
by the registration data reported above.⁹ We hope that parking data will be part of the analysis in future reviews.

Consumer Trust and Safeguards

An international survey commissioned by the CCT indicates the domain industry is one of the most trusted in the tech sector and that the dramatic expansion of the DNS has done little thus far to undermine that trust.¹⁰ A key component of this trust seems grounded in familiarity, with legacy gTLDs still more trusted than new gTLDs, and strings with recognized terms more trusted than strings with less familiar terms. In addition, there are indications of a desire among end-users for a more semantic Web in which the domain name is an indicator of the type of content contained within a TLD.

Similarly, consumers reported that restrictions on who could purchase certain gTLDs would engender greater trust, particularly if the domain name itself suggests that the registrant might need to possess a certain license or credentials. These tendencies represent both an opportunity and a danger if the connection between names and content proves to be less direct.

Given the difficulty of defining and measuring “trust,” the review team explored the notion of “trustworthiness” as a proxy for consumer trust. For example, the review team fielded a study on DNS Security Abuse to determine if the rates of abuse were higher or lower in new gTLDs.¹¹ These findings were used to analyze whether or not new gTLDs were inherently less trustworthy than legacy gTLDs, as well as to determine the effectiveness of safeguards implemented as part of the New gTLD Program.¹² The results were mixed, indicating that despite new safeguards, some new gTLD registries and registrars may in fact be less trustworthy than those associated with legacy gTLDs, even if new gTLDs as a whole are not.

Other notable findings on the impact of the new gTLD safeguards include the following:

- ⊙ Ninety-nine percent of registries have implemented safeguards regarding the prevention of abusive activities in their gTLDs as required in their registry-registrar agreements; however, the downstream impact is unclear.¹³
- ⊙ ICANN reports that abuse complaint volumes are typically higher for registrars than registries, but it is difficult to determine if safeguards are affecting rates of abuse.¹⁴

⁹ See ntlldstats, “Parking in New gTLDs Overview,” accessed 3 August 2018, <https://ntldstats.com/parking/tld>

¹⁰ Nielsen, *Consumer Research Wave 2* (2016), pp. 63-69.

¹¹ SIDN Labs and the Delft University of Technology (August 2017), *Statistical Analysis of DNS Abuse in gTLDs Final Report*, accessed 3 August 2018, <https://www.icann.org/en/system/files/files/sadag-final-09aug17-en.pdf>.

“DNS Abuse” is a term used by the Review Team that refers to “intentionally deceptive, conniving, or unsolicited activities that actively make use of the DNS and/or the procedures used to register domain names” (see p. 3 of the “New gTLD Program Safeguards Against DNS Abuse: Revised Report” referenced below). “DNS Security Abuse” in the context of this report refers to specific, technical forms of abusive behavior: malware distribution, phishing, pharming, botnet command-and-control, and spam in the DNS. For more on how abuse has been characterized by the ICANN Community, see the *Registration Abuse Policies Working Group’s Final Report* (29 May 2010), accessed 3 August 2018, https://gnso.icann.org/sites/default/files/filefield_12530/rap-wg-final-report-29may10-en.pdf

¹² ICANN Operations and Policy Research, *New gTLD Program Safeguards Against DNS Abuse: Revised Report* (July 2016), accessed 3 August 2018, <https://www.icann.org/news/announcement-2016-07-18-en>

¹³ ICANN (2015), *ICANN Contractual Compliance 2014 Annual Report*, accessed 7 February 2017, <https://www.icann.org/en/system/files/files/annual-2014-13feb15-en.pdf>, p. 13.

¹⁴ ICANN (2016), *ICANN Contractual Compliance 2015 Annual Report*, accessed 7 February 2017, <https://www.icann.org/en/system/files/files/annual-2015-27jan16-en.pdf>

- ④ WHOIS accuracy complaints remain the largest category of complaints to ICANN Contractual Compliance.¹⁵
- ④ ICANN Contractual Compliance has reported that 96 percent of the 264 registries that were reviewed in 2014 are performing the analysis that is required to determine if they are being used to perpetrate security threats.¹⁶
- ④ The review team examined the rates of UDRP and URS case filings and found an overall decrease in the number of cases filed since 2012, although URS cases in new gTLDs have driven an approximately 10 percent increase in disputes since the recent low point in cases filed in 2013. The review team needs more information on costs related to trademark enforcement before it will be able to reach more specific conclusions in this area.¹⁷

