



ICANN



Security and Digital Trust: Addressing DNS Abuse

BCOP Forum

Measuring Abuse - Domain Metrica

Tackling Abuse - ICANN Contractual Compliance

Why Does DNS Abuse Exist?

“Security failure is caused at least as often by **bad / misaligned incentives** as by bad design.”

“Systems are particularly prone to failure when the person guarding them is not the person who suffers when they fail.”

Ross Anderson & Tyler Moore. “The Economics of Information Security” science 314.5799 (2006): 610-613.

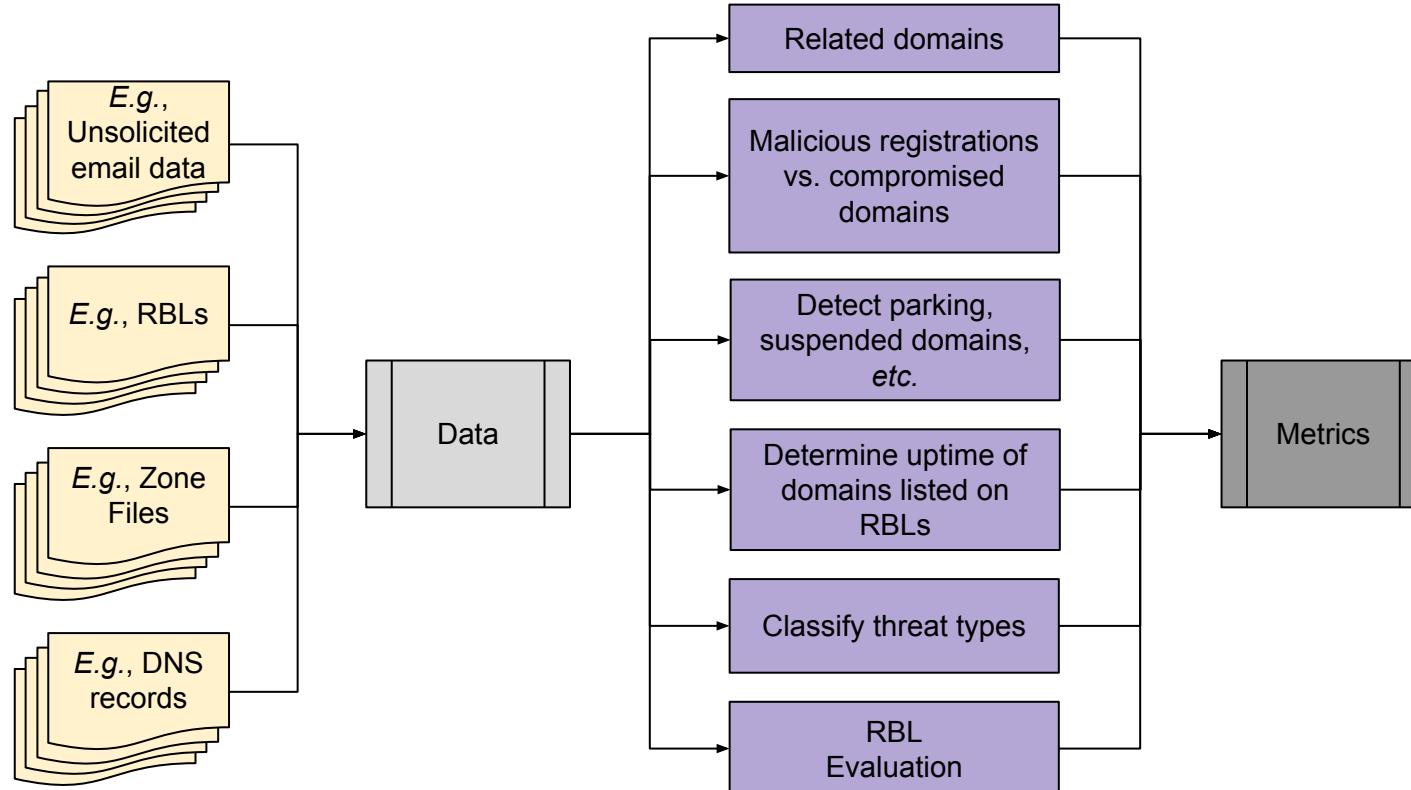
How to Align / Improve Incentives

Simple Answer: High Quality Metrics

Metrics influence decision-making by **quantifying security performance**, allocating resources, and impacting priorities.

Poorly designed metrics can create **perverse incentives**, leading to unintended consequences and short-term focus.

