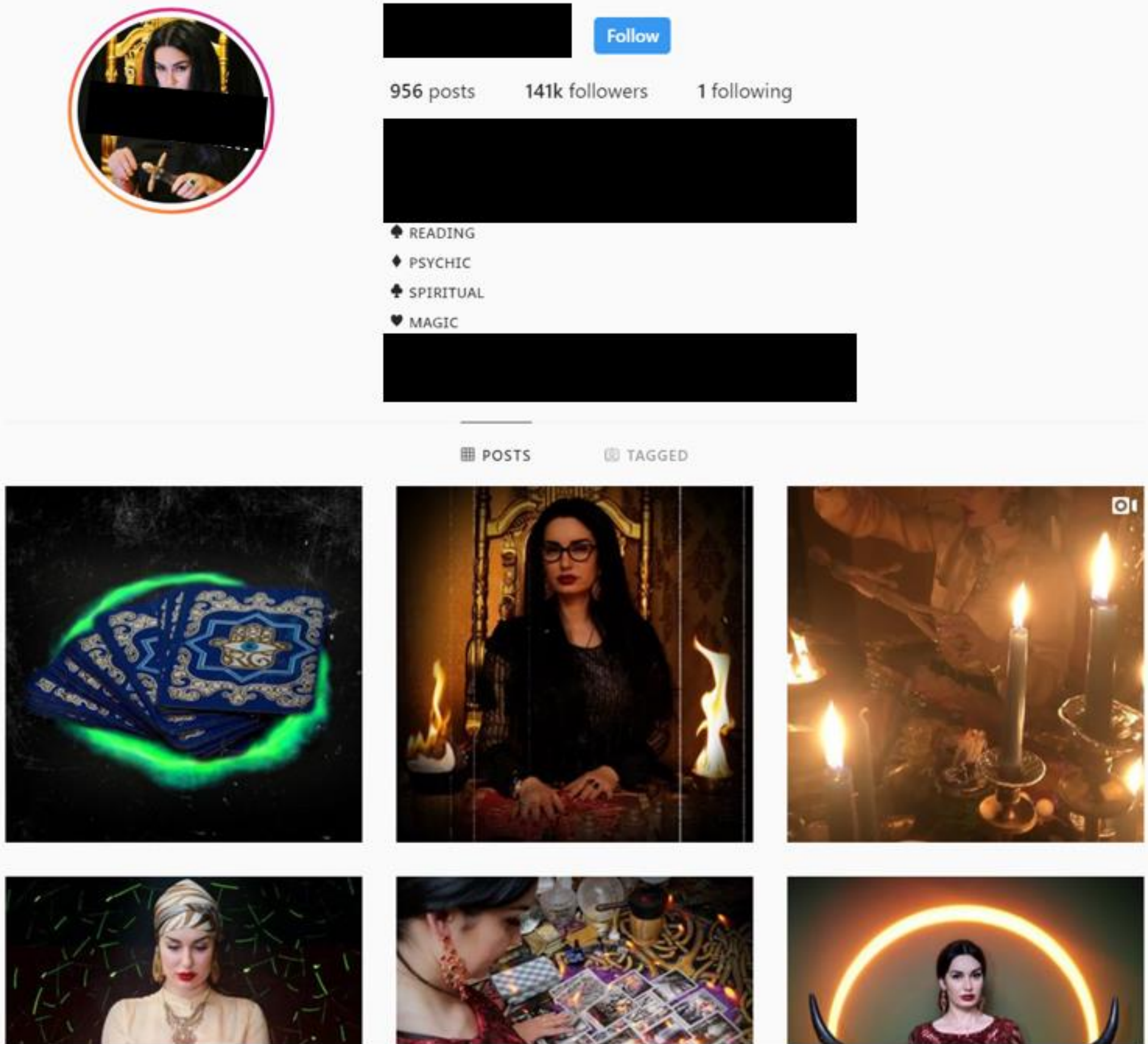
[redacted] Follow

1,368 posts 90.6k followers 13 following

[redacted]

POSTS TAGGED

قاعة الشهيد البطل
واء ق. خ فاضل جميل البرواري لمؤتمرات و المحاضرا
قيادة العمليات الخاصة الاولى



[redacted] Follow

956 posts 141k followers 1 following

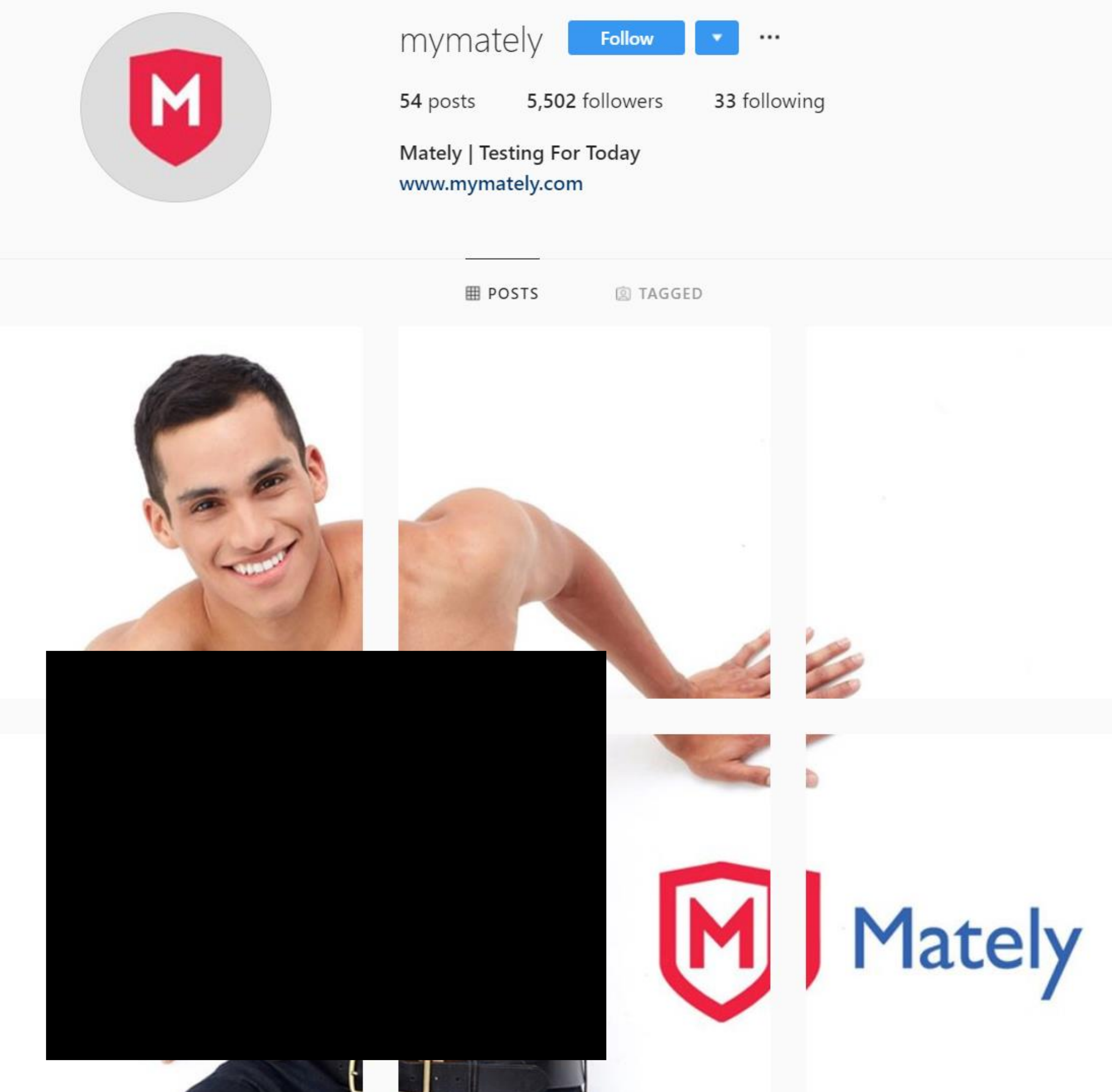
[redacted]

