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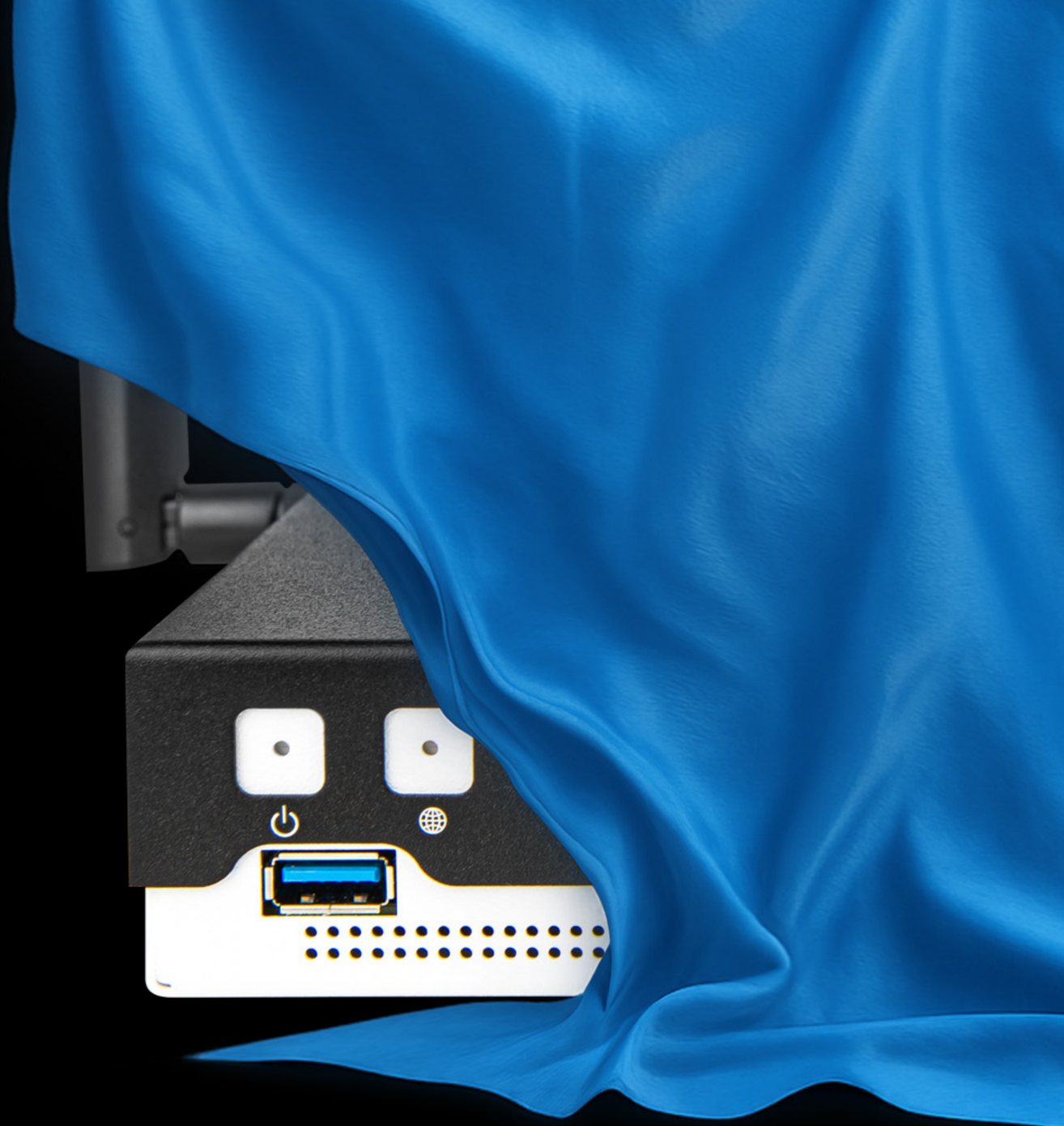
TURRIS OMNIA NG



