Fifteen Months in the Life of a Honeyfarm

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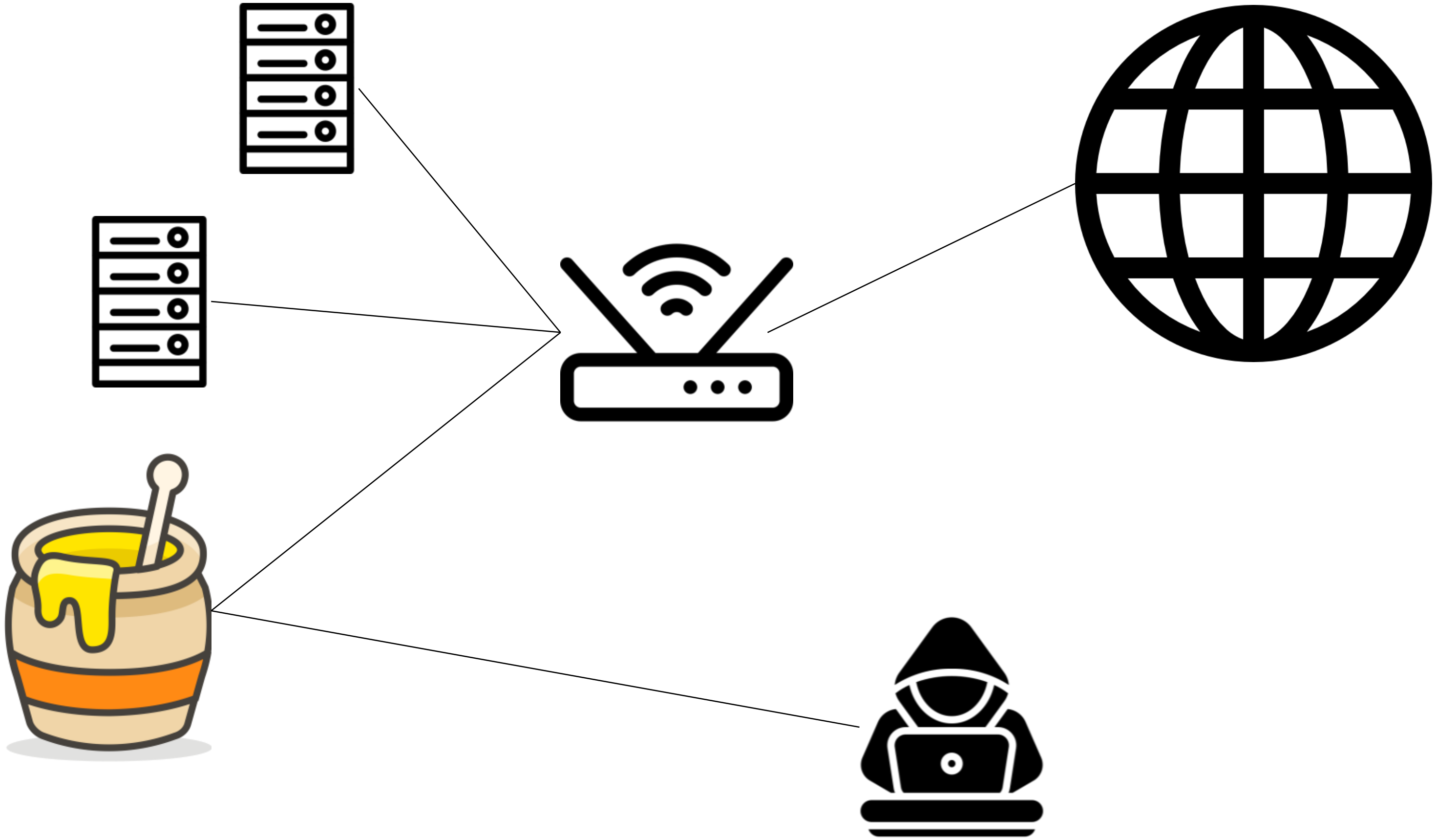
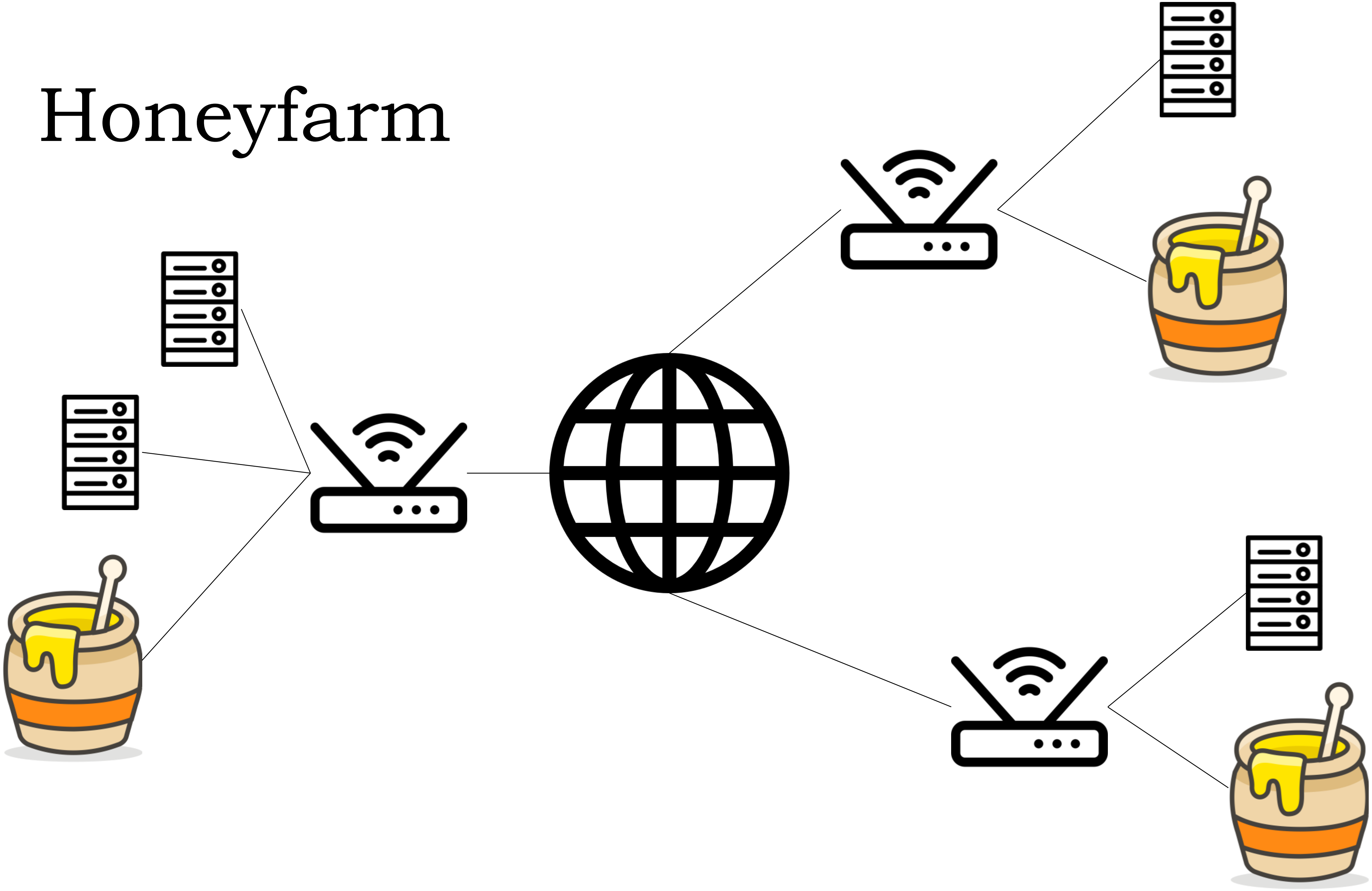
Honeypot