♠ READING
♦ PSYCHIC
♣ SPIRITUAL
♥ MAGIC

[redacted]

POSTS TAGGED

The Fascinating Ones

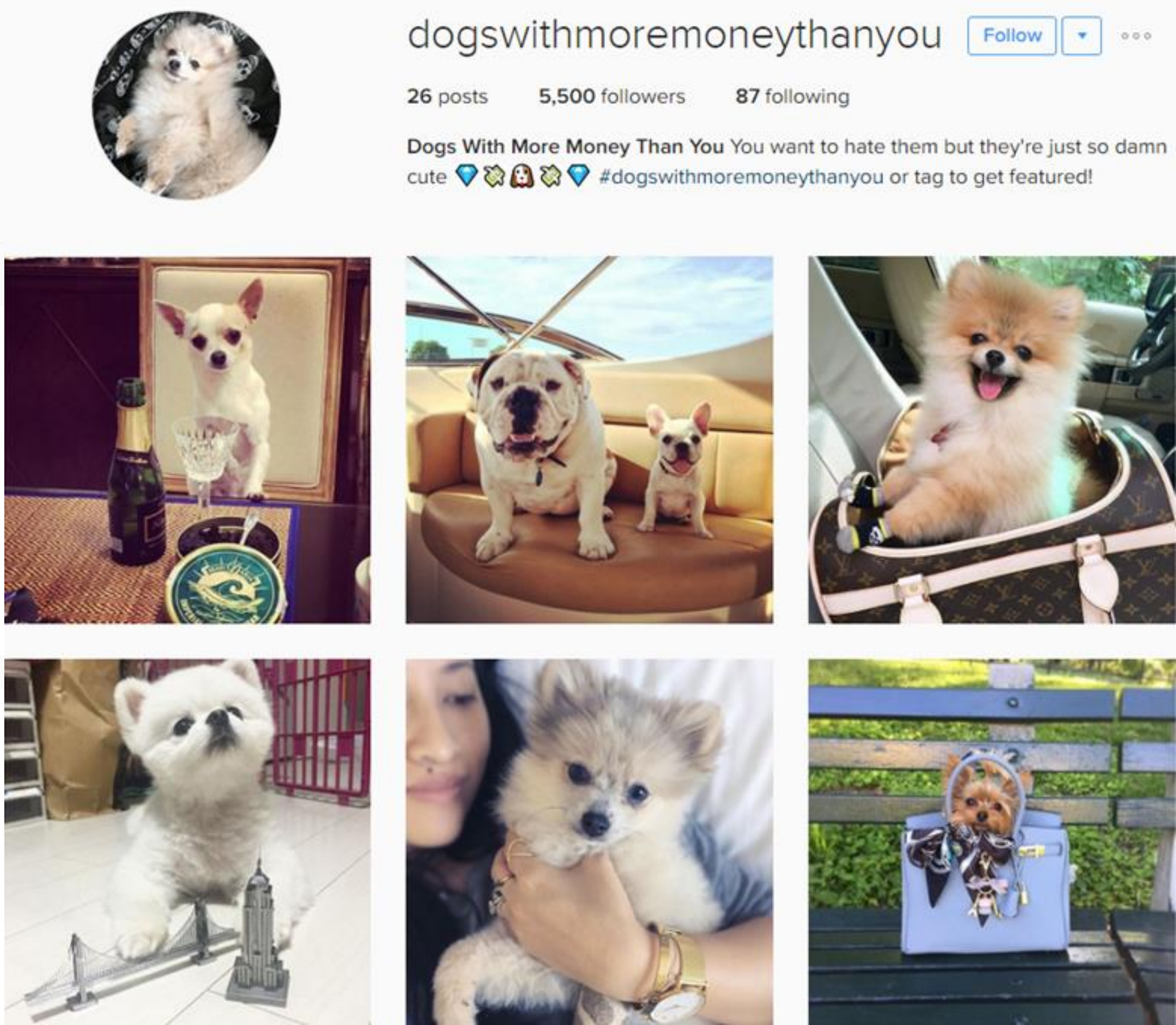


mymately

54 posts 5,502 followers 33 following

Mately | Testing For Today
www.mymately.com

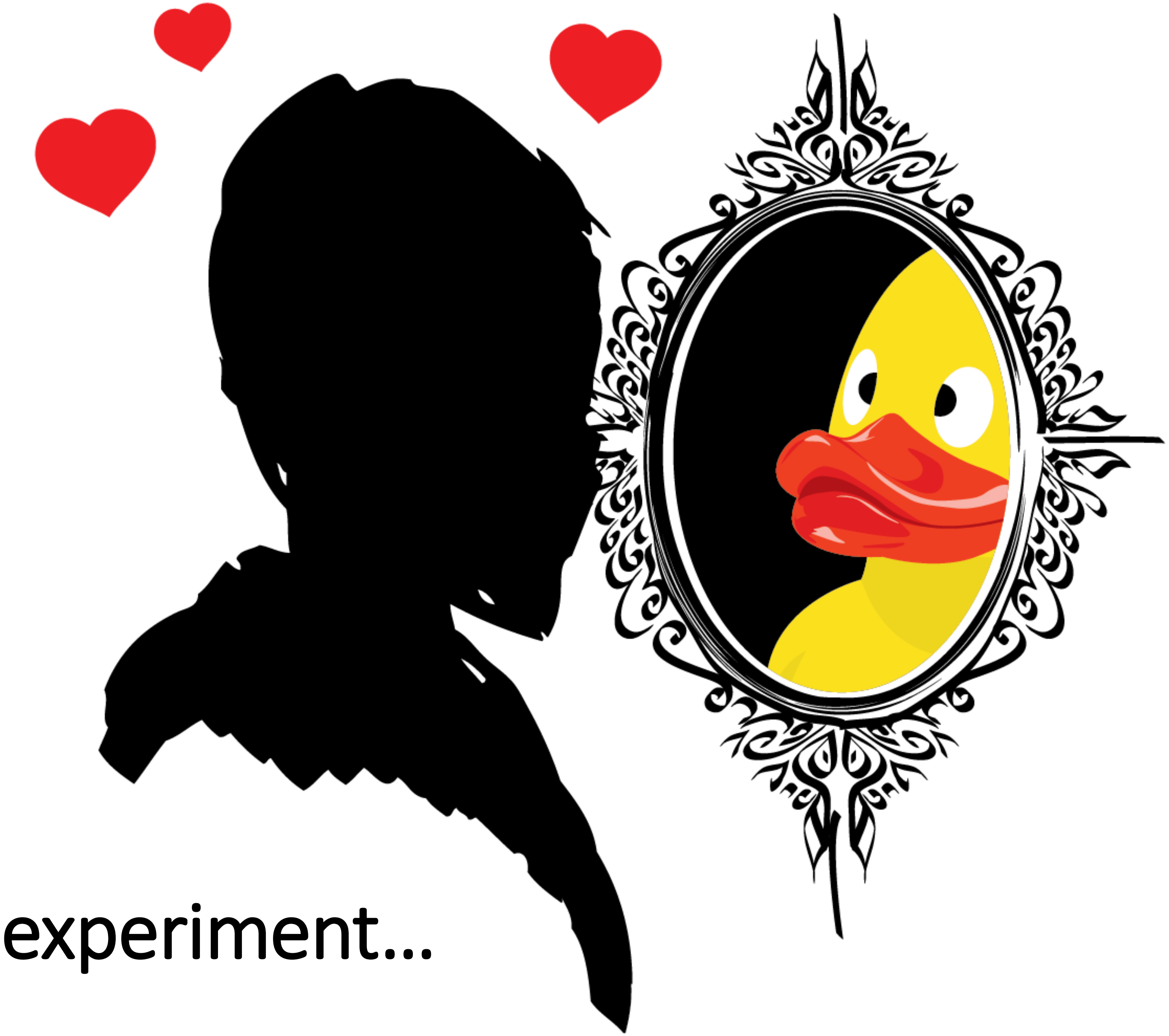
[redacted]