TURRIS OMNIA NG

NEXT-GENERATION ROUTER

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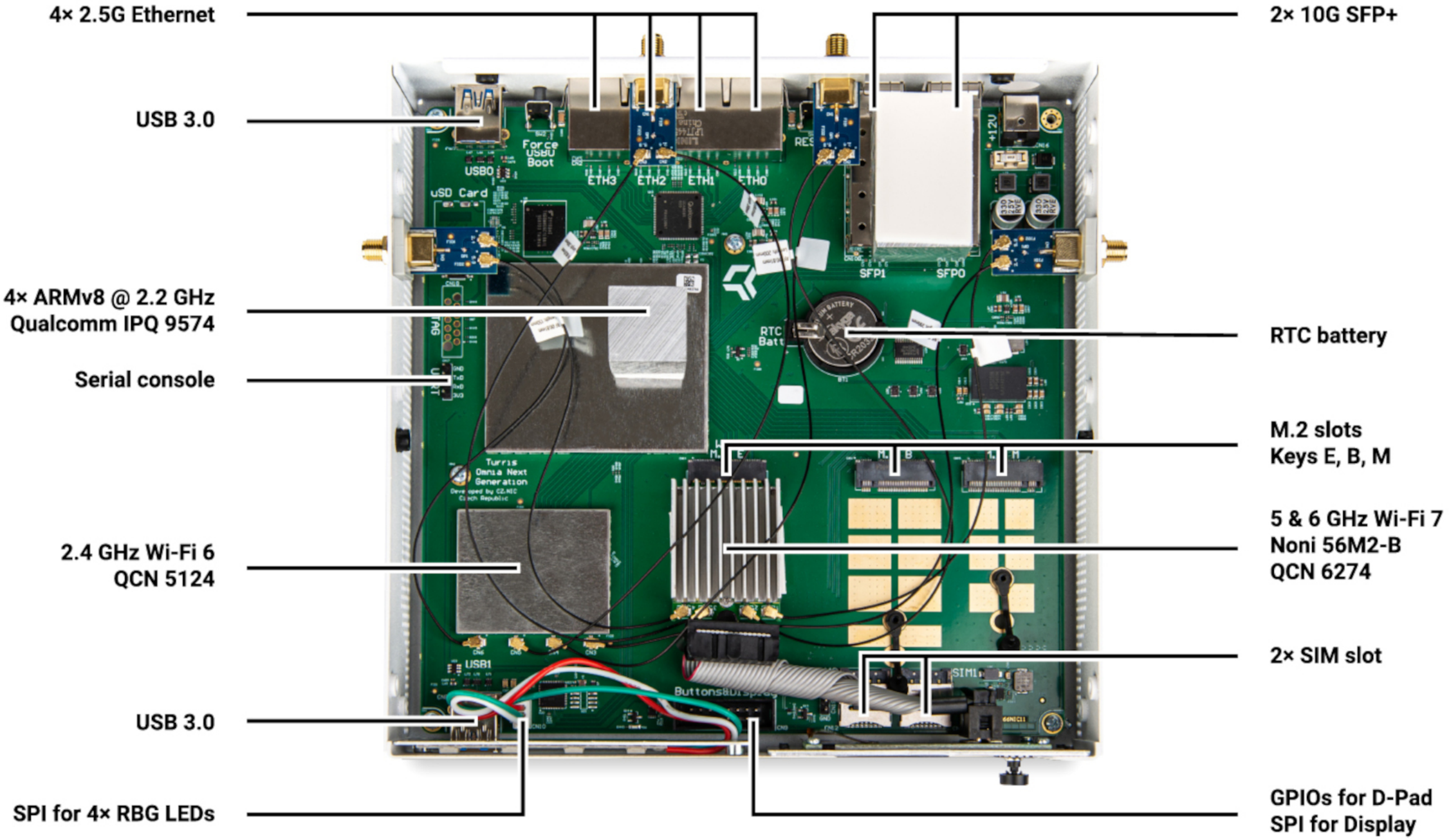
Full-color display with customizable RGB diodes.

DC IN
SFP0
SFP1
Reset
ETH0
ETH1
ETH2
ETH3
Power connector
SFP interface connectors
RESET button
ETH interface connectors
FORCE USB BOOT / user-defined button
USB 3.0

	Omnia NG	Omnia Wi-Fi 6
CPU	4-core CPU ARMv8 @ 2.2 GHz	2-core CPU ARMv7 @ 1.6 GHz
WAN	1× SFP+ (10 Gbps)	1× SFP+ (2.5 Gbps) or 1 Gbps RJ45
LAN	1× SFP+ (10 Gbps) + 4× 2.5 Gbps RJ45	5× 1 Gbps RJ45 (via internal switch)
Wi-Fi 6 GHz	Wi-Fi 7 (up to 11 530 Mbps)	×
Wi-Fi 5 GHz	Wi-Fi 7 (up to 8 647 Mbps)	Wi-Fi 6 (up to 2 401 Mbps)
Wi-Fi 2.4 GHz	Wi-Fi 6 (up to 800 Mbps)	Wi-Fi 4 (up to 300 Mbps)
Indicators	240 × 240 px IPS display	12 RGB LEDs
Buttons	reset + D-pad	reset + brightness
Internal storage	8GB eMMC	8GB eMMC
Internal storage extension	1× NVMe	1× mSATA
Cellular connectivity	5G ready	4G ready
Cooling	passive	passive


4× 2.5G Ethernet
2× 10G SFP+
USB 3.0
4× ARMv8 @ 2.2 GHz
Qualcomm IPQ 9574
Serial console
RTC battery
M.2 slots
Keys E, B, M
5 & 6 GHz Wi-Fi 7
Noni 56M2-B
QCN 6274
2.4 GHz Wi-Fi 6
QCN 5124
2× SIM slot
USB 3.0
SPI for 4× RBG LEDs
GPIOs for D-Pad
SPI for Display
USB0
Force USB0 Boot
uSD Card
ETH3
ETH2
ETH1
ETH0
SFP1
SFP0
+12V
RTC Batt
Turris Omnia Next Generation
USB1
SIM1

TURRIS OMNIA NG

Available soon!

Turris OS 9.0

- based on OpenWrt 24.10
- kernel 6.6
- currently on Omnia NG
- currently in HBD, HBL, HBK
- HBT is WiP
  - Wi-Fi LEDs on Omnia need fixing

Turris News

Sentinel Report Q2-Q3 of 2025

Marek Novotný - marek.novotny@nic.cz • October 3rd 2025

TURRIS

whoami

Marek Novotný

- human geography student
  - Urban Structure research team member
- Turris team, CZ.NIC
  - Tech Support Specialist
  - Data Analyst for Turris Sentinel

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Short Turris Sentinel Intro

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Turris Sentinel

- Started as a security research program.
- Gathering information about internet attacks and attackers.
- Real-Time protection against threats.
- Opt-in
- Minimal honeypots emulating login to application layer services.
  - HTTTP, FTP, SMTP and Telnet
  - running on routers
- Ssh honeypot
  - on our servers
- Firewall logs

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What information we collect?

- Rejected inbound connections
  - IP addresses (ASN, v4/v6)
  - ports and protocols
  - actions - login, connect, port scan, message
  - credentials (usernames, passwords)
  - used commands - ssh honeypot
- We **do not collect** information about outbound traffic.

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Data Outputs

- List of malicious IP addresses - greylist
  - dynamic firewall on Turris devices
  - publicly available list
- Sentinel View
  - webpage with data visualizations
  - password checker (have i been pwned from our data)
- Cooperation with Czech national CSIRT

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Attackers and Incidents

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Incidents in Total

Over IPv4

Q2 of 2025	Q3 of 2025	Change	Change %
1,662,482,195	3,101,644,419	+ 1,439,162,224	+ 86.57 %

Over IPv6

2025 Q2	2025 Q3	Change	Change %
323,229	212,246	- 110,983	- 34.34 %

- For Q2 **0.19 per mille** and for Q3 **only 0.07 per mille of total incidents were over IPv6**.
- Incidents over **IPv4** are **significantly more frequent** than over IPv6.