Honeyfarm



Previous work

- *SCADA security using SSH honeypot* (2019)

  Belqruch et al.
- *Study of Internet Threats and Attack Methods Using Honeypots and Honeynets* (2014)

  Sochor et al.
- *Patterns and Patter - An Investigation into SSH Activity Using Kippo Honeypots* (2013)

  Valli et al.

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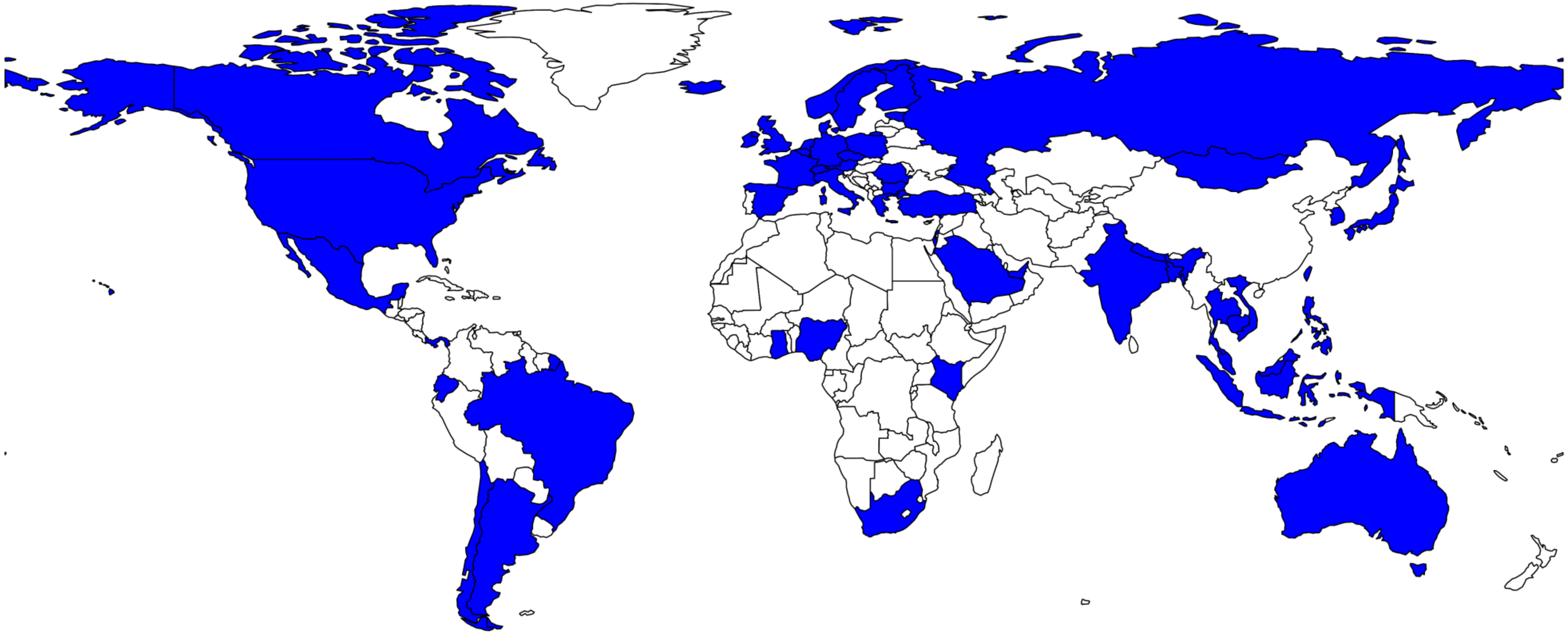
GCA Honeyfarm



221 Honeypots - 55 Countries, 65 Networks

Collected Data

- Login Credentials
- Executed Commands
- Hashes of created/downloaded/generated Files

Top 10 `root` passwords

- admin
- 1234
- 3245gs5662d34
- dreambox
- vertex25ektks123
- 12345
- h3c
- 1qaz2wsx3edc
- passw0rd
- GM8182

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There is a coordination between intruders!

Commands (top 30)

Commands		
grep name	awk	cat /proc/cpuinfo
free -m	crontab -l	w (whois)
uname -a	bash	chpasswd
mkdir .ssh	rm -rf .ssh	chmod -R go= /.ssh
top	echo "ssh-rsa AAA...“ » .ssh/authorized_keys	
shell	cat /proc/mounts	wget
tftp	history -c	chmod 777 bins.sh