dogswithmoremoneythanyou

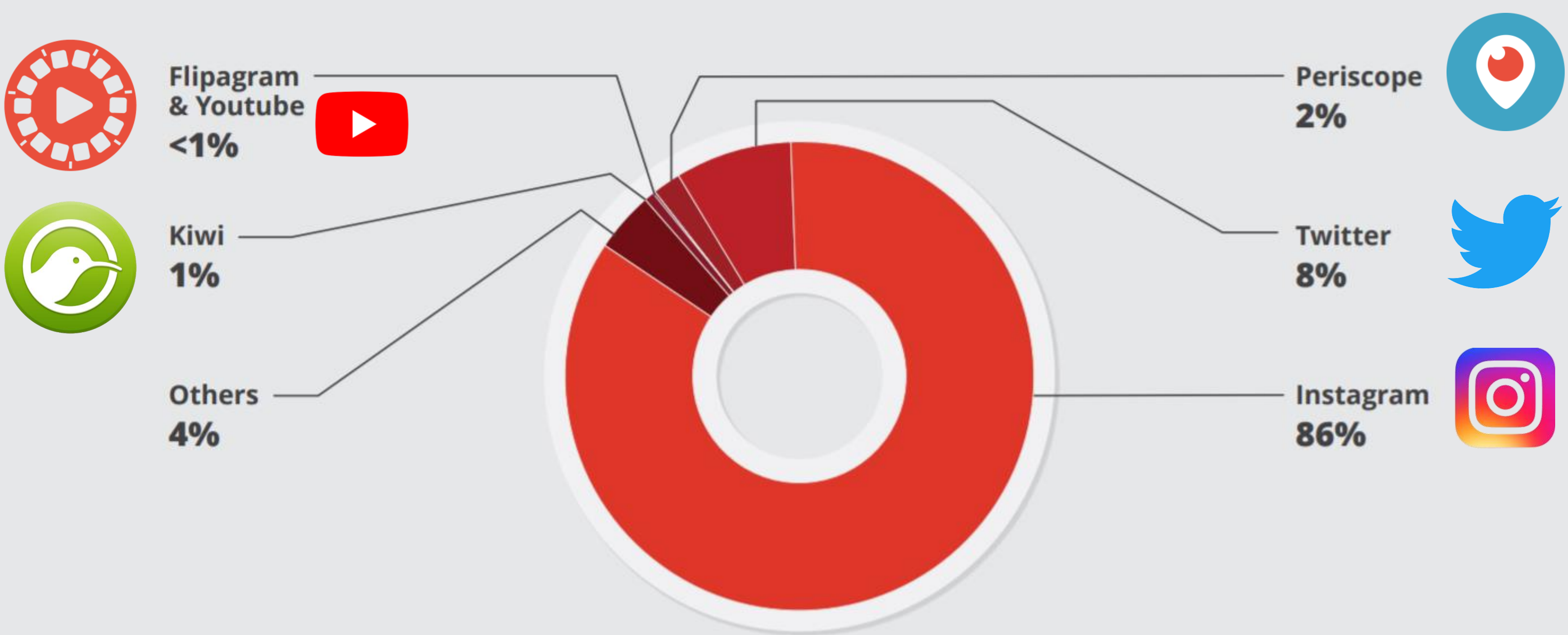
26 posts 5,500 followers 87 following

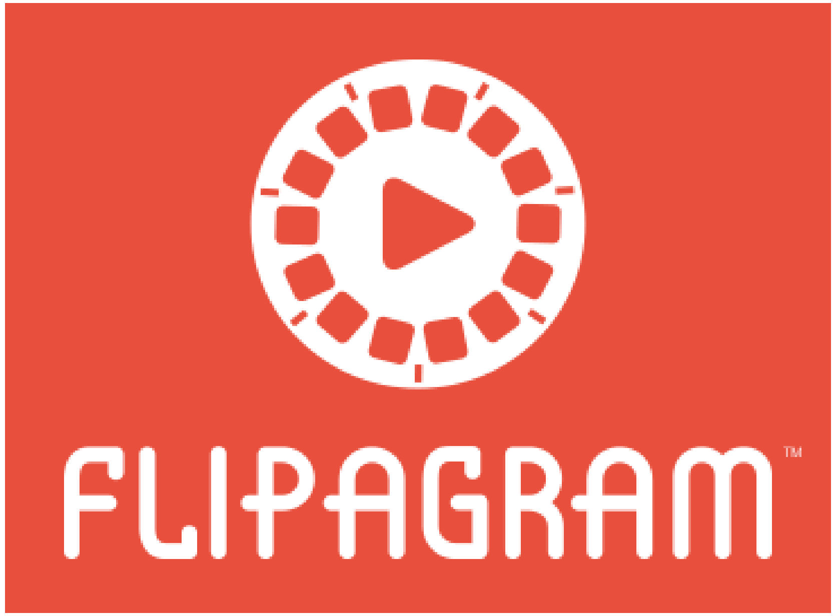
Dogs With More Money Than You You want to hate them but they're just so damn cute 💎💸🐶💸💎 #dogswithmoremoneythanyou or tag to get featured!

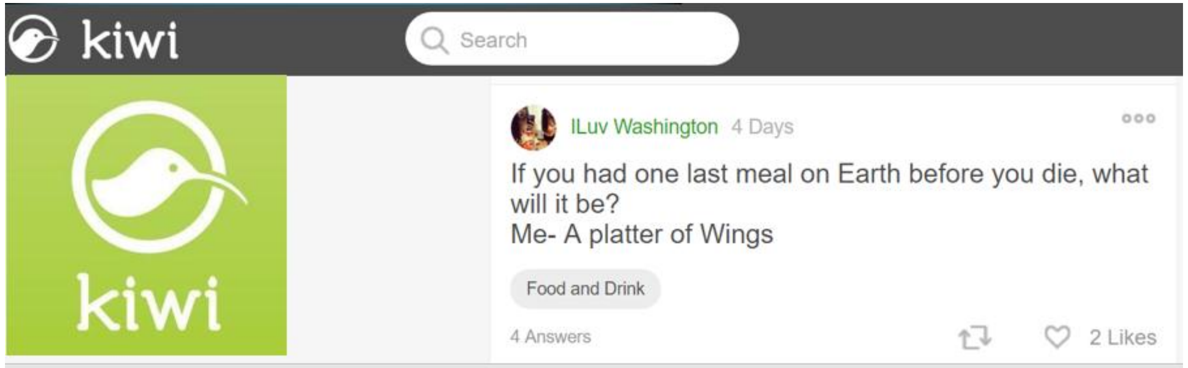


We made an experiment...