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Attackers

Over IPv4

Q2 of 2025	Q3 of 2025	Change	Change %
1,563,589	1,213,215	- 350,374	- 22.41 %

Over IPv6

Q2 of 2025	Q3 of 2025	Change	Change %
1,066	914	- 152	- 14.26 %

- For Q2 **only 0.68 per mille** and for Q3 **0.75 per mille of attackers were using IPv6**.
- Number of attackers is going down.

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Incidents per Day

Over IPv4

Q2 of 2025	Q3 of 2025	Quarter Change	Quarter Change %
18,428,276	33,165,710	+ 14,737,434	+ 79.97 %

Over IPv6

Q2 of 2025	Q3 of 2025	Quarter Change	Quarter Change %
3,532	2,311	- 1,221	- 34.57 %

- Overall IPv6 is less popular 🤔

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Other Metrics

Metric	Q2 of 2025	Q3 of 2025	Quarter Change	Quarter Change %
Average Unique Attackers / Device (**Device Popularity**)	9,486.00	8,902.00	- 584.00	- 6.16 %
Average Incidents / Device (**Device Exposure**)	852,447.00	1,664,804.00	+ 812,357.00	+ 95.30 %
Average Devices Targetted / Attacker (**Attacker Promiscuity**)	12.90	13.37	+ 0.47	+ 3.64 %

- Less attackers
- But more active ones!

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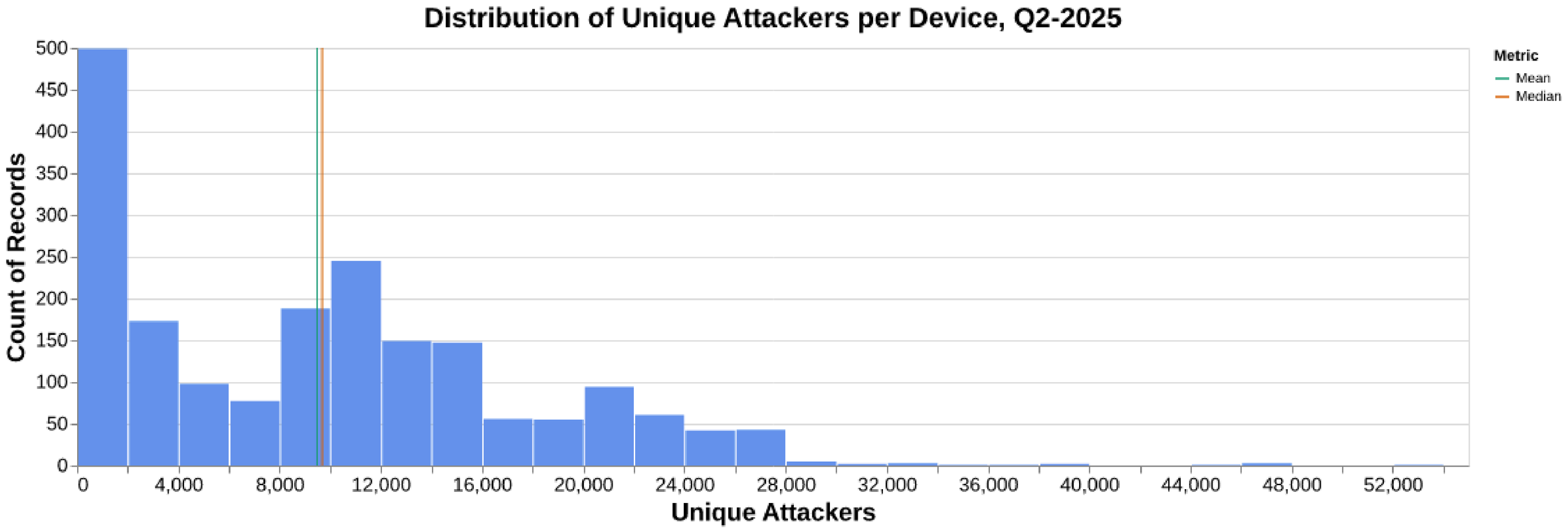
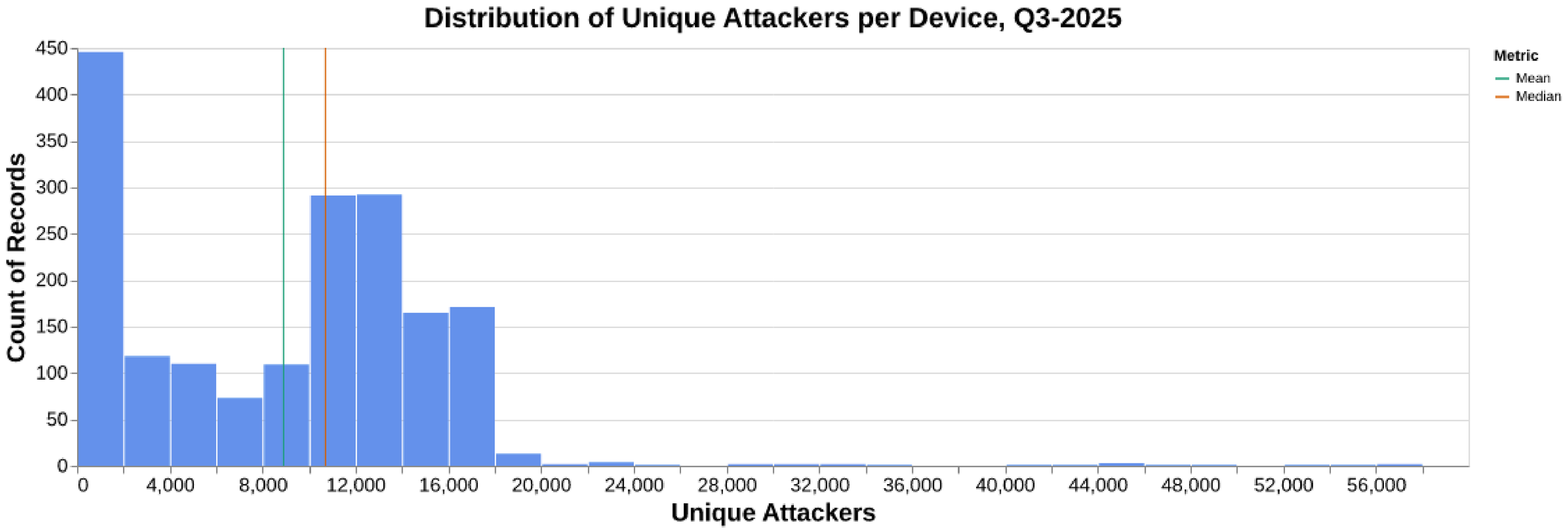