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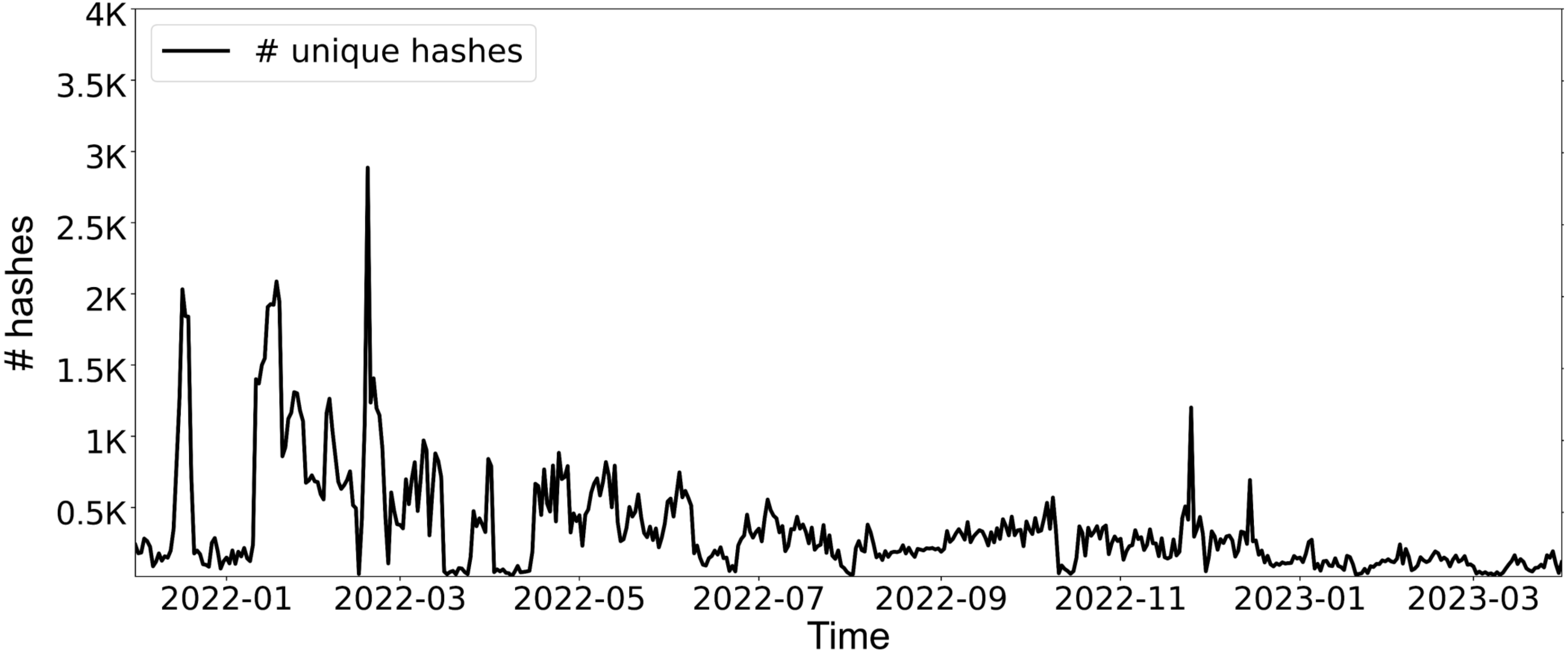
Attacks are complex!

Files and Hashes



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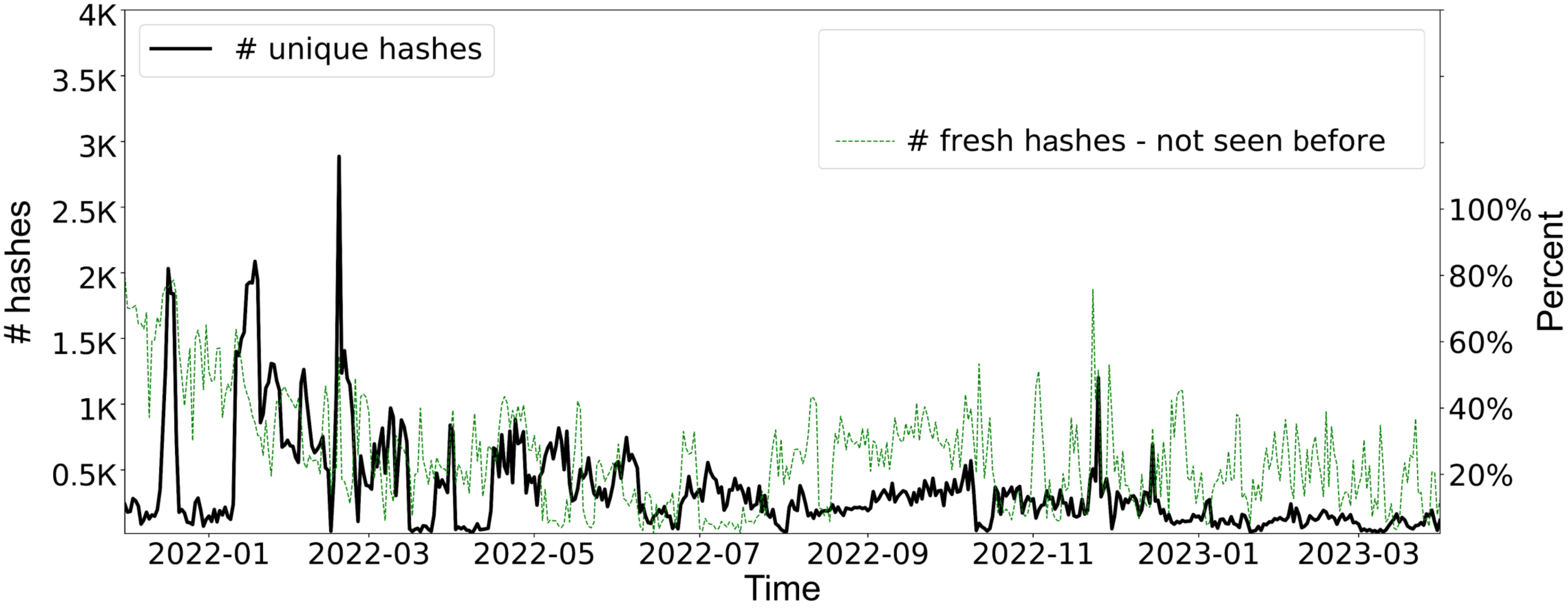