Linux/Moose’s Targeted Social Networks







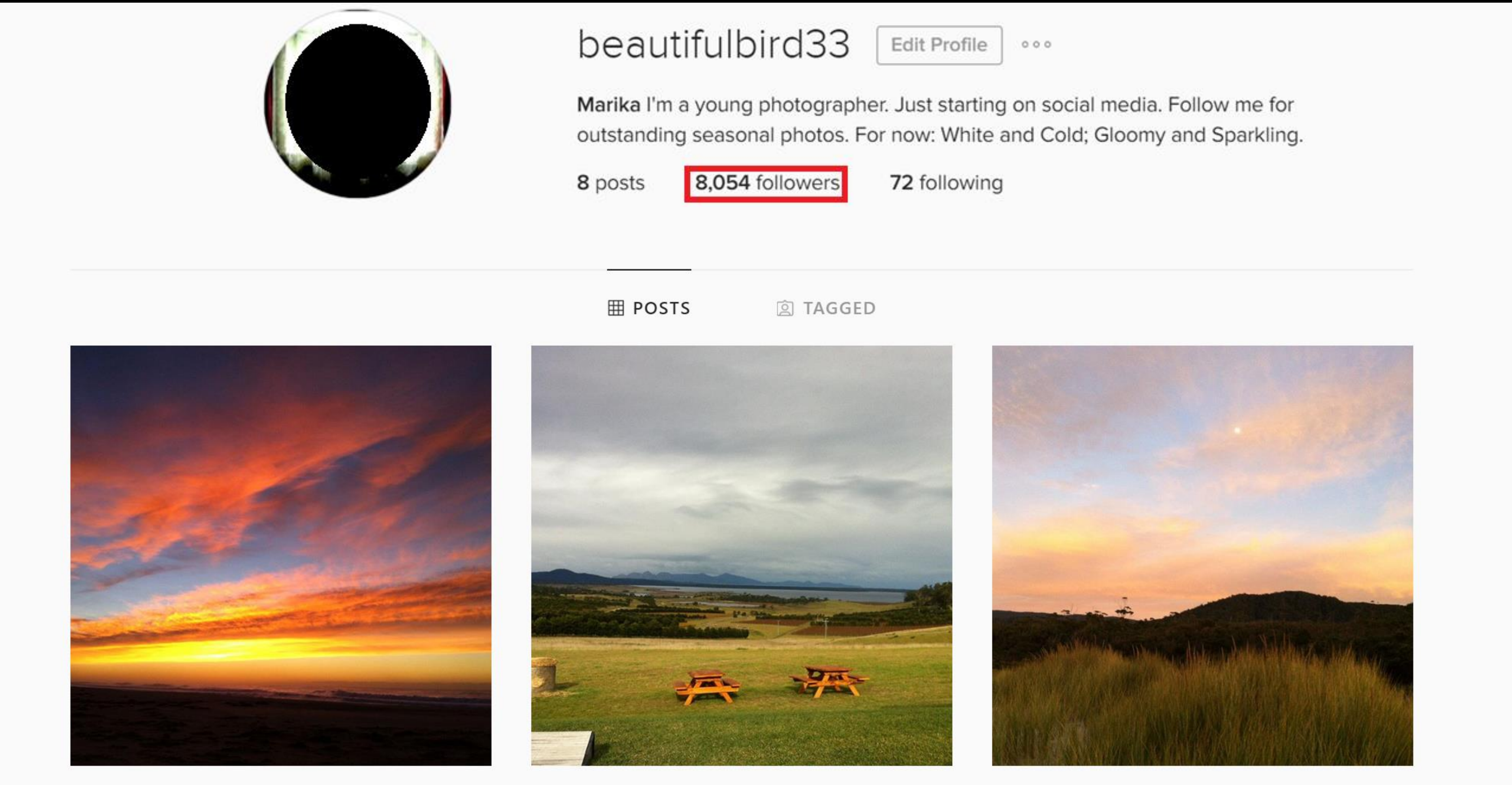
ILuv Washington 4 Days

If you had one last meal on Earth before you die, what will it be?
Me- A platter of Wings

Food and Drink

4 Answers

2 Likes

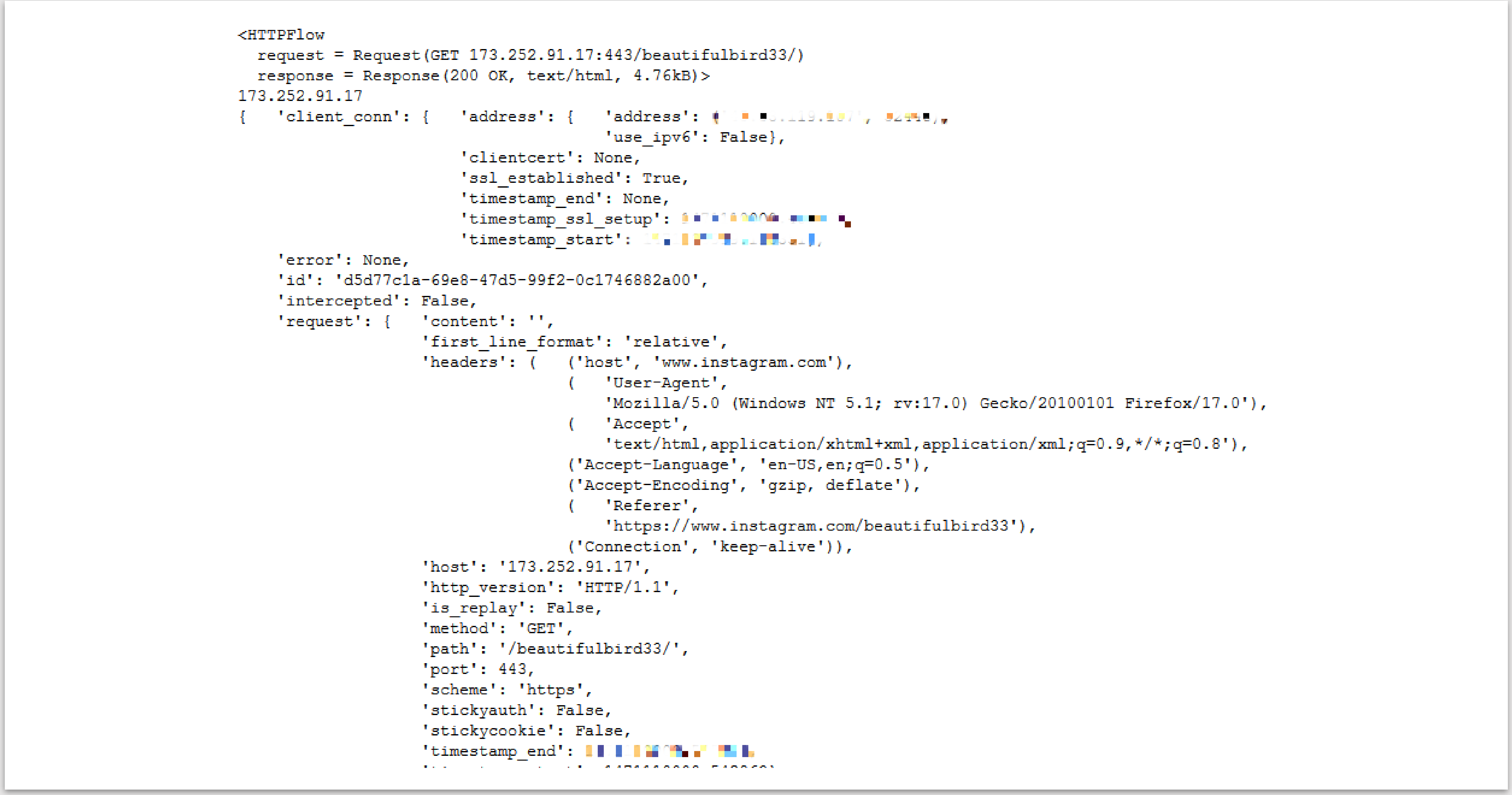


[redacted]

beautifulbird33

Marika I'm a young photographer. Just starting on social media. Follow me for outstanding seasonal photos. For now: White and Cold; Gloomy and Sparkling.