Distribution of Unique Attackers per Device, Q2-2025
Count of Records
500
450
400
350
300
250
200
150
100
50
0
0
4,000
8,000
12,000
16,000
20,000
24,000
28,000
32,000
36,000
40,000
44,000
48,000
52,000
Unique Attackers
Metric
Mean
Median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450
400
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250
200
150
100
50
0
0
4,000
8,000
12,000
16,000
20,000
24,000
28,000
32,000
36,000
40,000
44,000
48,000
52,000
56,000
Unique Attackers
Metric
Mean
Median

Incidents per Trap

Trap	Total Incidents Q2	Total Incidents Q3	Incidents Change	Incidents Change %
SMTP	1,310,664,152	2,717,775,716	+ 1,407,111,564	+ 107.36 %
Telnet	277,178,302	208,794,271	- 68,384,031	- 24.67 %
HTTP	52,925,137	71,497,790	+ 18,572,653	+ 35.09 %
FTP	18,095,172	20,222,283	+ 2,127,111	+ 11.76 %

- SMTP still the most desired target.
- Telnet is loosing attractivity.

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Attackers per Trap

Trap	Unique Attackers Q2	Unique Attackers Q3	Attackers Change	Attackers Change %
SMTP	62,066	54,468	- 7,598	- 12.24 %
Telnet	1,111,272	769,628	- 341,644	- 30.74 %
HTTP	515,937	484,012	- 31,925	- 6.19 %
FTP	50,601	48,321	- 2,280	- 4.51 %

- Telnet is less desirable, but it has the most attackers ⚔️

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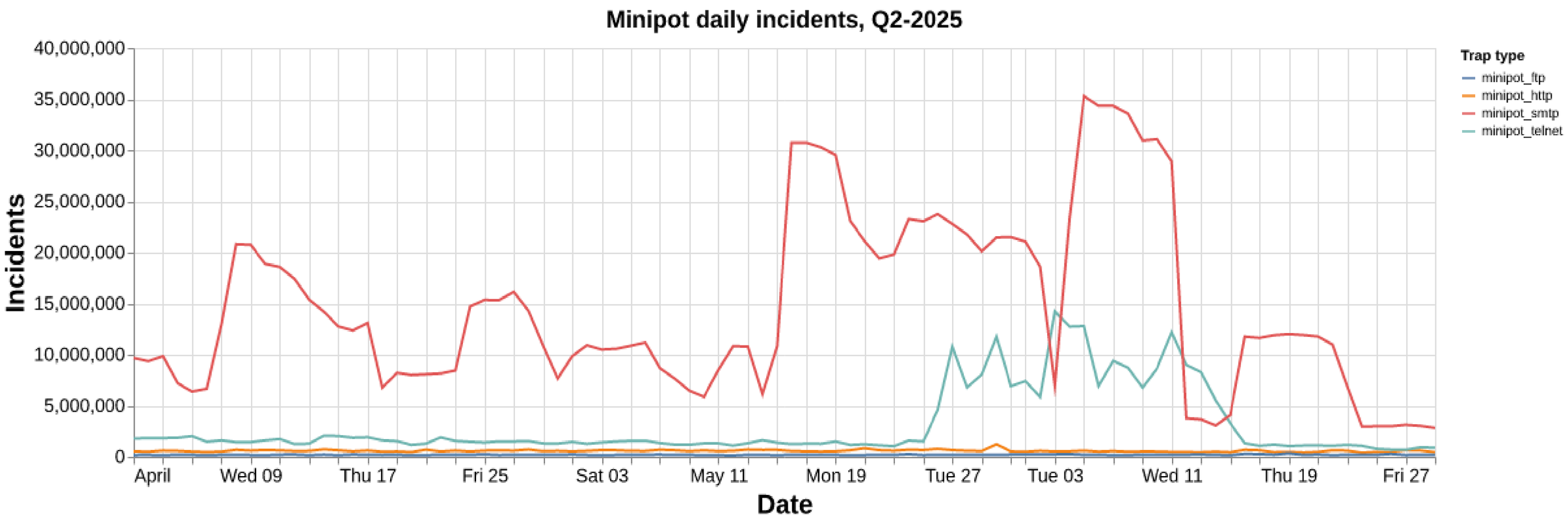
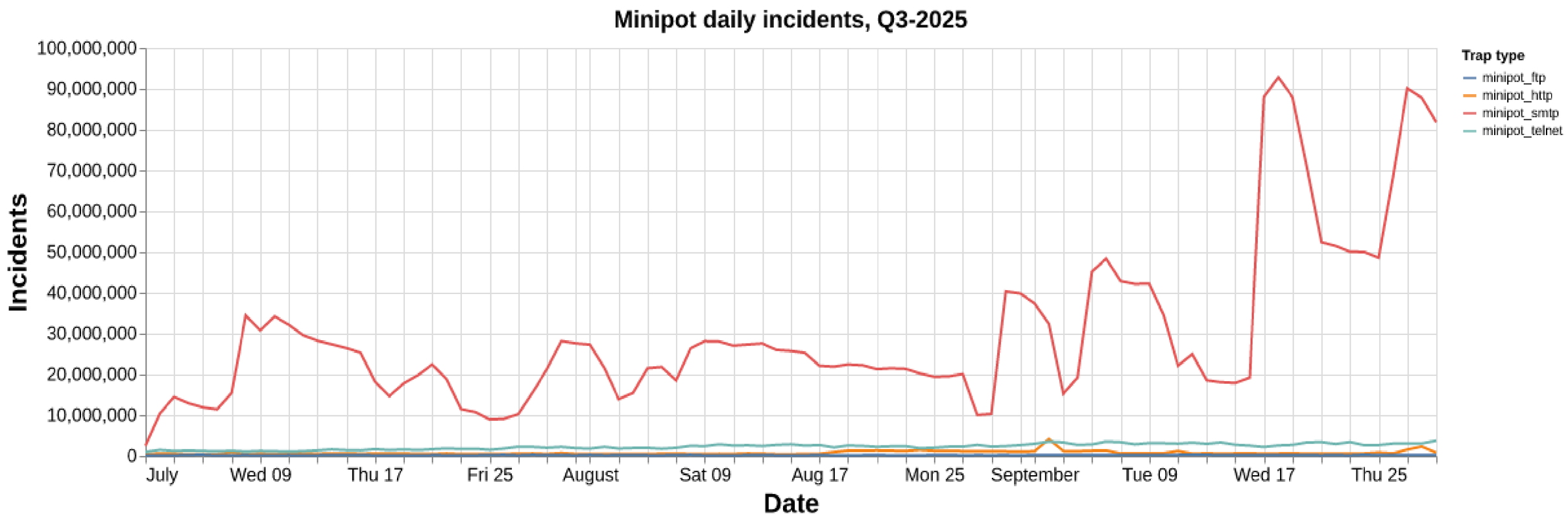