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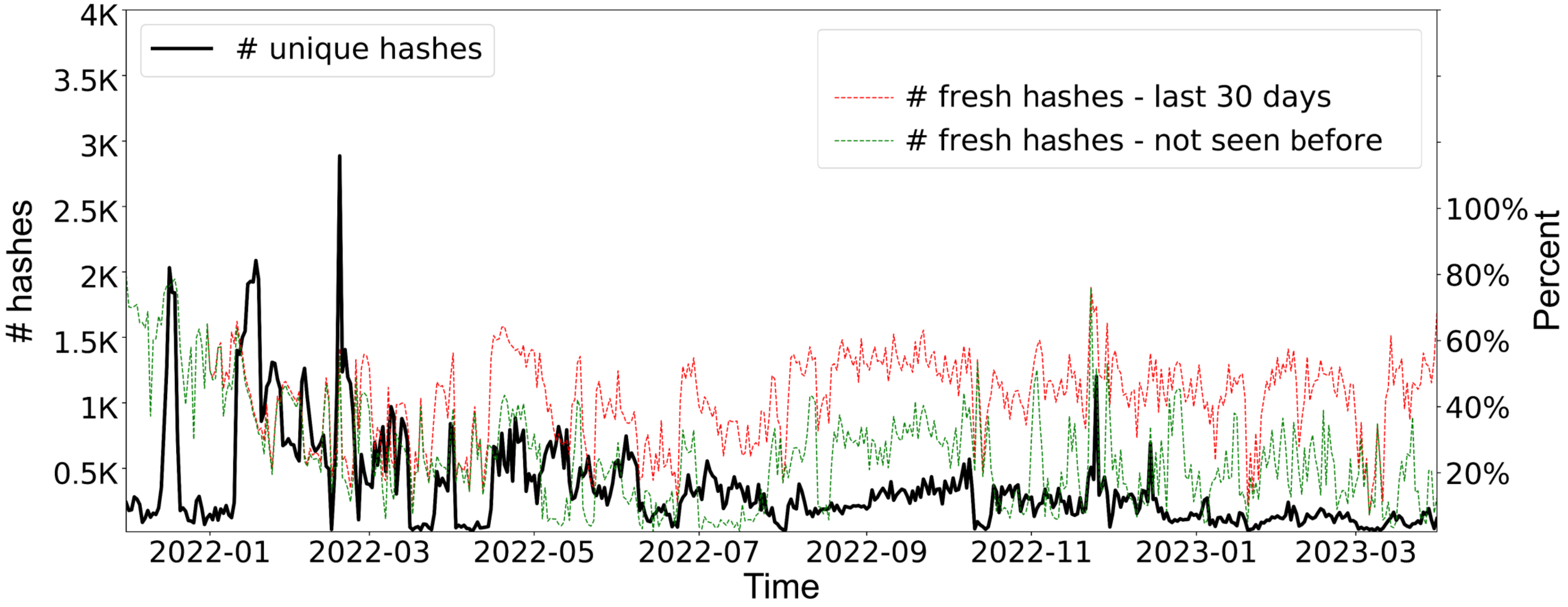

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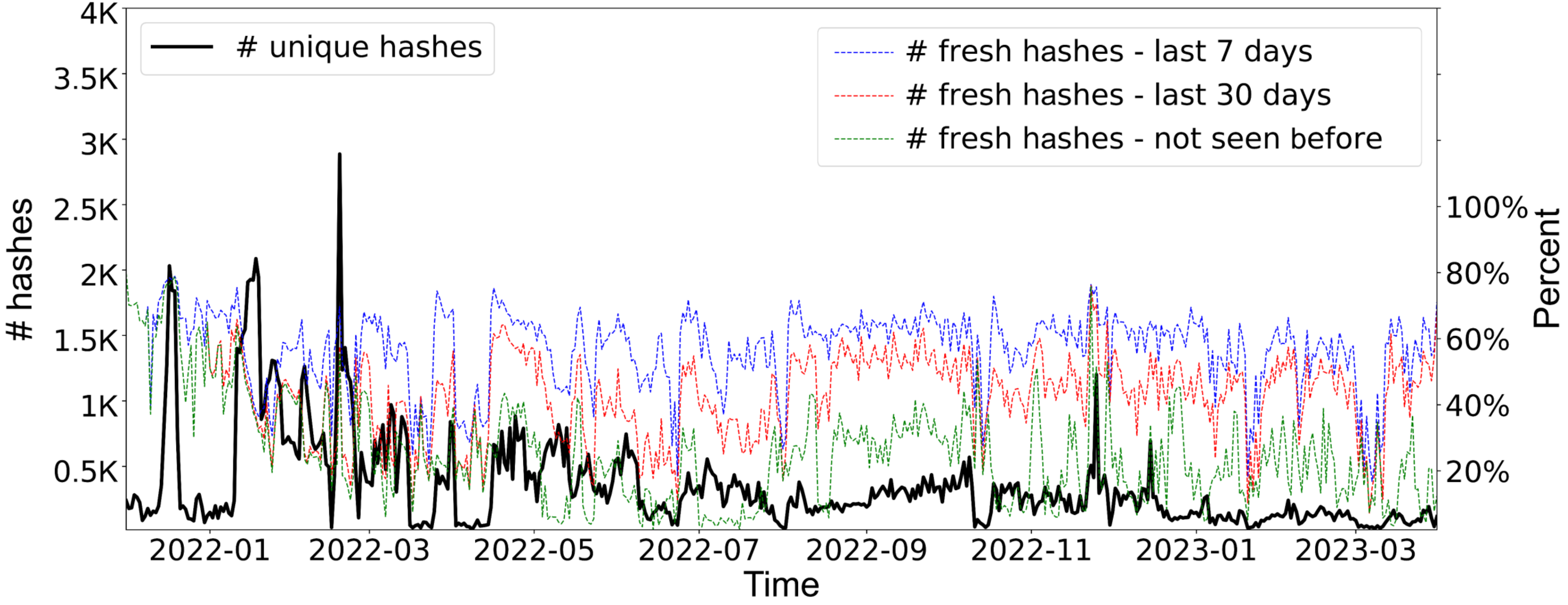

