



**DNS  
ABUSE  
INSTITUTE**

# **ANNUAL REPORT**

**2022**



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# Two Years of the DNS Abuse Institute

The DNS Abuse Institute (DNSAI) was created by Public Interest Registry (PIR) just over two years ago as part of PIR's non-profit mission. In that short time we've launched two key initiatives and established a strong reputation for thought leadership and authority on issues of DNS Abuse. The DNSAI has had a very successful start, but it's also been very busy as we've worked to build our foundation.

Fortunately, as we begin to look at the data coming in from one of our key initiatives—DNSAI Compass—we can see a clearer picture of how DNS Abuse is distributed across the ecosystem. This information allows us to act with more focus, and the paths to reducing abuse are becoming more apparent.

There is still so much work yet to do, but we're in a very good place to move forward.

Below in our second annual report, we detail our accomplishments over 2022, and provide a brief outline of work in our near future.

Graeme Bunton,  
Executive Director

Questions, comments, and requests for more information can be sent to [info@dnsabuseinstitute.org](mailto:info@dnsabuseinstitute.org).

## Capacity

It was clear towards the end of 2021 that the ambitious agenda of the DNSAI required more capacity than we had. In late April 2022, the DNSAI was very fortunate to hire Rowena Schoo as our Director of Programs and Policy. Rowena joined the Institute with extensive ccTLD experience having worked for Nominet, and with excellent relationships with many European stakeholders.

Rowena immediately took ownership of the DNSAI: Compass project, and has proven to be an invaluable asset to the organization.

## Institute Pillar: Innovation

DNS Abuse is a complicated global problem. It's spread across thousands of domain resellers, registrars, and registries, as well as an untold number of hosting companies and content distribution networks. Meaningful reductions in DNS Abuse require coordinated and consistent approaches. To this end, the DNS Abuse Institute is engaged in the development of tools and technologies aimed at both understanding and reducing the complexity of mitigating abuse across the ecosystem. In 2022, we launched our two flagship initiatives: NetBeacon™ and DNSAI Compass™.

## NetBeacon™

[NetBeacon](#) is the DNSAI's centralized abuse reporting system, launched in June 2022, and developed with the generous support of [CleanDNS](#). NetBeacon exists to solve two problems related to reporting DNS Abuse:

- **Complexity:** Reporting DNS Abuse to registrars and registries currently requires technical knowledge and ability to navigate the entire ecosystem, and is onerous, confusing, non-standardized, and extremely difficult to do at Internet-scale.
- **Quality:** The DNS Abuse reports that registrars and registries receive are duplicative, unevidenced, unactionable, often containing domains that don't belong to them, and consume time and resources with little of that effort improving the Internet.

Reception of NetBeacon was overwhelmingly positive, with multiple references from the ICANN Governmental Advisory Committee, and positive press.

Launching a new service is never easy however, and we used the first six months of operations to learn more about what features were working, what were not, and what are still missing. Report recipients, primarily registrars, are generally well served by the service so far. We learned that we need more features to help abuse reporters. As such we're developing features to:

- Allow registries to use NetBeacon to distribute reports to their registrar channel
- Enable the verification of DNS Abuse reporters
- Enable branded reports with boilerplate text for verified abuse reporters

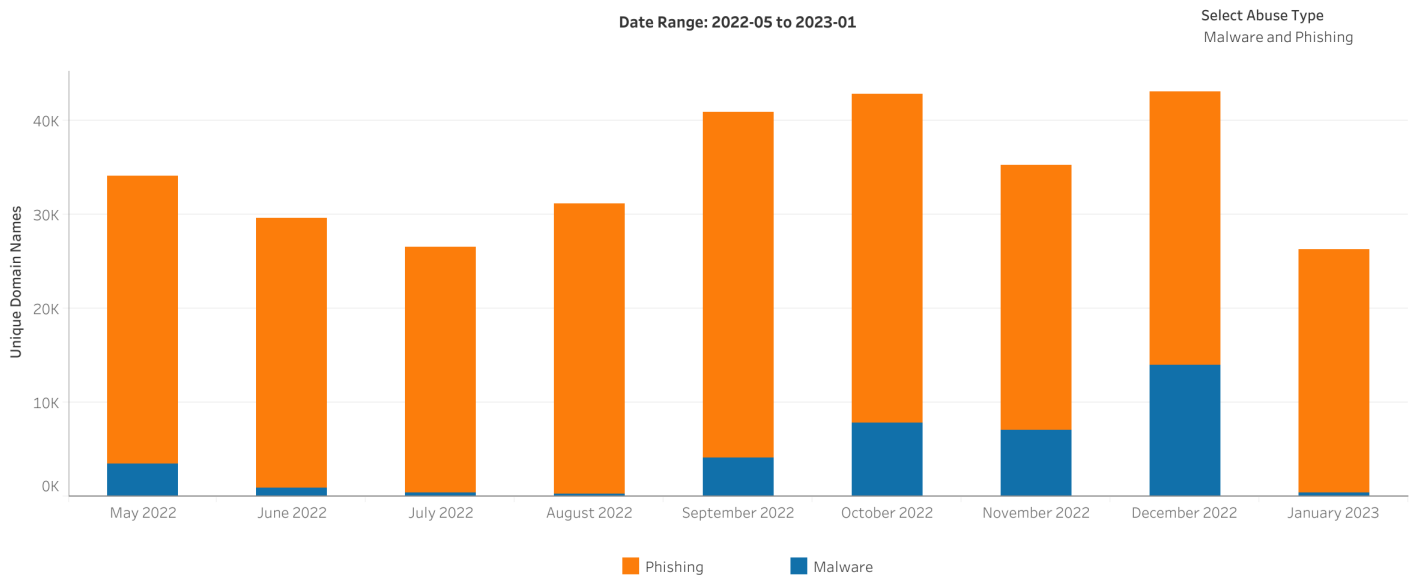
Throughput since launch has steadily increased, meeting our expectations. In late 2022, we opened the submission API to abuse reporters. With several integration projects underway, we expect usage to increase substantially over the course of 2023.