Minipot daily incidents, Q2-2025
Incidents
40,000,000
35,000,000
30,000,000
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
April
Wed 09
Thu 17
Fri 25
Sat 03
May 11
Mon 19
Tue 27
Tue 03
Wed 11
Thu 19
Fri 27
Date
Trap type
minipot_ftp
minipot_http
minipot_smtp
minipot_telnet


Minipot daily incidents, Q3-2025
Incidents
100,000,000
90,000,000
80,000,000
70,000,000
60,000,000
50,000,000
40,000,000
30,000,000
20,000,000
10,000,000
0
July
Wed 09
Thu 17
Fri 25
August
Sat 09
Aug 17
Mon 25
September
Tue 09
Wed 17
Thu 25
Date
Trap type
minipot_ftp
minipot_http
minipot_smtp
minipot_telnet

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Ports

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Port	Protocol	Total Records
5353	UDP	2,766,616,544
51413	UDP	1,127,777,607
5678	UDP	1,108,938,308
10002	UDP	733,812,119
67	UDP	472,439,173
51413	TCP	223,811,067
6881	UDP	169,151,777
6667	UDP	167,166,967
137	UDP	95,813,463
10001	UDP	85,973,715

Port	Protocol	Total Records
5353	UDP	2,602,406,960
5678	UDP	1,184,791,334
10002	UDP	764,224,868
67	UDP	477,243,692
51413	UDP	326,436,480
443	TCP	245,910,481
6881	UDP	188,742,555
6667	UDP	161,408,935
51413	TCP	160,798,059
137	UDP	88,650,272

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Hall of Fame/Shame

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Q2 of 2025

IP	Country	Total Incidents
194.50.16.151	🇳🇱 NL	146,616,702
81.30.107.198	🇮🇷 IR	109,193,356
81.30.107.199	🇮🇷 IR	109,045,326
81.30.107.92	🇮🇷 IR	10,018,3190
77.90.185.6	🇩🇪 DE	87,705,905
193.46.255.40	🇷🇴 RO	78,026,237
80.94.95.228	🇷🇴 RO	72,596,969
193.46.255.184	🇷🇴 RO	59,559,934
81.30.107.153	🇮🇷 IR	56,938,706
81.30.107.70	🇮🇷 IR	56,604,579

Q3 of 2025

IP	Country	Total Incidents
80.94.95.229	🇷🇴 RO	322,587,033
81.30.107.19	🇮🇷 IR	123,227,098
81.30.107.6	🇮🇷 IR	114,285,049
77.90.185.6	🇩🇪 DE	102,681,056
81.30.107.5	🇮🇷 IR	101,334,189
81.30.107.160	🇮🇷 IR	90,779,079
81.30.107.185	🇮🇷 IR	90,758,413
193.46.255.185	🇷🇴 RO	75,198,039
81.30.107.15	🇮🇷 IR	73,847,752
81.30.107.110	🇮🇷 IR	73,645,934

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Q2 of 2025

Trap	IP	Country	Total Incidents
SMTP	80.94.95.229	🇷🇴 RO	322,587,033
HTTP	90.151.76.114	🇷🇺 RU	13,265,871
Telnet	38.211.193.130	🇦🇷 AR	5,532,392
FTP	5.196.7.232	🇫🇷 FR	541,449

Q3 of 2025

Trap	IP	Country	Total Incidents
Telnet	194.50.16.151	🇳🇱 NL	146,616,702
SMTP	81.30.107.198	🇮🇷 IR	109,193,356
HTTP	154.81.156.54	🇳🇱 NL	1,094,123
FTP	5.196.7.232	🇫🇷 FR	684,652

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Q2 2025 IPv4

ASN	Organization	# of Attackers
9829	🇮🇳 National Internet Backbone	560,444
4134	🇨🇳 CHINANET-BACKBONE	104,920
4837	🇨🇳 CHINA UNICOM	103,569

Q3 2025 IPv4

ASN	Organization	# of Attackers
9829	🇮🇳 National Internet Backbone	144,025
4837	🇨🇳 CHINA UNICOM	104,770
13335	🇺🇸 Cloudflare	84,871