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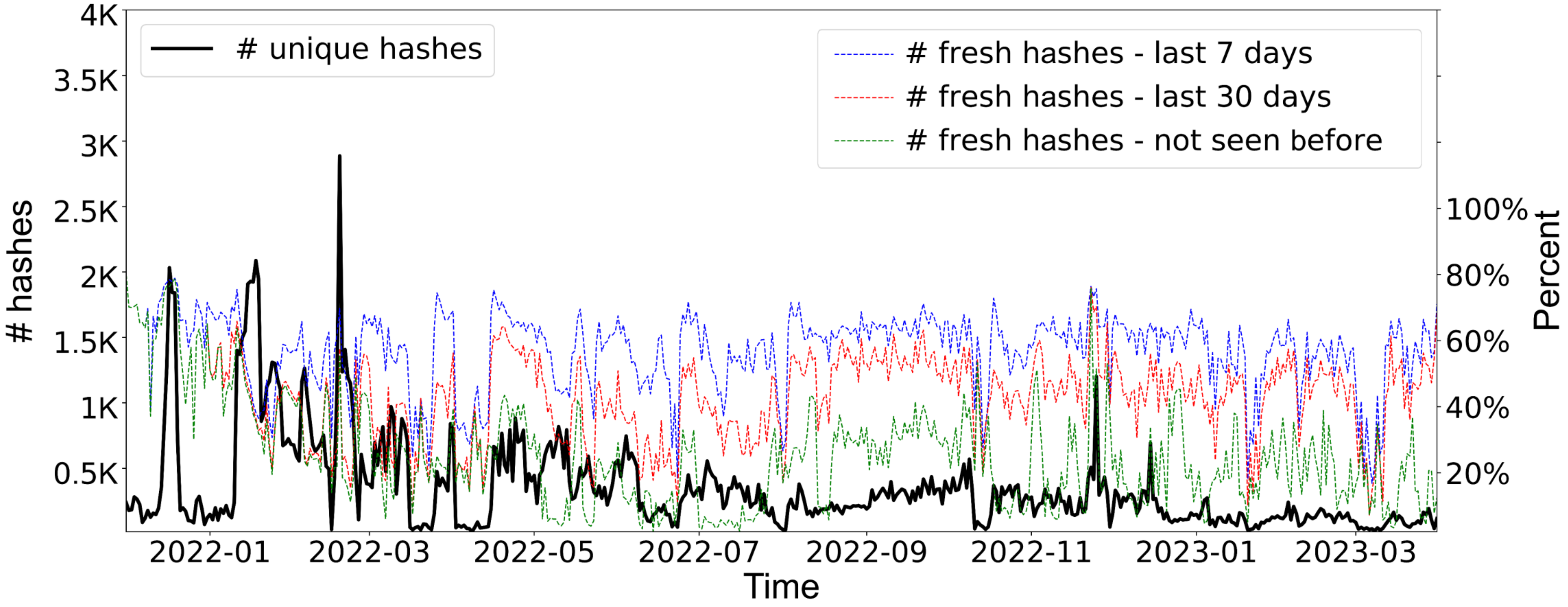
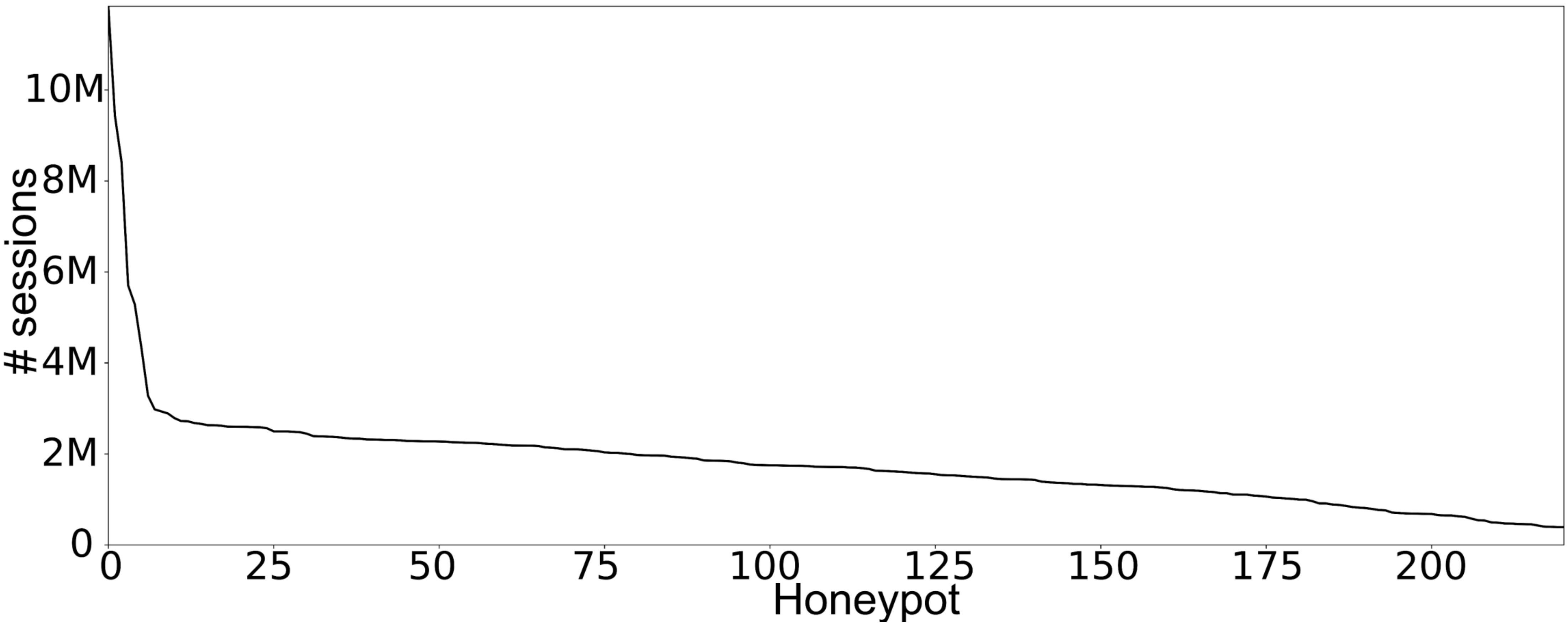


Attacks are coming in waves!