## DNSAI: Compass™

The DNSAI launched its DNS Abuse measurement project, [Compass](#), in [September 2022](#) just ahead of ICANN75. The goals of the project are to measure DNS Abuse across the entire DNS in a robust and transparent way, and to use that information to drive activities both within the DNSAI and beyond. Developed in partnership with [KOR Labs](#) at the University of Grenoble, Compass aims to move conversations on abuse from competing anecdotes to evidence based discussions and collective agreement.

Compass launched with both a published report, and interactive page within the DNSAI website. Compass publishes monthly reports on:

- Rates of phishing and malware
- How those abusive names split between malicious registrations and compromised websites
- How many of the observed abusive names are mitigated
- The median time to mitigation



The reception has been very positive. We undertook extensive work to refine and clarify the [publicly available methodology](#), and openly invited criticism and comment. To date, we have only received constructive comments, questions, curiosity, and enthusiasm for the next steps. We encourage any interested parties to contact us to share their thoughts.

Since launch, Rowena Schoo, DNSAI Director of Programs and Policy has conducted numerous outreach meetings, demonstrating our underlying data with domain registrars and registries to gather feedback, refine our presentation methods, and prepare for the ultimate goal of publishing more detailed reports.

This outreach has been immensely valuable. We have learned a lot about how abuse impacts different registrars, registries, and business models. We were initially concerned about resistance to our work, and have so far encountered none. The opposite has so far been true, with many finding the work useful and empowering.

There are two important next steps for Compass. We will be working to provide access to personalized dashboards for registrars and registries which will allow them to understand their rates of abuse and compare themselves to their peers.

We are also carefully working towards public reporting of abuse statistics that identify registries and registrars by name. This work will celebrate those with low observed rates of abuse, as well as note those with consistently high observed rates of abuse. This work requires that we are precise in our language, correct in our data, and that we think carefully about what behaviors we want to drive. It also requires us to be proactive in our outreach, ensuring that no registry or registrar is appearing in our reports without us first engaging them.

# Institute Pillar: Collaboration

## Engagement

The DNSAI spends a considerable amount of time engaging with the DNS community and beyond. We're an active participant in the [Internet and Jurisdiction Policy Network](#), the [Global Cyber Alliance](#), [TopDNS from ECO](#) and [ICANN](#), especially within the RySG DNS Abuse Group, and the CPH DNS Abuse Group.

In April, the [DNSAI responded to a letter](#) from the ICANN GNSO Small Team on DNS Abuse proposing a policy path forward on DNS Abuse within ICANN. This approach was broadly supported by the community, and was described as both [pragmatic and innovative](#) by then ICANN CEO Goran Marby.

We also conduct regular outreach to wider stakeholders who are not generally involved in industry events, both to explain the context of DNS Abuse, the wider industry activity on the topics, and the work of DNSAI. These audiences include governments, law enforcement, civil society, trade organizations, special interest groups, and inter-governmental organizations. Going forward, we're looking to expand our engagement to include more interactions with the Internet Security community.

Our work is global and we make efforts to reach new audiences by presenting in forums and events around the world. However, we believe there is more work to be done in this space and welcome any opportunities to engage in localized discussions.

## Enablement

The DNSAI runs a Slack workspace for interested registrars and registries. This Slack workspace is used for a number of purposes. It's a valuable source of information and feedback on DNSAI ideas and work. Participants also use it for sharing information, tips, and occasionally actionable abuse intelligence. We've also seen numerous occasions of participants asking each other for advice or input on approaches to abuse. We're pleased with this platform, and will look to continue adding participants while keeping the quality of discussion high.