Q2 2025 IPv6

ASN	Organization	# of Attackers
6939	🇺🇸 Hurricane Electric	3,594
211298	🇬🇧 Driftnet	504
29014	🇩🇪 ScaleUp Technologies	275

Q3 2025 IPv6

ASN	Organization	# of Attackers
6939	🇺🇸 Hurricane Electric	1,433
211298	🇬🇧 Driftnet	504
14061	🇺🇸 DigitalOcean	334

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Credentials

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Q2 of 2025

Username	Total Count
root	74,817,455
admin	22,418,065
user	1,954,643
test	1,953,827
Admin	1,257,481
info	1,174,968
telecomadmin	996,050
guest	947,162
ftp	901,173
anonymous	850,600

Q3 of 2025

Username	Total Count
root	6,657,0668
admin	12,196,889
test	2,685,355
user	1,696,243
info	1,631,831
debian	1,343,645
ftpuser	1,330,186
postmaster	1,236,737
web	1,221,078
ftp	1,213,549

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Q2 of 2025

Password	Total Count
123456	5,895,3121
password	54,980,133
12345	38,693,910
123123	35,945,657
123456789	34,149,707
123	29,793,823
1234	29,066,562
1234567890	24,296,145
test	14,174,457
111111	8,577,261

Q3 of 2025

Password	Total Count
123456	91,194,353
password	51,557,265
123456789	39,720,635
123	38,035,802
12345678	33,674,854
12345	33,247,713
test	29,910,608
1234	22,984,353
Password	18,990,150
1234567890	17,082,964

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Q2 of 2025

Username	Password	Total Count
root	**icatch99**	976,800
root		963,789
user	user123456	686,529
root	wabjtam	685,952
root	zxcvbnm	675,681
telecomadmin	**admintelecom**	670,512
_____	_____	669,608
admin	5up	669,562
root	lbtech2002	668,518

Q3 of 2025

Username	Password	Total Count
root	admin	452,964
root	adminHW	286,097
admin	admin	151,541
User-Agent: Go-http-	**Connection: close**	148,971
Accept-Encoding: gzip		105,062
root	root	104,184
admin	123456	95,477
admin	1234	93,498
anonymous	anonymous@	82,568