Sessions per Honeypot



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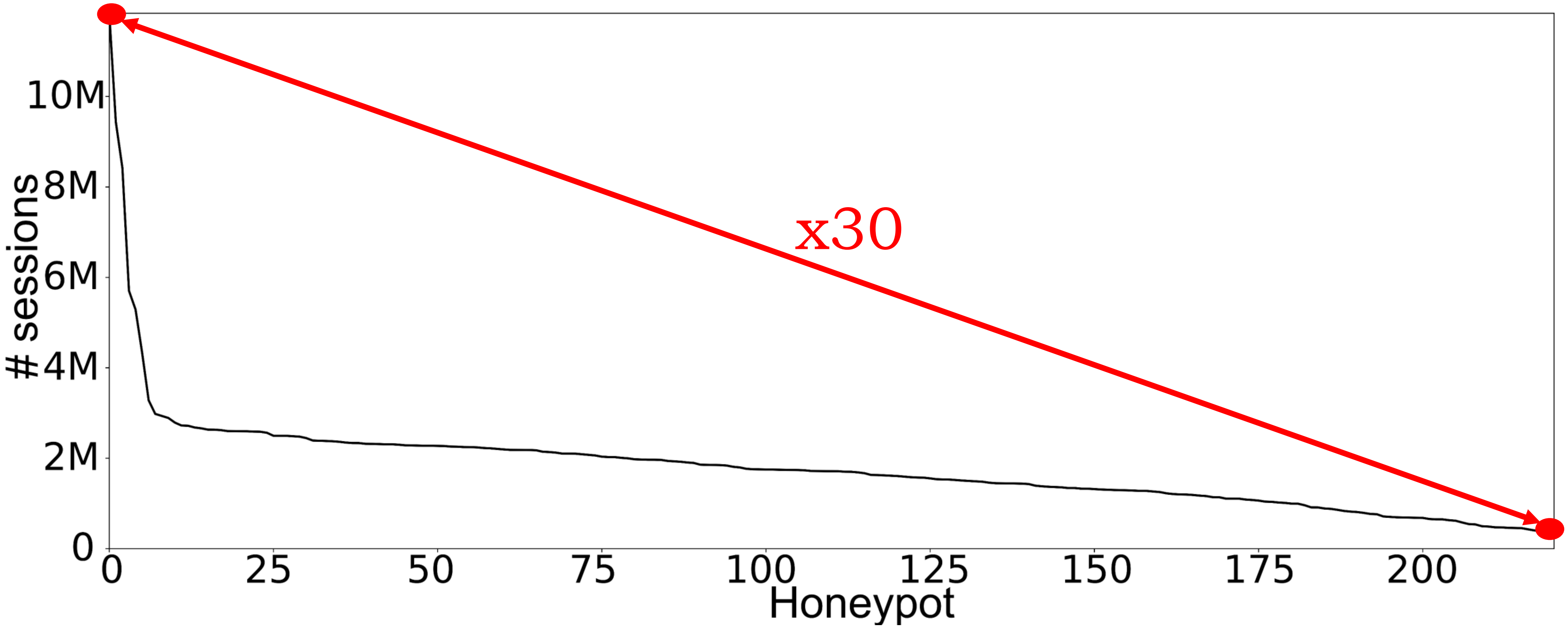
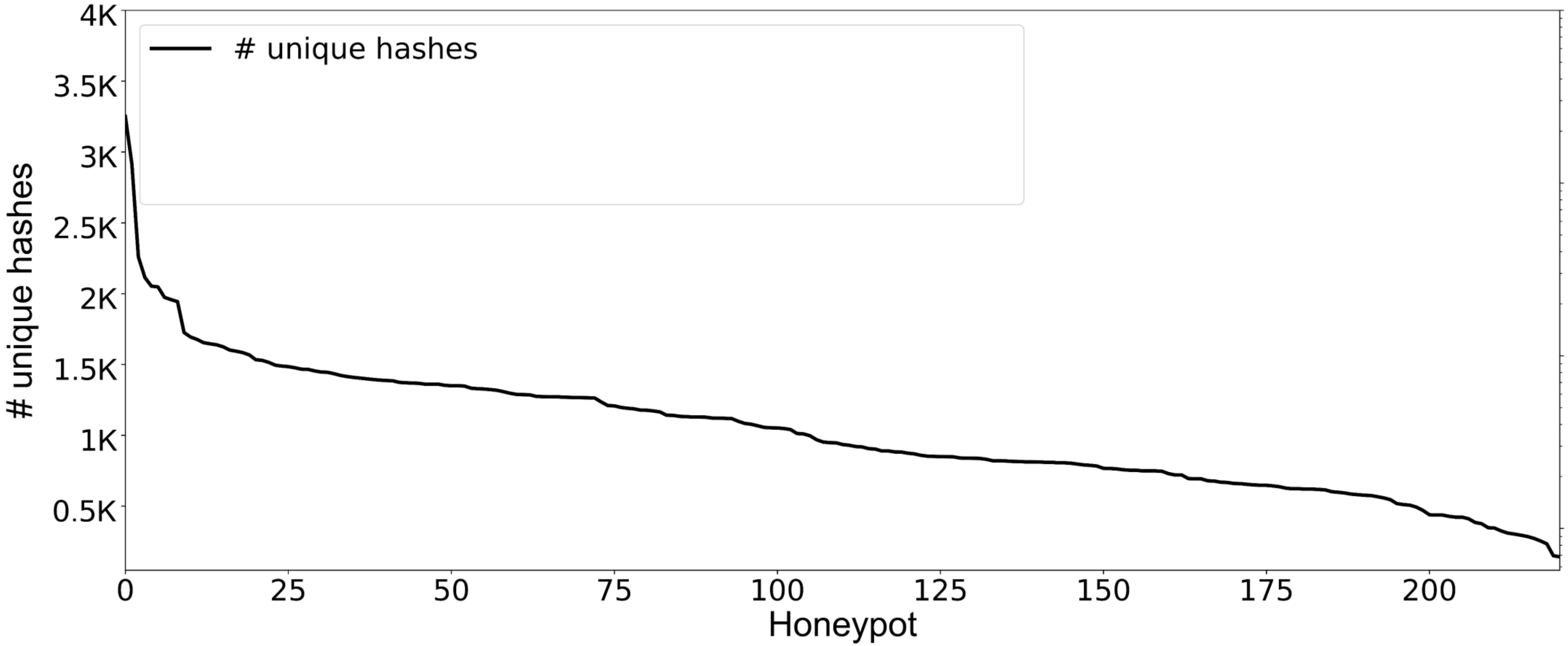