There is, however, a clear need within the ecosystem for something to enable technical collaboration between interested parties. A platform that would enable the sharing of actionable intelligence in a structured and useful way. There are some substantial challenges in filling this gap, most notably ensuring that a diverse array of registrars are able to participate. We're in the process of considering what a tool like this would need, and how it might sit alongside NetBeacon.

## Participation

The DNSAI has participated in numerous events over the course of the past year, highlights include:

- ICANN Presentations including:
  - ICANN73 TechDay
  - ICANN73 CPH DNS Abuse Outreach
  - ALAC Monthly Call
  - NCSG Membership Meeting
  - SSAC Meetings
  - GAC Meeting
  - ICANN74 CPH DNS Abuse Outreach
- GDS Summit
- Nordic Domain Days DNS Abuse Workshop
- APAC DNS Forum
- Nominet Tech Collaboration Group
- Universal Postal Union .POST Group General Assembly
- United Nations Inter-regional Workshop on Public-Private Partnerships for Prevention of Dangerous Substance Trafficking through the Internet
- CENTR Jamboree
- APAC TWNIC Engagement Forum
- Middle East DNS Forum
- GeoTLDs DNS Abuse Meeting
- ECO Webinar
- European Summer School for Internet Governance
- LacTLD DNS Abuse Workshop
- NetBeacon presentation for the Government of Canada
- ECO State of the DNS Workshop

# Institute Pillar: Education

## Generic Abuse Policy

This best practice, developed in conjunction with the Internet and Jurisdiction Policy Network provides a Creative Commons licensed abuse policy for registries, registrars, or others to adapt and employ. Having a clear and simple anti-abuse policy makes it easier for registries and registrars to take swift action on abuse. We anticipate translating this policy into Chinese later this year, to better equip Chinese speaking registrars to develop and implement their own abuse policies.

## How to Reduce Fraud and Prevent Abuse

For retail registrars, there exists overlapping incentives on both reducing credit card fraud and DNS Abuse. This best practice proposes ways to leverage payment tools to reduce both of these issues.

## Making Phishing Reports Useful

The DNSAI observed that reporting phishing was often difficult for end-users. This best-practice aims to clarify what information was useful in a report, and how to get it.

## Abuse Reporter Expectation Management

This best practice provided guidance for registrars on how to manage reporter expectations without compromising internal processes. By setting expectations and communicating, registrars can reduce reporter frustrations.

## Looking Forward

The DNSAI has launched two key initiatives in 2022 that will drive a substantial amount of work for the years to come. The operation and growth of NetBeacon has the potential to change the shape of abuse reporting around the globe. The data coming in from DNSAI: Compass is going to drive the direction of our work, and provide a ground-truth for future DNS Abuse discussions.

There are two key places we will look to advance our work. First, now that we have a high quality data set of abusive names as part of Compass, could we begin to report them to registrars via NetBeacon? This would provide an industry specific abuse feed to registries and registrars in their preferred format and distribution mechanism. We hope to be able to implement this in 2023.

A second advancement will be to begin analyzing the domain data to see if there are common attributes to malicious domains that we can share with industry. By flagging and sharing these attributes we will hopefully be able to prevent malicious domains from being registered in the first place. Building on this, we see the potential for making a malicious domain detection service available to the industry.

# Advisory Council

The DNSAI would like to thank its inaugural advisory council for its time and contributions. Members at the end of 2022 were:

| Member                   | Affiliation                               |
|--------------------------|-------------------------------------------|
| Drew Bagley              | CrowdStrike                               |
| Jeff Bedser              | PIR Board/CleanDNS                        |
| Bertrand de la Chapelle  | Internet and Jurisdiction Policy Networks |
| Chris Disspain           | Identity Digital                          |
| Ashley Heineman          | GoDaddy                                   |
| Maureen Hilyard          | At-Large Advisory Committee               |
| Maciej Korczynski        | University of Grenoble/KORLabs            |
| Vineet Kumar             | Cyber Peace Foundation                    |
| Dean Marks               | Coalition for Online Accountability       |
| Bruna Martins dos Santos | Data Privacy Brasil Research Association  |
| Crystal Ondo             | Google Registrar and Registry             |
| Bruce Tonkin             | auDA                                      |

## Appendix 1: Selected Media Coverage

- [DNS Abuse Institute launches centralized DNS abuse reporting service](#)
- [Achieving Multi-Stakeholder Progress on DNS Abuse](#)
- [Graeme Bunton talks about the DNS Abuse Institute & NetBeacon](#)
- [Combating the Problem of Domain Name Abuse: Highlights from a Conversation with Graeme Bunton](#)

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[www.dnsabuseinstitute.org](http://www.dnsabuseinstitute.org)