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Global Statistics

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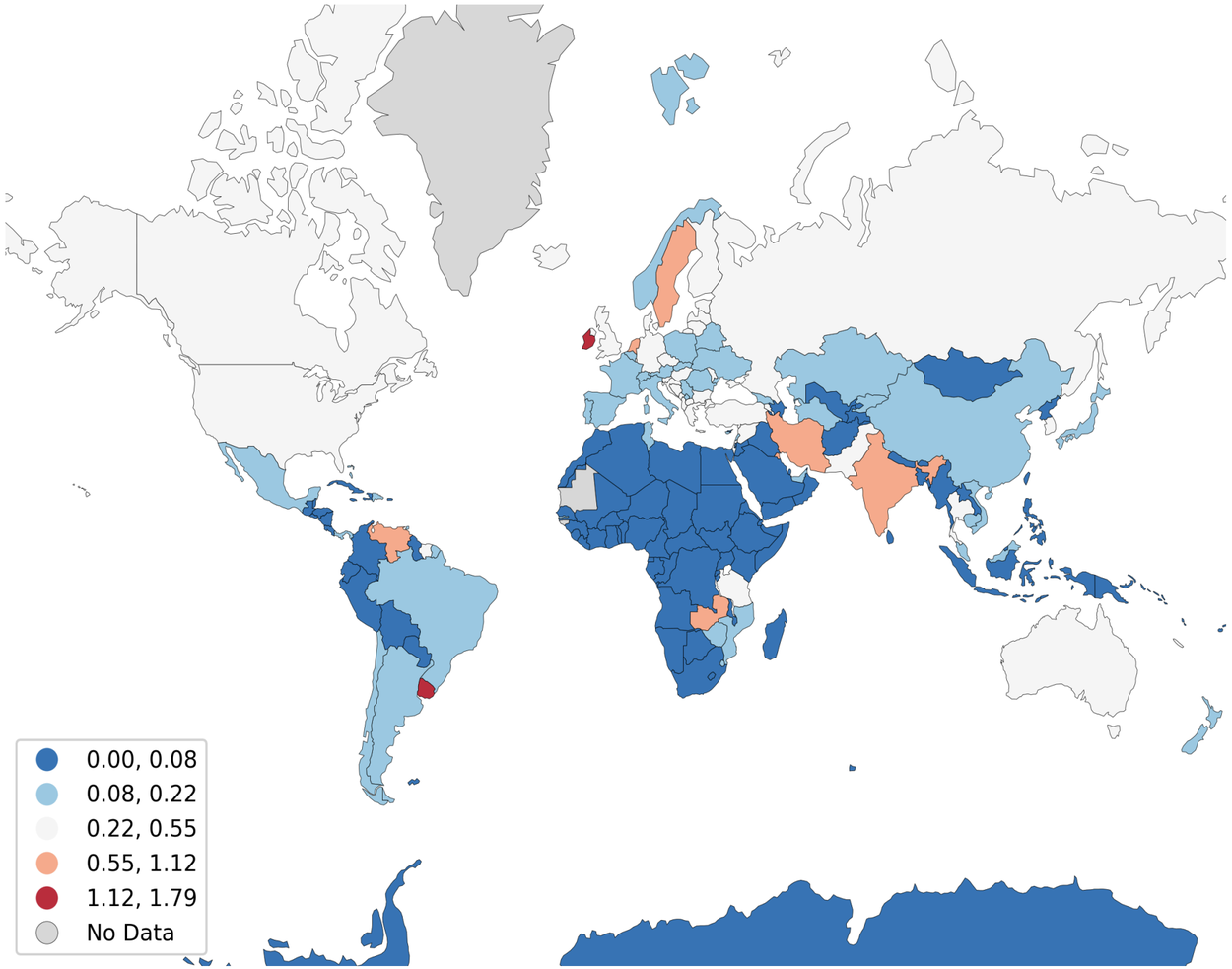
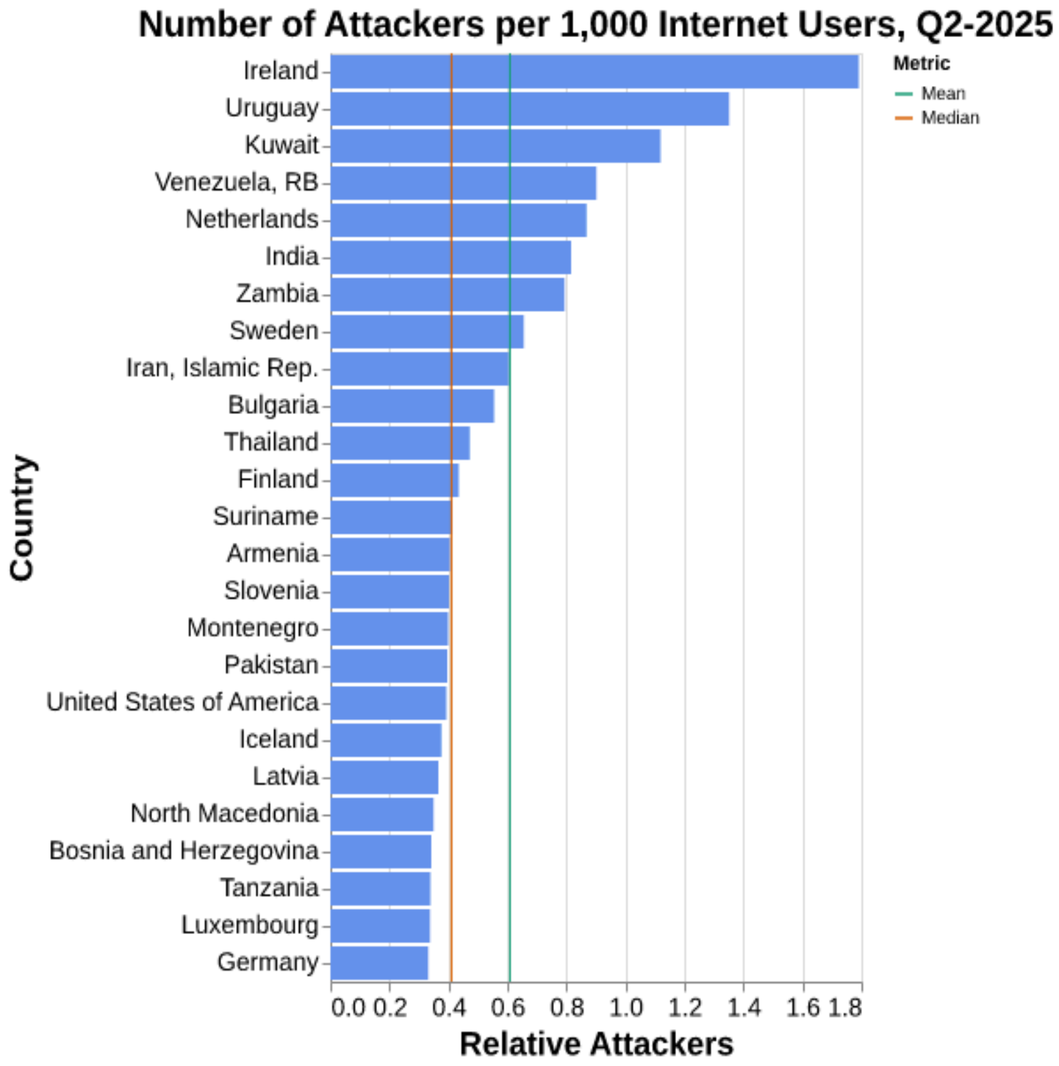
Number of Attackers per 1,000 Internet Users, Q2-2025