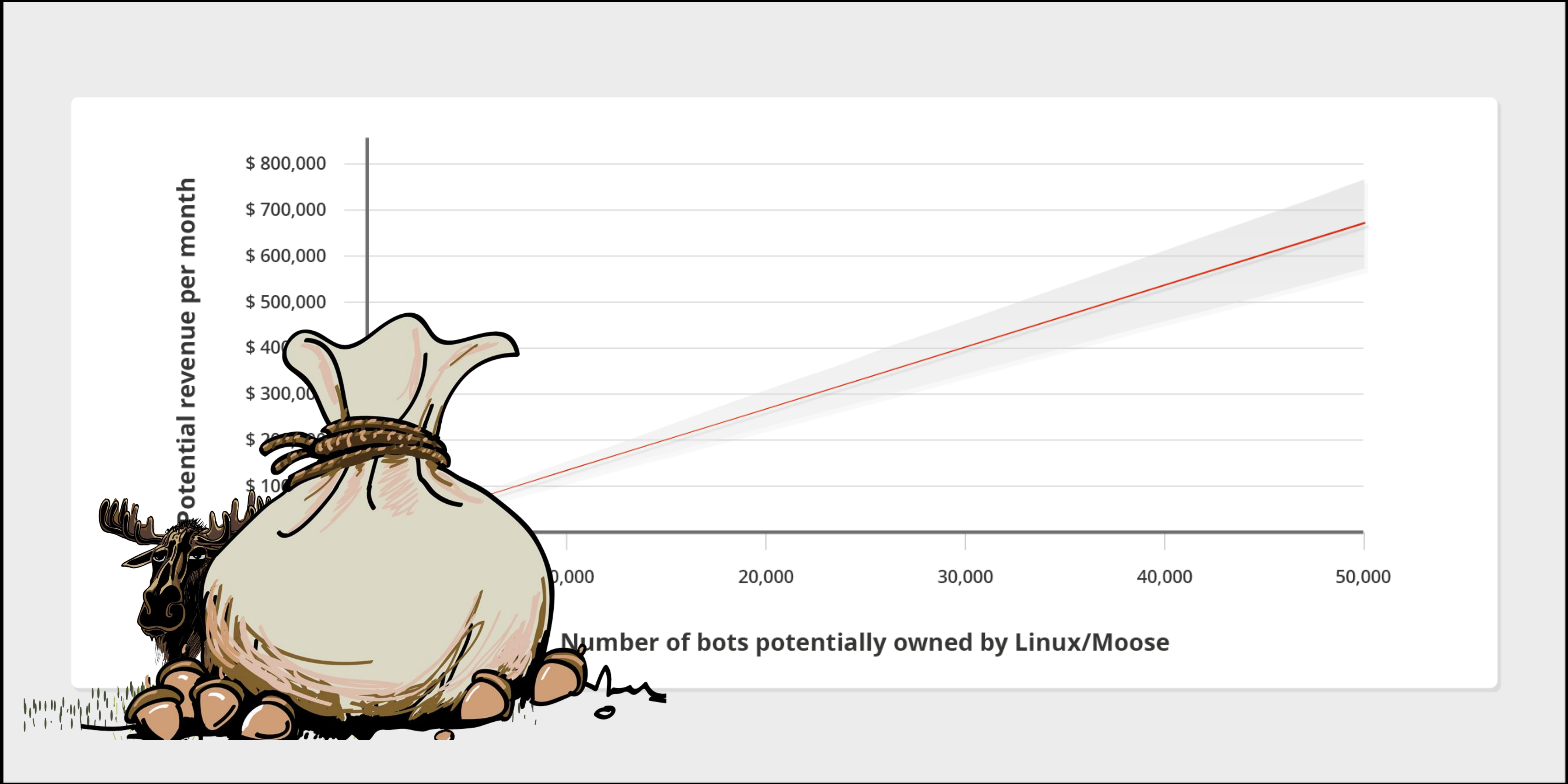
8 posts **8,054** followers **72** following



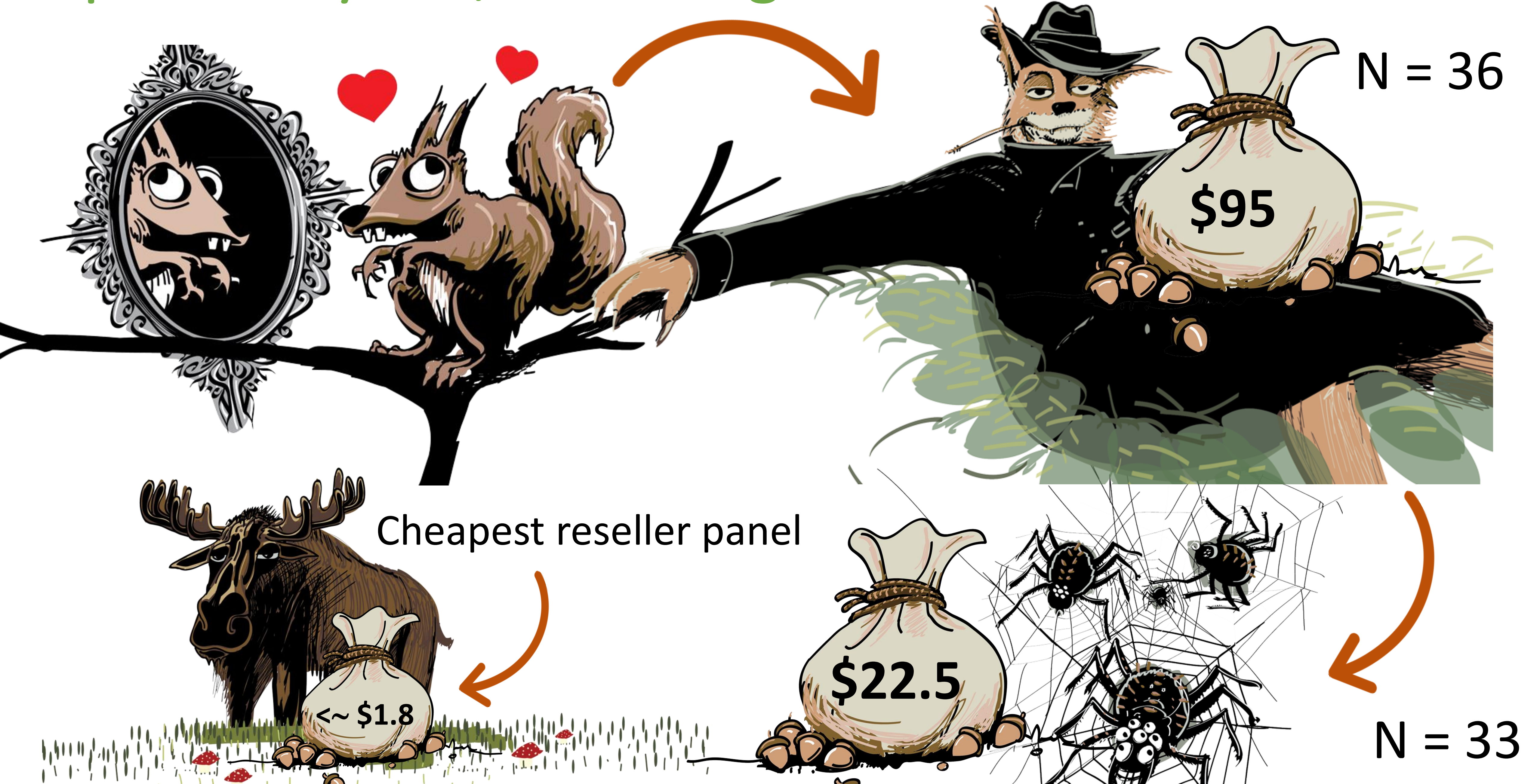
```
<HTTPFlow
  request = Request(GET 173.252.91.17:443/beautifulbird33/)
  response = Response(200 OK, text/html, 4.76kB)>
173.252.91.17
{   'client_conn': {   'address': {   'address': [redacted]
                                      'use_ipv6': False},
                       'clientcert': None,
                       'ssl_established': True,
                       'timestamp_end': None,
                       'timestamp_ssl_setup': [redacted]
                       'timestamp_start': [redacted]
    'error': None,
    'id': 'd5d77c1a-69e8-47d5-99f2-0c1746882a00',
    'intercepted': False,
    'request': {   'content': '',
                   'first_line_format': 'relative',
                   'headers': (   ('host', 'www.instagram.com'),
                                  (   'User-Agent',
                                      'Mozilla/5.0 (Windows NT 5.1; rv:17.0) Gecko/20100101 Firefox/17.0'),
                                  (   'Accept',
                                      'text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8'),
                                  ('Accept-Language', 'en-US,en;q=0.5'),
                                  ('Accept-Encoding', 'gzip, deflate'),
                                  (   'Referer',
                                      'https://www.instagram.com/beautifulbird33'),
                                  ('Connection', 'keep-alive')),
                   'host': '173.252.91.17',
                   'http_version': 'HTTP/1.1',
                   'is_replay': False,
                   'method': 'GET',
                   'path': '/beautifulbird33/',
                   'port': 443,
                   'scheme': 'https',
                   'stickyauth': False,
                   'stickycookie': False,
                   'timestamp_end': [redacted]
```