Data into Metrics



ICANN Domain Metrica



Collects, combines, and compares DNS metadata



Dynamic dashboards, interactive visualizations



Flexible API for direct data access



Open and accessible for all ICANN account holders

- Global DNS trends for general users
- Customized views for registries and registrars

Dashboard

Total domains,
gTLDs, domains
with abuse reports.

Summary of latest
reported abuse
by type (Phishing,
Malware,
Botnet C&C).

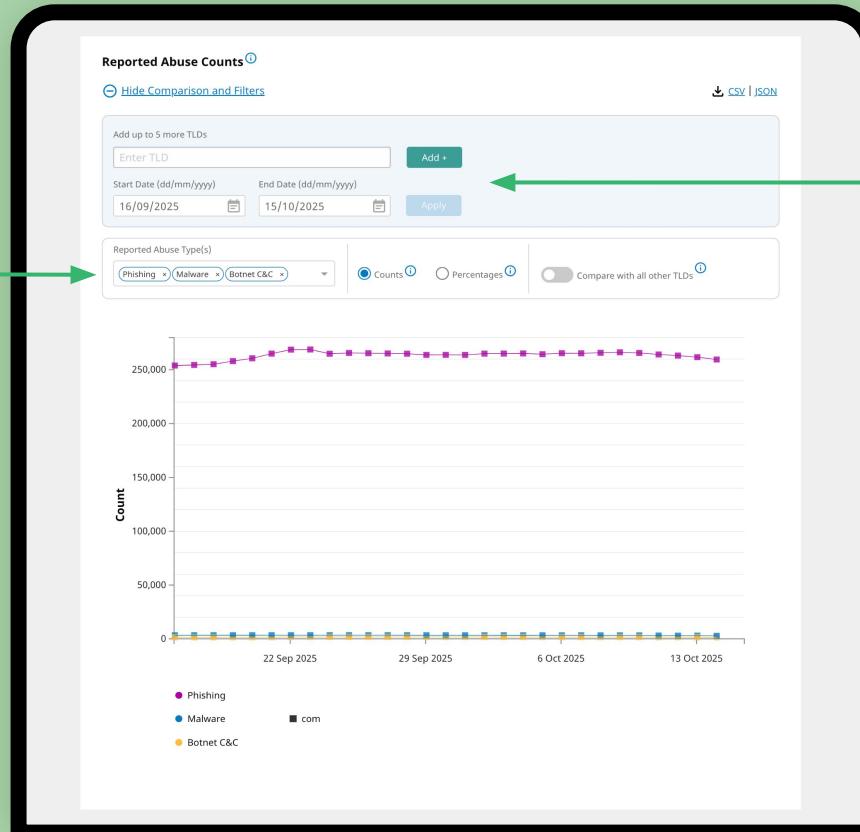
Number of
gTLDs/registrars
with reported
domains.

The screenshot shows the ICANN Domain Metrics dashboard. At the top, there is a search bar with a dropdown menu and a text input field. Below the search bar, the text "Welcome to ICANN Domain Metrics" is displayed, followed by a note about aggregate statistics and a link to the FAQ. A "Statistical Overview for 21 Oct 2025" section contains six data points: 232.6M (Total number of domains), 1,113 (Total number of gTLDs), 598.5K (Total number of domains with abuse reports), 432 (Number of gTLDs with one or more reported domains), 2,929 (Total number of registrars seen), and 1,846 (Number of registrars with one or more reported domains). Below this, there is a "Current Reported Abuse" section and a "Summary of the Latest Reported Abuse Updated Daily" table.

Reported Abuse Type	Unique Domain Counts	Percentage of gTLD Domain Count
Phishing	594458	0.256%
Malware	4353	0.002%
Botnet C&C	2282	0.001%