The review team also identified several challenges to its assessment of the extent to which safeguards mitigated risks involved in the expansion of the gTLD space. Ultimately, the safeguards put in place as part of the Program were too narrow in scope to prevent some of the malicious abuse issues identified prior to the introduction of the new gTLDs.¹⁸ Instead, as in legacy gTLDs, DNS Security Abuse still remains a significant issue. Although abuse does not universally persist in all new gTLDs, it is endemic to many. More troubling, at present there is little recourse for the community to stop new gTLD registries and registrars associated with high levels of abuse. This in turn creates incentives for network operators to unilaterally block all traffic from specific TLDs or registrars, running counter to community goals for Universal Acceptance of new gTLDs.¹⁹

The failure to prevent the spread of certain abusive activities to new gTLDs previously identified by the community is significant. The CCT Review Team recognizes the infrastructure role played by domain names in enabling abusive activities that impact the security, stability, and resiliency of the DNS, undermine consumer trust, and, ultimately, impact end-users around the globe. Accordingly, this is a high-priority topic that must be addressed before any further expansion of the DNS, and the review team offers several recommendations to remedy the deficiencies of the status quo and improve the security of the DNS.

As previously mentioned, one challenge to evaluating the impact of safeguards on trustworthiness is the lack of granularity in ICANN Contractual Compliance data. It is unclear what the impact of safeguards imposed on sensitive, regulated, and highly-regulated strings has been since complaints to registrants are difficult to track, as is the lack of detail publicly reported by ICANN Contractual Compliance regarding complaints that it receives. Moreover, provisions related to inherent government functions and cyberbullying that were incorporated into the Registry Agreements were difficult to measure as there were no consequences identified for a failure to comply with these provisions. Finally, the Public Interest Commitments

¹⁵ ICANN, “Contractual Compliance Reports,” accessed 8 August 2018, <https://www.icann.org/resources/pages/compliance-reports-2016-04-15-en>.

¹⁶ ICANN (2015), *ICANN Contractual Compliance 2014 Annual Report*, accessed 10 August 2018, <https://www.icann.org/en/system/files/files/annual-2014-13feb15-en.pdf>.

¹⁷ ICANN, “CCT Metrics Reporting Page: Rights Protection Mechanisms,” accessed 3 August 2018, <https://www.icann.org/resources/pages/cct-metrics-rpm-2016-06-27-en>.

¹⁸ ICANN (3 October 2009), *Exploratory Memorandum: Mitigating Malicious Conduct*, accessed 9 November 2016, <https://archive.icann.org/en/topics/new-gtlds/mitigating-malicious-conduct-04oct09-en.pdf>

¹⁹ “Universal Acceptance” refers to an effort to encourage “Internet applications and systems [to] treat all TLDs in a consistent manner, including new gTLDs and internationalized TLDs. Specifically, they must accept, validate, store, process and display all domain names.” See ICANN, “Universal Acceptance,” accessed 3 August 2018, <https://www.icann.org/resources/pages/universal-acceptance-2012-02-25-en>

(PICs) incorporated into Registry Agreements were particularly challenging to assess because they varied greatly.²⁰ It remains unclear how effective enforcement of the PICs has been.

Application and Evaluation

Here the review team chose to focus less on the complexity and any inefficiencies of the application and evaluation process and more on the potential inequities of the program as implemented. Of particular concern to the review team was the relatively low application rate from entities in the “Global South.”²¹

The CCT Review Team commissioned two focused efforts to explore applicant experiences and barriers to entry for those who did not apply to operate a new gTLD.²² Although more than half of the applicants to the New gTLD Program indicated they would go through the process again (even with no changes), a large majority indicated the Program was overly complex and bureaucratic, and that the assistance of outside consultants was necessary. Therefore, it should come as no surprise that a focus group of potential applicant cohorts (similar entities to those who applied) in the Global South indicated not only a lack of awareness of the Program as a whole, but also concerns over the complexity of the application process and a lack of available assistance in applying. Although not the most frequently expressed concern, nearly every cohort expressed concerns about the return on investment from operating a new gTLD. Programs that were put in place to facilitate and encourage applications from the Global South were thought to be both poorly monitored and largely ineffective. The ICANN community needs to make a decision about the importance of applications from the Global South (and by extension, from other underrepresented regions) and, if appropriate, to take further steps to encourage those applications. It is clear that if the community wants more applications from underrepresented regions, more needs to be done.