Revenue

In 2016


$ 800,000
$ 700,000
$ 600,000
$ 500,000
$ 400
$ 300,00
$ 2
$ 10
Potential revenue per month
,000
20,000
30,000
40,000
50,000
Number of bots potentially owned by Linux/Moose

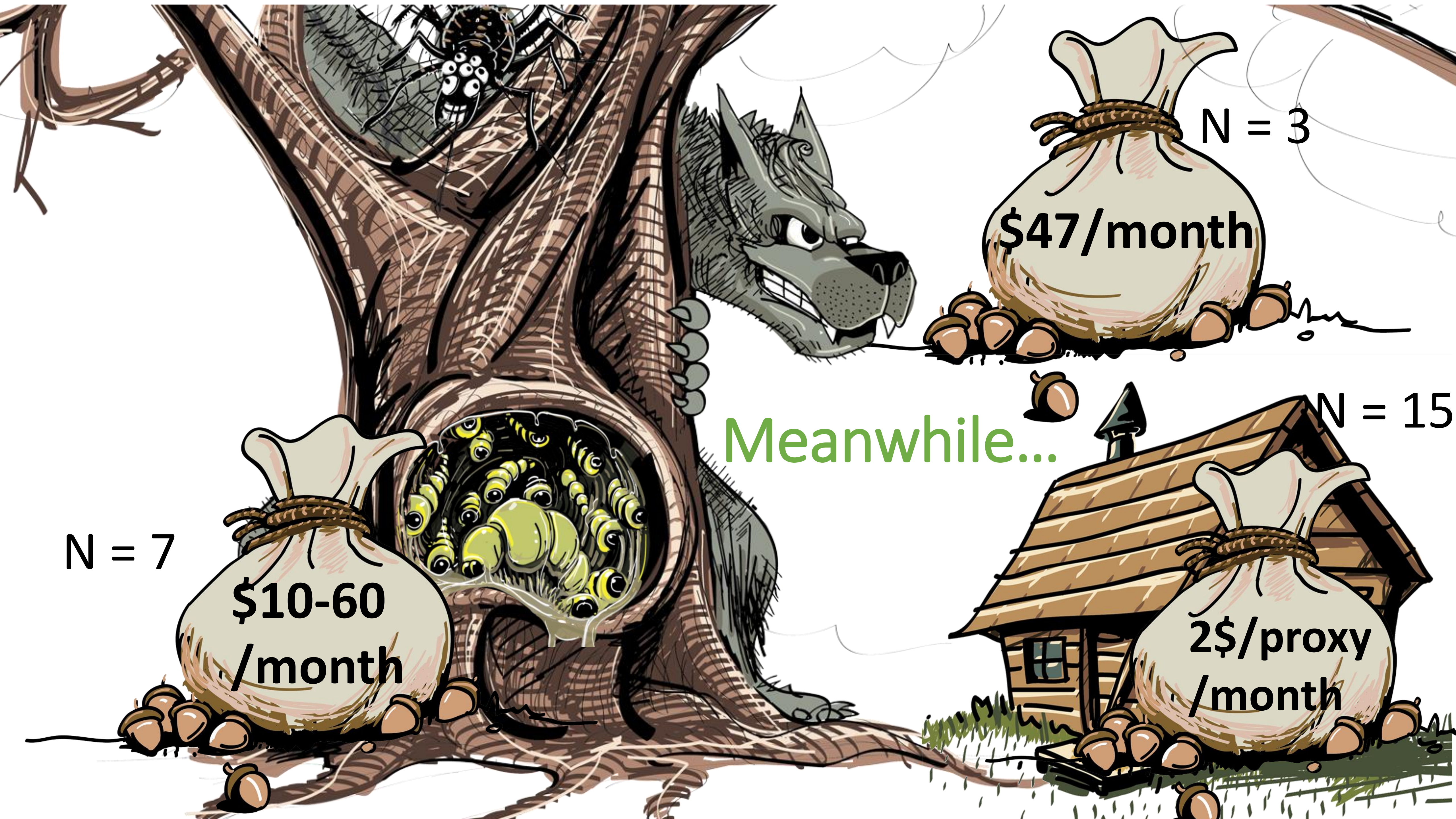
Squirrel buys 10,000 Instagram followers



N = 36

Cheapest reseller panel

N = 33



Meanwhile…

N = 7

$10-60 /month

N = 3

$47/month

N = 15

2$/proxy /month

The Ecosystem of Social Media Manipulation

Other Research Avenues

- Click farms
- Compromised accounts
- Troll farms

Photo by Michael Browning on Unsplash

What to do next?

Policy makers:

