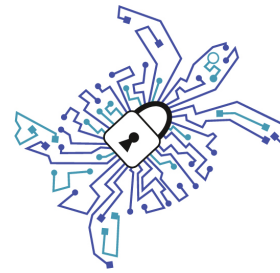


Tor Relay Operators Meetup

37C3, on 2023-12-29

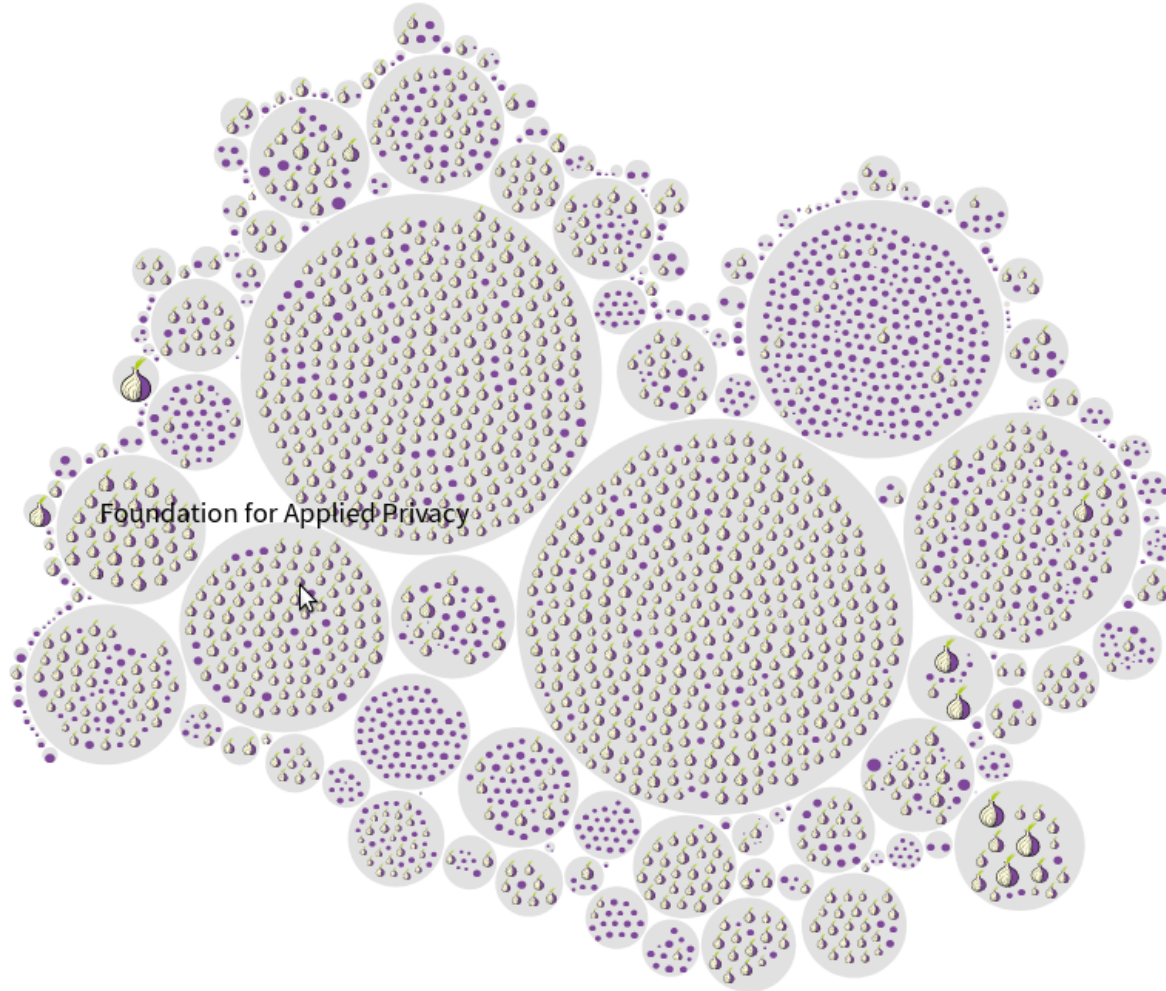


Foundation for
Applied Privacy

Foundation for Applied Privacy

- Non-profit privacy infrastructure provider
- based in Vienna, Austria
- we run privacy enhancing services for the public:
 - Tor relays: exits since 2018
 - DNS Privacy Services (DoH, DoT)

Bubbles !!!



230 autonomous systems with 2439 exits (2347 visible)
2023-12-29 19:00:00

Tor Exit Relay Infrastructure

- running on dedicated hardware
- 10G uplinks via two transit provider
- SSH keys on Yubikeys

Tor Exit Server Setup

Right now:

- 104 tor instances on 2 server
- configuration management using ansible-relayor
- OfflineMasterKey



DNS Resolvers



unbound



POWERDNS



Ops Monitoring



Prometheus



Grafana

Prometheus Alert Rules

relayor rules:

- TorCertificateExpiryUnder15Days
- TorHighDnsTimeoutRate
- TorOnionskinsDropped, ...

Additionally:

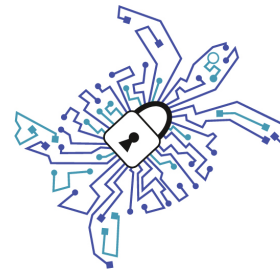
- PotentialTorExitOutboundFlooding (custom)
- TorRestartDetected (via systemd_exporter)

How Monitoring helped detect TROVE-2023-007

- 2023-12-05 multiple tor relay crashes:
 - unexpected restarts detected
 - crashes confirmed by fellow exit operators
 - reported to the torproject
- 2023-12-08 tor 0.4.8.10 is released
- 2023-12-11 debian packages for tor 0.4.8.10 are released

Questions?

- tor@appliedprivacy.net
- [@applied_privacy@mastodon.social](https://mastodon.social/@applied_privacy)
- <https://applied-privacy.net>



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