Interactive Charts

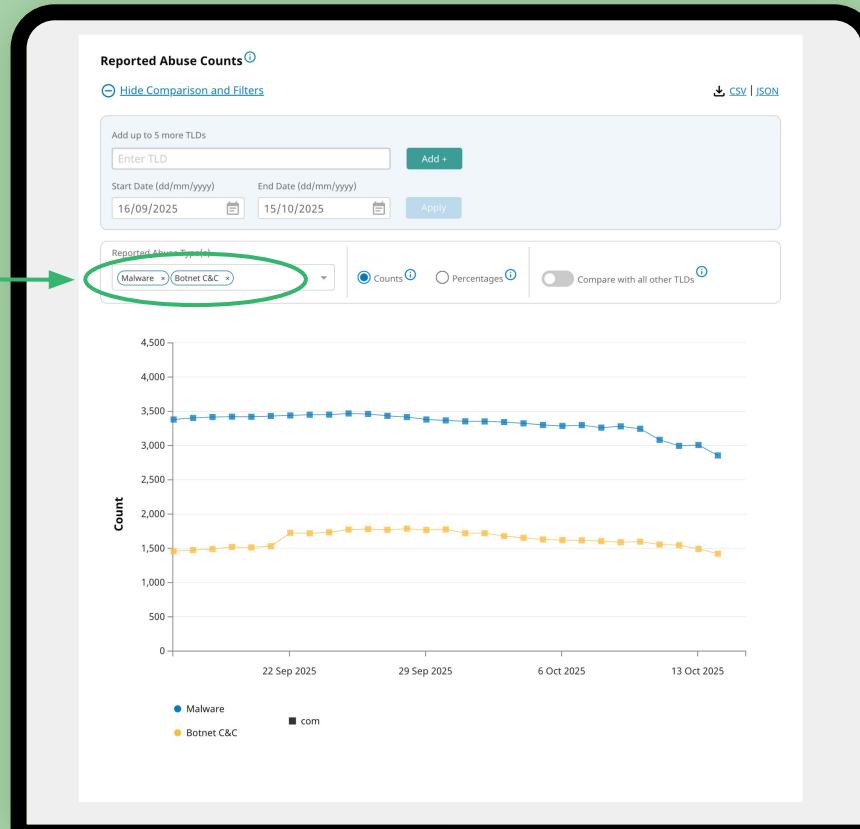
Filter by abuse type, change plot options.



Compare with other TLDs, change date window .

Interactive Charts

Filter by abuse type, change plot options.



API Access

- ✓ Retrieve daily statistics and zone sizes programmatically.
- ✓ Flexible endpoint with TLD/registrar/domain search along with start and end date parameters.

End point with gTLD specified

```
https://domainmetrica.icann.org/v1/domainmetrica/  
tld?tld=<TLD>&startDate=<STARTDATE>&endDate=  
<ENDDATE>
```

where:

TLD = gTLD to be searched on

STARTDATE = Date to search from, 'YYYY-MM-DD'
(default 24 hours ago)

ENDDATE = Date to search to (default now)

Measuring Abuse - Domain Metrica

Tackling Abuse - ICANN Contractual Compliance

Introducing ICANN Contractual Compliance

Enforcement

Requirements contained in agreements between ICANN and gTLD registry operators and registrars

Actions from external complaints, proactive and audit-related

Publish

Metrics on complaints and enforcement actions

Timelines of formal enforcement actions taken (e.g. breach notices)

Support

Policy and working groups regarding enforceability of proposed obligations

Training

Outreach sessions to raise awareness about contractual obligations

DNS Abuse Mitigation Requirements

5th April 2024

Agreements amended to include obligations around DNS abuse mitigation

5th August 2025

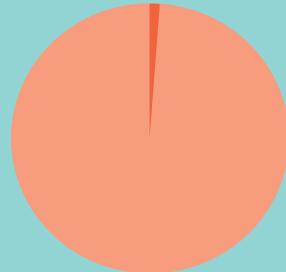
400 DNS abuse related investigations
Four formal breach notices
Two audits

~20k malicious domains directly mitigated
100's of thousands more addressed due to processes implemented

Enforcement - not just formal

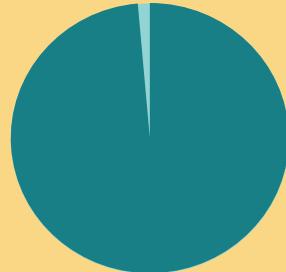
DNS Abuse Mitigation Requirements

400 Investigations
4 Formal Breach Notices



All Policies & Agreements

2,970 Investigations
19 Formal Breach Notices



Enforcement Outcomes

Remediation Plan

Targeted actions to address root causes

Aim to prevent recurrence of noncompliance

Implement

Tracked by compliance

Recurrence

Expedited compliance action if remediated issues return

Process

Applied for formal and informal investigations

More Information

Measurements

<https://domainmetrica.icann.org/>

Read more here:

<https://www.icann.org/octo-ssr/metrica-en>

Compliance

<https://www.icann.org/compliance>

Submitting DNS Abuse complaints to ICANN

<https://www.icann.org/en/system/files/files/submitting-dns-abuse-complaints-icann-guide-17nov25-pt.pdf>

Thank you!

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