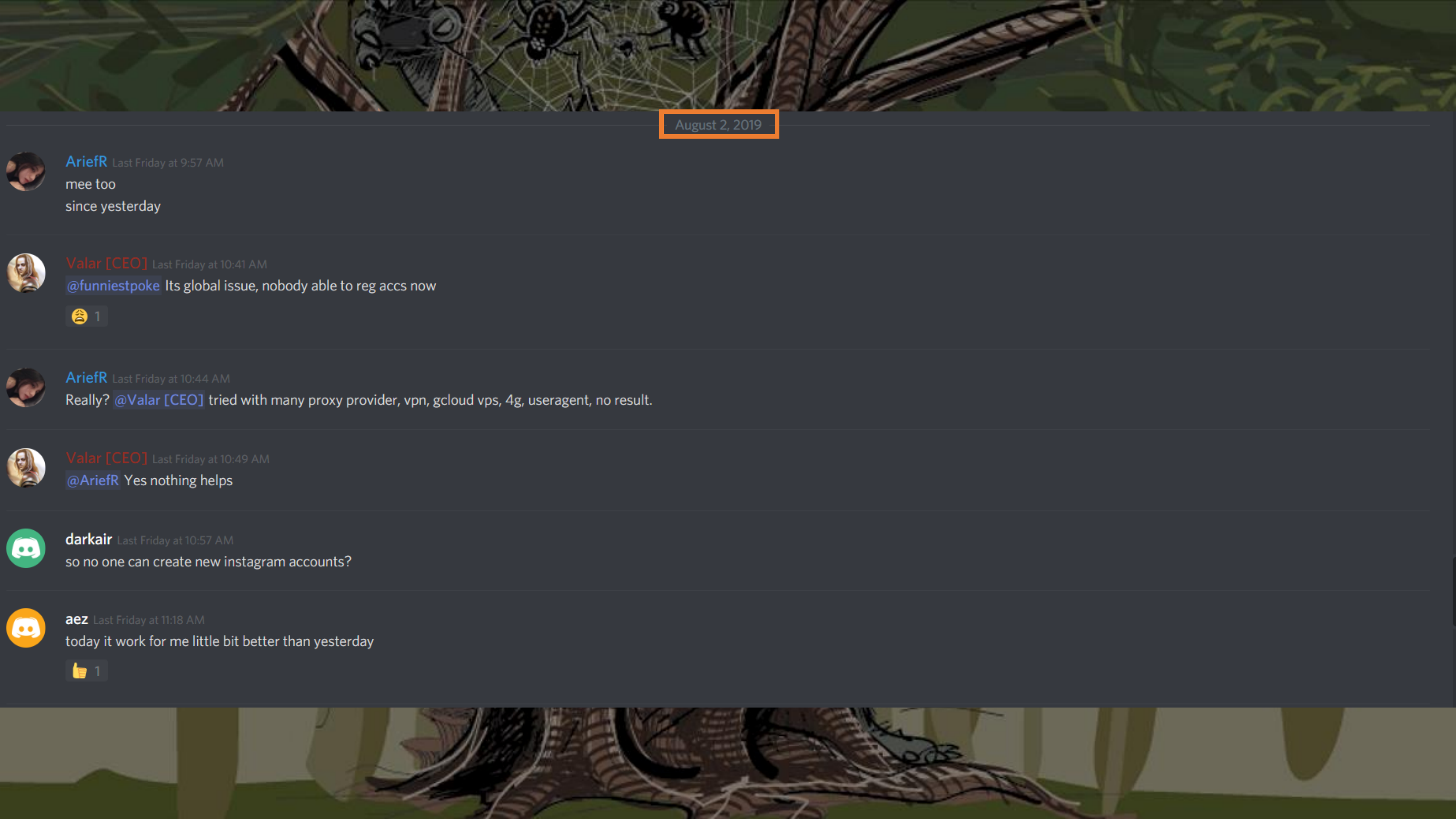
Look into the sale of social media manipulation

Law enforcement:

Target the middle-man

Social networks:

Continue to flag any robotic activity



August 2, 2019

AriefR Last Friday at 9:57 AM
mee too
since yesterday

Valar [CEO] Last Friday at 10:41 AM
@funniestpoke Its global issue, nobody able to reg accs now
😩 1

AriefR Last Friday at 10:44 AM
Really? @Valar [CEO] tried with many proxy provider, vpn, gcloud vps, 4g, useragent, no result.

Valar [CEO] Last Friday at 10:49 AM
@AriefR Yes nothing helps

darkair Last Friday at 10:57 AM
so no one can create new instagram accounts?

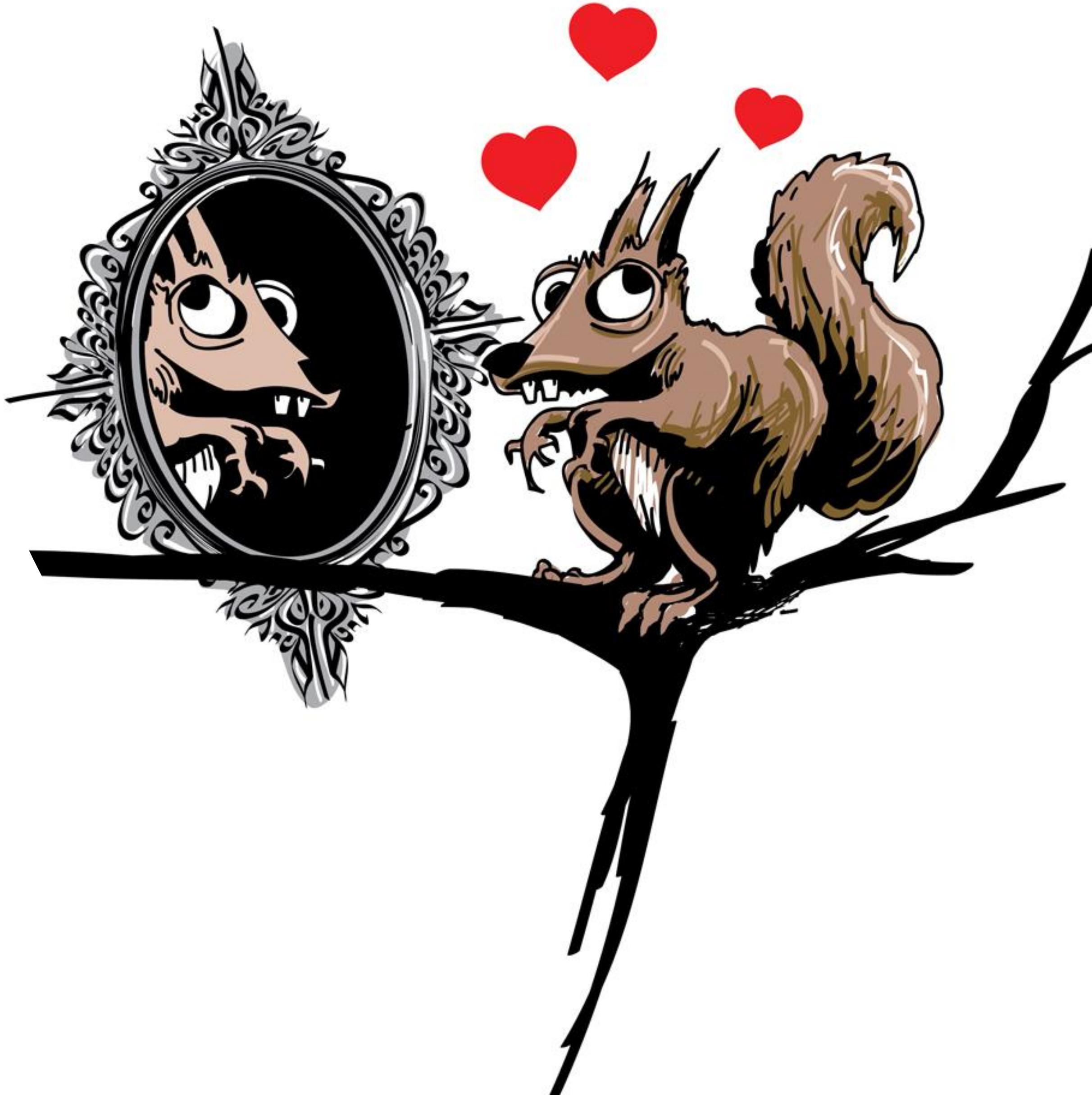
aez Last Friday at 11:18 AM
today it work for me little bit better than yesterday
👍 1