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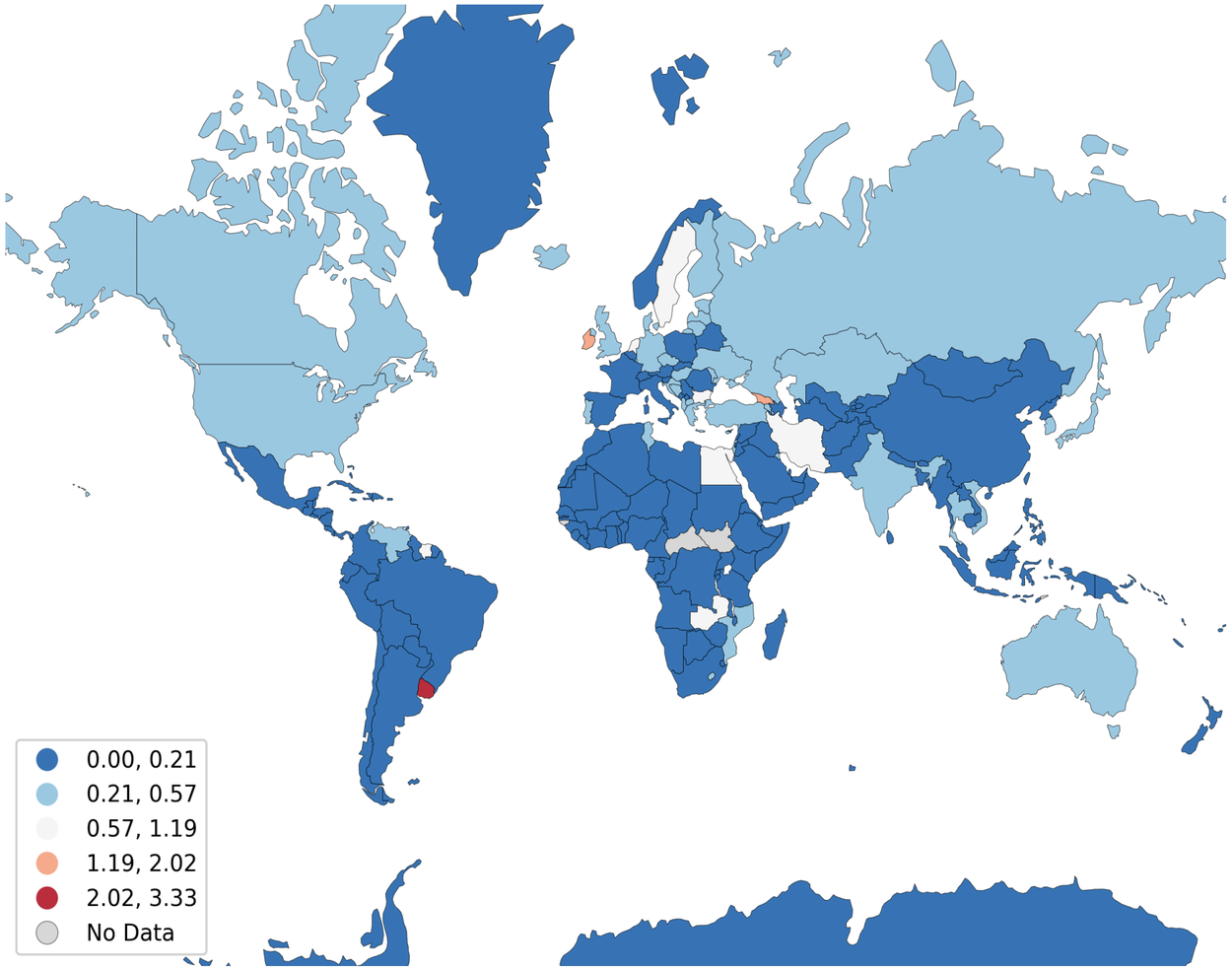
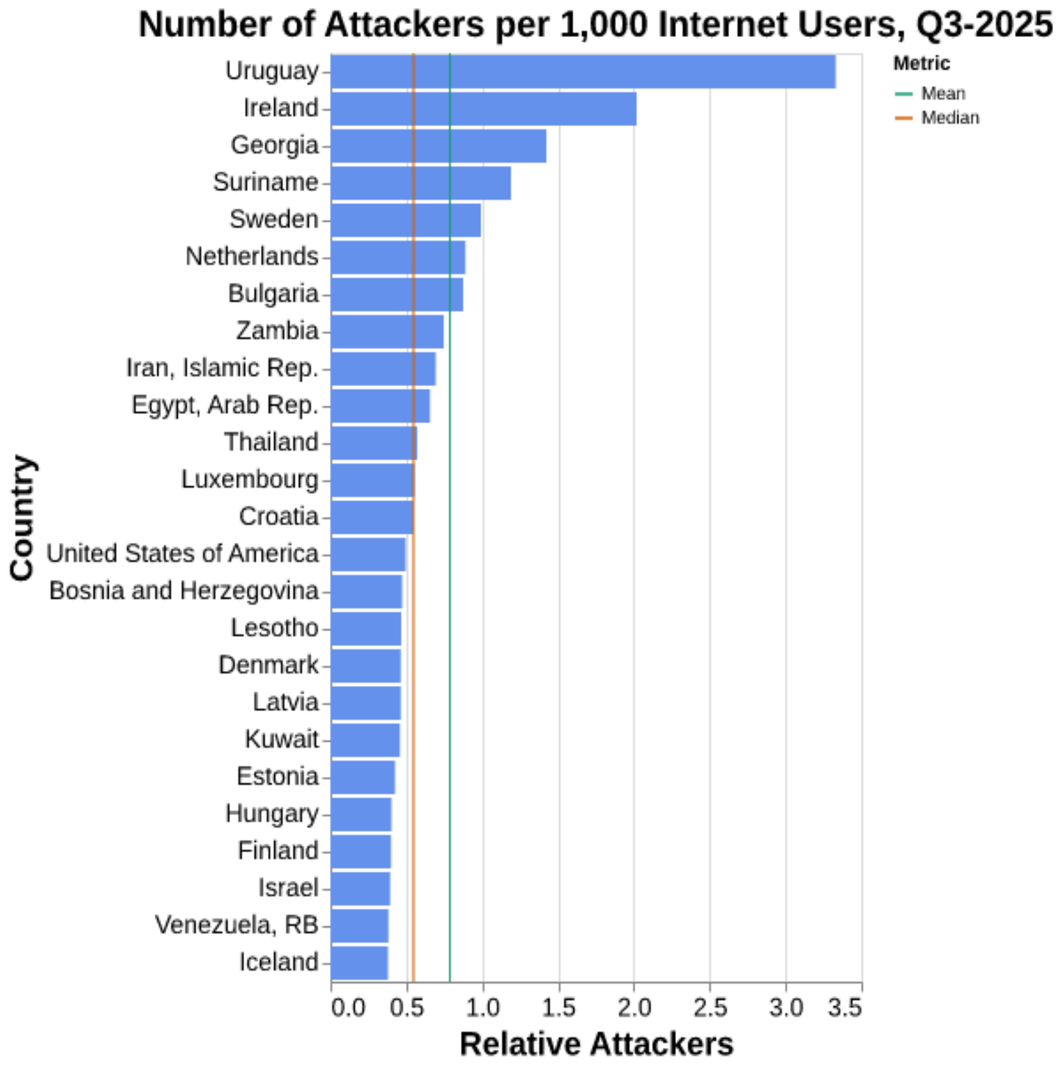
Number of Attackers per 1,000 Internet Users, Q3-2025





Conclusions

- Check your passwords.
- Stop using common and default passwords.
- Use IPv6, it is safer!
- Buy a Turris device, it is safest!
- If you have a Turris device, use Turris Sentinel! (I want more data 🤓)

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Sources

- World countries polygons
- Individuals Using the Internet (% of population)

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Thank you for your attention!

Stay safe! online and offline :)

Marek Novotný - marek.novotny@nic.cz • October 3rd 2025

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