Further analysis of the application process revealed that the implementation of policies around issues such as string confusion was inconsistent and unpredictable. More clarity is needed in the Applicant Guidebook (AGB) to reduce this inconsistency going forward.²³

Finally, the CCT Review Team found that Governmental Advisory Committee (GAC) participation in the application and evaluation process was largely beneficial and led directly to modifications of applications and applicants more successfully navigating the process.

Rights Protection Mechanisms

An important aspect of the safeguards available in new gTLDs are the Rights Protection Mechanisms (RPMs) which were specifically developed in connection with the introduction of the New gTLD Program. The RPM's were meant to stand alongside existing rights protection mechanisms such as the Uniform Dispute Resolution Process (UDRP). The CCT Review

²⁰ See ICANN Wiki, “Public Interest Commitments,” accessed 3 August 2018, https://icannwiki.org/Public_Interest_Commitments.

²¹ “Global South” is a fluid and sometimes contested term used by social scientists to refer broadly to regions in Latin America, Asia, Africa, and Oceania. For an overview of the term's origins and use, see Nour Dados and Raewyn Connell, “The Global South,” *Contexts: Journal of the American Sociological Association* [11, 1] (2012): <http://journals.sagepub.com/doi/pdf/10.1177/1536504212436479>

²² AMGlobal Consulting, *New gTLDs and the Global South: Understanding Limited Global South Demand in the Most Recent New gTLD Round and Options Going Forward* (October 2016), accessed 3 August 2018, <https://community.icann.org/display/CCT/Studies%2C+Research%2C+and+Background+Materials>

²³ ICANN, *gTLD Applicant Guidebook* (June 2012), accessed 3 August 2018, <https://newgtlds.icann.org/en/applicants/agb>

Team examined whether these RPMs help encourage a safe environment and promote consumer trust in the DNS. The CCT Review Team also sought to measure the cost impact of the New gTLD Program on intellectual property owners. The early indicators are that there is proportionately more trademark infringement in new gTLDs than in legacy TLDs.

The data available indicated that the number of domain name disputes had increased since the introduction of new gTLDs, with disputes rising year-on-year after their introduction. Of course, a rising number of domain name disputes is not in itself surprising, given the expansion of the DNS and increased number of domain name registrations worldwide. Thus, the CCT Review Team sought an answer to the more pertinent question of whether there is proportionately more trademark infringement in new gTLDs than in legacy TLDs. This is a more difficult issue, as there are many factors involved in assessing trademark infringement, and minimal data is available. For example, in addition to the UDRP and URS, trademark owners also use a variety of other means to deal with abusive domain name registrations, such as court actions and demand letters, which are not tracked centrally. Nor are the costs associated with such actions available. It is also not within ICANN's remit to track or attempt to track such data. The International Trademark Association (INTA) conducted a study of its membership to begin to explore the experience of trademark holders that reveals some of the complexities in obtaining such information. The INTA study was directed to the 1,096 corporations, nonprofits and other entities that own trademark portfolios and are considered "regular" members under INTA's membership structure. Outside counsel and other categories of trademark service providers were not the targets of the survey. This decision was made in order to avoid overlap with brand owners whose outside counsel may also be receiving the survey. Ninety-three respondents entered the survey and 33 completed it. Subsequent feedback suggests that the complexity of the questions, the length of the survey, and the survey methodology, generally, discouraged completion.

The CCT Review Team examined the survey results and supplemented these with its own analysis. While the survey received a low number of respondents, the INTA survey offers some interesting findings with respect to the costs of trademark enforcement in the new gTLDs to brand owners. The survey found that "new TLD registrations [by brand owners] primarily duplicate legacy TLD or ccTLD registrations." In particular, only 17% of respondents had registered names in the new gTLDs for the first time versus duplicating existing domains in legacy gTLDs or ccTLDs. This suggests that defensive registrations may remain an issue in the New gTLD Program. While one of the stated purposes of the New gTLD Program was to create greater choice, the primary consideration for domain registration by brand owners who participated in the survey appears to be defensive.