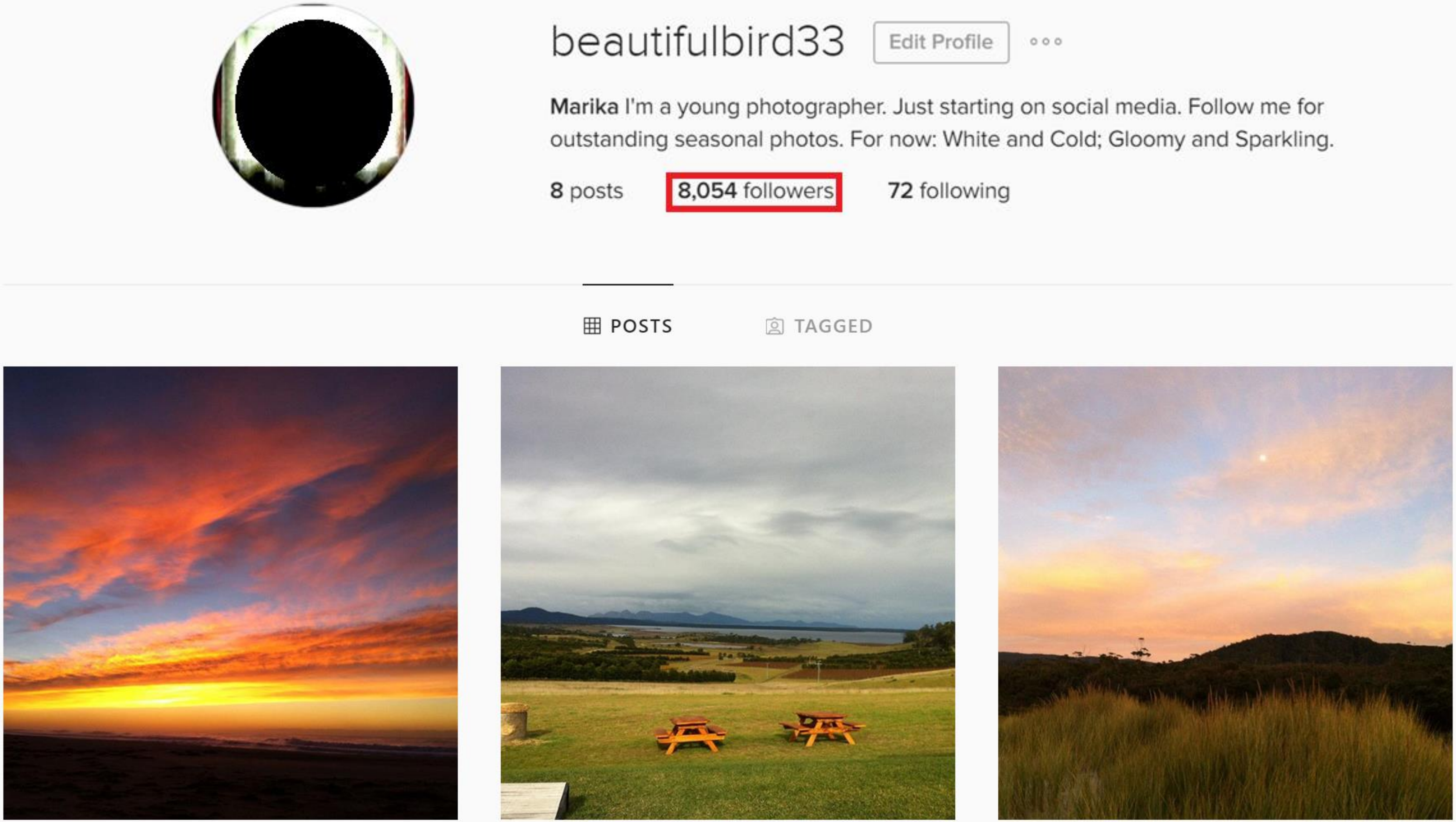
Individuals (you)

Focus on the content rather than the container!

What is this person bringing to society? Is this post legit?

What are the sources?





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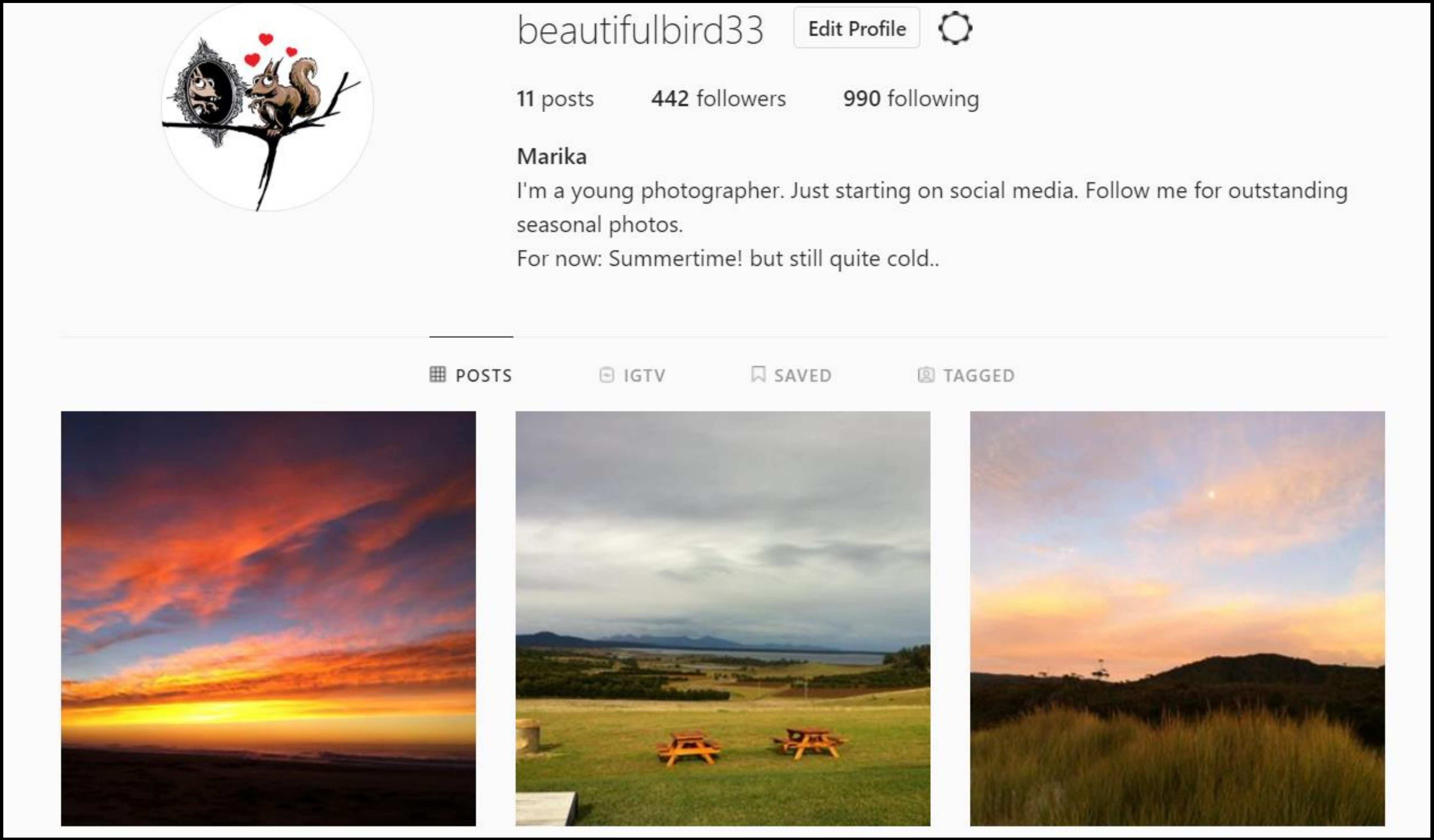

beautifulbird33

11 posts 442 followers 990 following

Marika

I'm a young photographer. Just starting on social media. Follow me for outstanding seasonal photos.
For now: Summertime! but still quite cold..

Thank you! Questions?

computer emergency response team CERT-EU for the EU institutions, bodies and agencies

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Artwork

GoSecure POWERED BY COUNTERTACK

https://gosecure.net/blog/

nsec

https://nsec.io/

jeremie@tunghat.ca