Unique Hashes per Honeypot



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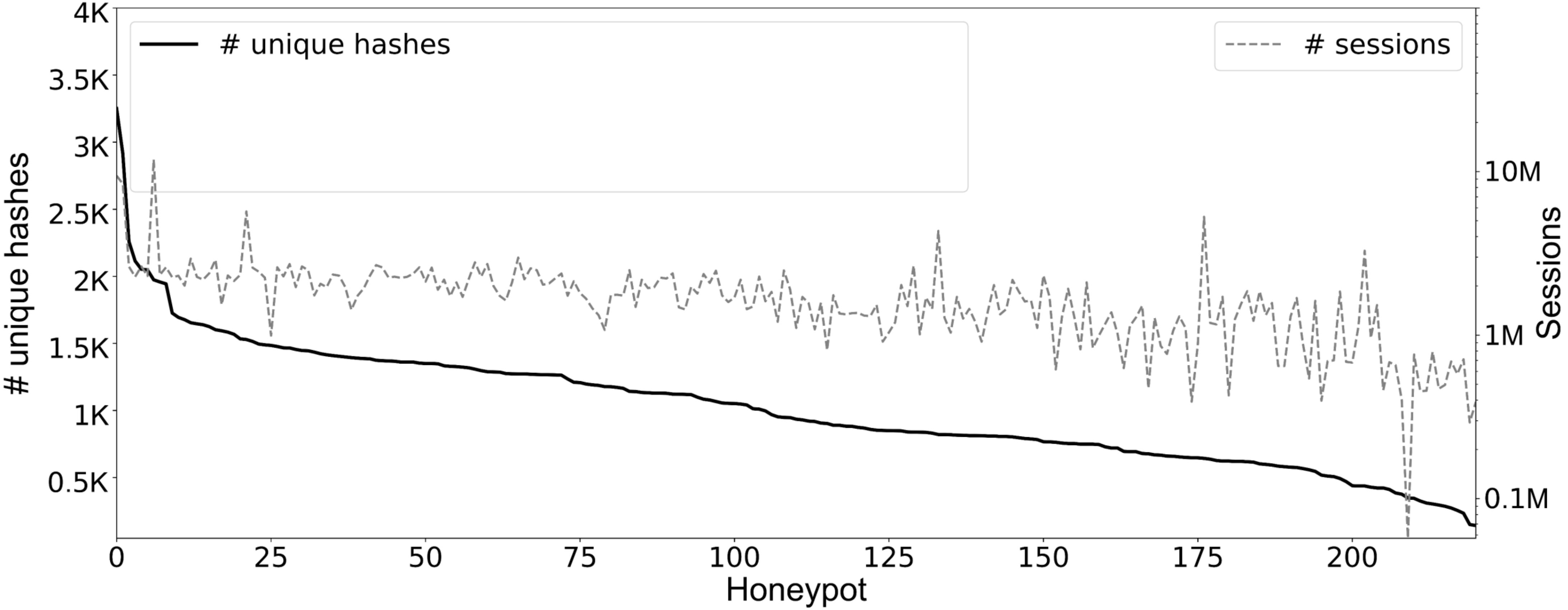

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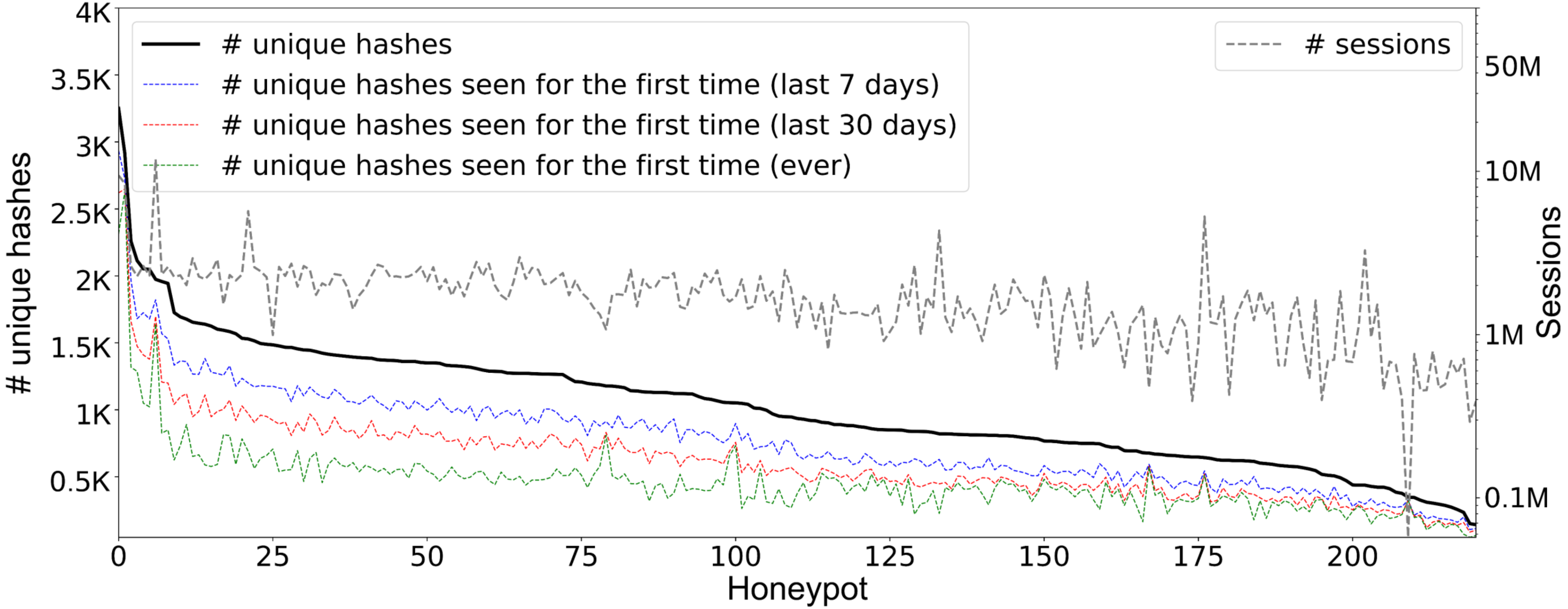

Number and distribution matter!

Files and Hashes

Hash	# Sessions	# Unique IP	# Days	Tag	# Honeypots
H1	25,688,228	118,924	484	trojan	221
H2	153,672	3	252	malicious	202
H3	110,280	12,698	119	trojan	150
H4	105,102	1,288	20	mirai	203
H5	96,523	1,027	451	mirai	221