However, the survey also indicates that for the respondents the expansion of the New gTLD Program has made defensive registrations a less efficient means of protection. Accordingly, it appears that trademark holders are shifting their protection spending to alternatives and expanded monitoring. Furthermore, the survey suggests that as many as 75% of domain name dispute cases involve entities that have registered their domain names using privacy and proxy services making it difficult to assess whether this abuse is tied to common actors. These results suggest the need for further research in these systems. Finally, there is an indication that enforcement costs have increased in the new domains, which suggests that at least for respondents, there is greater infringement in those new domains than in legacy gTLDs and ccTLDs. The INTA survey suggests that, at the very least, further research is necessary, perhaps with a simplified methodology to encourage a higher completion rate. Nonetheless, the exercise did provide useful information in terms of indicating trends. It is clear that the brand owners that participated in this survey have experienced some frustration with the New gTLD Program and the rights protection mechanisms that have been put in place.

The CCT Review Team also looked to data collected by ICANN as well as data from the World Intellectual Property Organization ("WIPO"). ICANN's metrics data shows that domain name disputes are rising alongside total domain name registrations but does not show a breakdown of the relative use of UDRPs, i.e. the use of UDRPs in new gTLDs as opposed to legacy TLDs. WIPO data for 2017 however does give a strong indication that there is proportionately more trademark infringement in new gTLDs than in legacy TLDs.

The CCT Review Team could not definitively conclude whether the URS is a valuable RPM given its low usage compared to the UDRP. The fact that the TM-PDDRP and RRDRP have not been invoked to date may on the one hand bring into question their effectiveness but may equally suggest that their mere existence is acting as a successful deterrent. Conclusions from the RPM review currently underway may shed some more light on the issue in the near future.

Recommendations

In light of the studies and analyses carried out for this review, the CCT Review Team has developed recommendations that fall into three main categories:

- ⦿ Requests for more and better data collection
- ⦿ Policy issues to be addressed by the community
- ⦿ Suggested reforms relating to transparency and data collection within ICANN Contractual Compliance

The review team has assigned a priority level to each recommendation, which reflects the timeframe in which each should be implemented and the extent to which any particular recommendation should be a prerequisite to further expansion of the DNS.

Data Gathering

In general, the review team's work was hampered by insufficient data on pricing of domain names, including wholesale, retail, and secondary market prices. In addition, collection of data about a country at a regional level would make it possible to assess competition in narrower geographic areas. Furthermore, the lack of data regarding DNS abuse and lack of more granular information about the subject matter of complaints received by ICANN Contractual Compliance also created obstacles to assessing the effectiveness of the safeguards and the trustworthiness of the new gTLDs. Some of this additional data collection will require changes to registry and registrar contracts, which will take some time, but the review team believes that it is necessary for proper evaluation of reforms to the New gTLD Program. Other data are collected by third parties, and also could be used by ICANN. To the extent possible, relevant data should be made available in an easily accessible and non-confidential form to researchers both within and outside the ICANN community. The CCT Review Team recommends that data gathering become a priority inside ICANN, with an emphasis on data-driven analysis and programmatic success measurement.

ICANN Contractual Compliance

The CCT Review Team found that current data available from ICANN Contractual Compliance are insufficient to measure the enforcement of various contract provisions and the success of safeguards in mitigating downstream consequences to DNS expansion. Part of the problem

is transparency, in part due to the lack of granularity of the data that are being collected. The CCT make several recommendations for practical reform within ICANN Contractual Compliance.²⁴

Conclusion

Initial indications are that the New gTLD Program has led to a dramatic increase in consumer choice, a modest, but important, increase in competition, and has had a minimal impact on consumer trust. However, there are several TLDs with a disproportionate level of DNS security abuse and the review team recommends enhancements to various enforcement mechanisms prior to any further additions to the DNS. The review team believes that there is a substantial need for more and better data on both competition and pricing, and on the impact of safeguards on consumer protection.

²⁴ Since the publication of the CCT Review Team’s draft recommendations for public comment, ICANN Contractual Compliance has considered the review team recommendations in implementing certain changes described in the blogs of October 2017, “Enhancing Transparency in Contractual Compliance Reporting,” <https://www.icann.org/news/blog/enhancing-transparency-in-contractual-compliance-reporting>, and March 2018, “Enhancing Transparency in Contractual Compliance Reporting,” <https://www.icann.org/news/blog/enhancing-transparency-in-contractual-compliance-reporting-en>.