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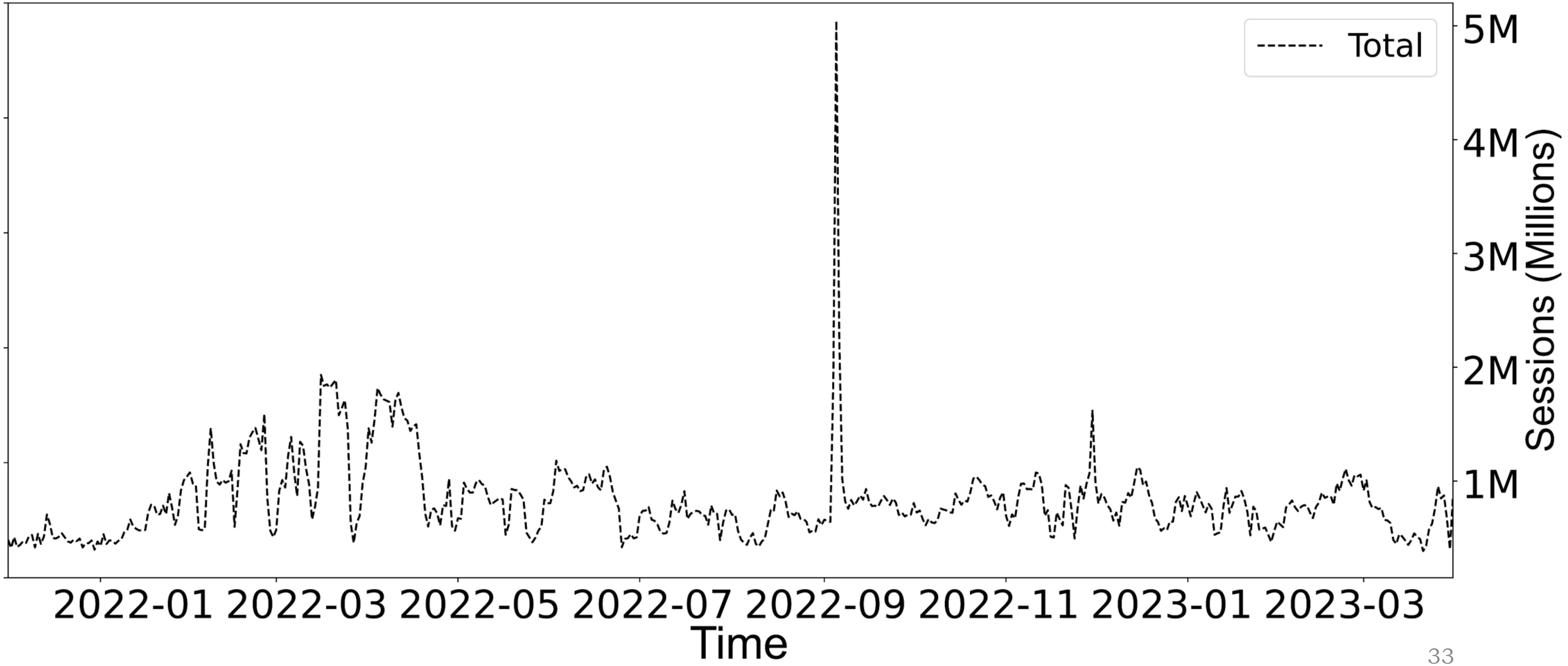
Networks are unaware!

Summary

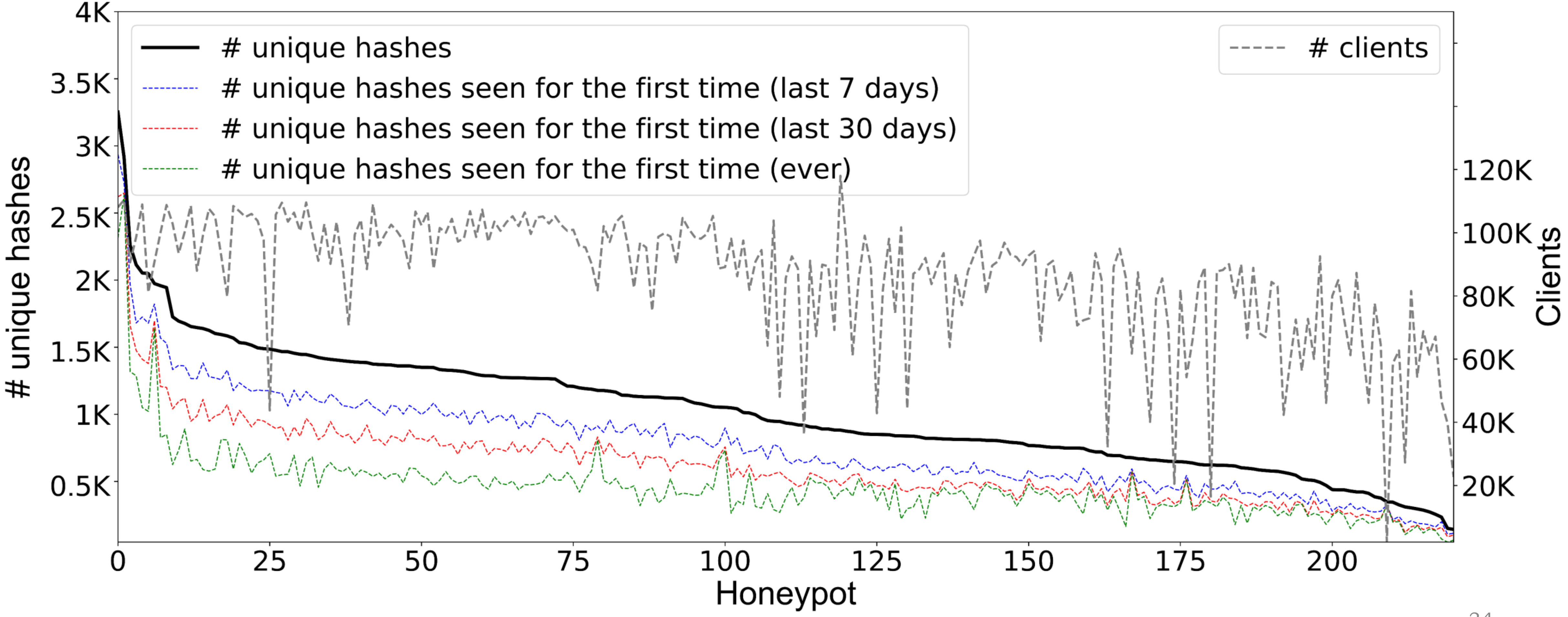
- Attacks are complex and coordinated
- Every Honeypot counts
- Honeyfarms and security reality

Sessions



Total
5M
4M
3M
2M
1M
Sessions (Millions)
2022-01
2022-03
2022-05
2022-07
2022-09
2022-11
2023-01
2023-03
Time

Unique Hashes per Honeypot


# unique hashes
# unique hashes seen for the first time (last 7 days)
# unique hashes seen for the first time (last 30 days)
# unique hashes seen for the first time (ever)
# clients
4K
3.5K
3K
2.5K
2K
1.5K
1K
0.5K
# unique hashes
120K
100K
80K
60K
40K
20K
Clients
Honeypot