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ARI Registry Services Public Comment — Proposal to Mitigate Name Collision Risks

ARI Registry Services welcomes the recent community discussions to promote and ensure the security, stability and resiliency of the DNS.

In principle, ARI Registry Services supports the NTAG Comments on ICANN Name Collision Report however would like to highlight a number of key additional points as well as propose a practical and structured mechanism to resolve the current stalemate faced by new gTLD applicants.

Name Collision Issues in DNS Queries

ARI Registry Services recognises the issues caused by name collisions in DNS queries and in no way questions the potential for them to impact on the security, stability and resiliency of the DNS. However, it must be emphasised that all evidence to date indicates that the risk posed by the current proposed gTLDs is relatively low.

This conclusion is supported by the incident free launch of the .xxx TLD – a TLD that was receiving more queries before delegation than any of the currently proposed new gTLDs. These risks are not new. They go hand in hand with the delegation of a gTLD and are therefore inherent to the new gTLD program. A declaration that these risks are unacceptable is ill founded and equates to a declaration that new gTLDs are unacceptable.

For the proposed gTLDs, currently marked as belonging to the "Uncalculated-Risk" category, the only path forward is for the risks to be quantified and mitigated in a manner that is commensurate with that quantification. Quantification and mitigation of the risks can be done on a case by case basis that takes into account the unique circumstances associated with each gTLD and cannot be completed without input from the new gTLD applicant.

It should be noted that a proposed new gTLD's listing in the "Uncalculated-Risk" category is based purely on the number of queries received for the string during the period of analysis for the Name Collision study, no analysis of the risk severity or cause of the queries was applied. While the title "Uncalculated-Risk" acknowledges this, the treatment of the category is somewhat at odds with the conclusion, or rather lack thereof, of the study. It is therefore inappropriate to treat this category as more or less risky than any other collective of applied for strings.

Requirements of ICANN's Uncalculated Risk Mitigation Proposal

We ask that ICANN provide further clarity on the requirements for a string to move from "Uncalculated-Risk" to "Low-Risk". Section 7 of the Study does not appear to have been written with the usage described in ICANN's mitigation document in mind. While ICANN's mitigation suggestion uses the plural term "issues" to describe the reasons for placing a string in the "Uncalculated-Risk" category, the only documented reason is query volumes.

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Therefore, we would ask that if issues related to internal certificates or specific usage practices need to be addressed, that ICANN explicitly note these on a per string basis. Alternatively, if such issues are not required to be addressed, we see no reason why the proposed mitigation practices for "Low-Risk" strings cannot be applied to the "Uncalculated-Risk" category.

Should ICANN still deem that more action than that of the "low-Risk" strings is required; the following mechanism(s) are proposed by ARI Registry Services to resolve the stalemate faced by the new gTLD applicants for the strings in the "Uncalculated-Risk" category.

Option 1 – Publication of Raw Packet Capture Data

As requested by the NTAG, ICANN should publish raw packet capture data from the L-root to allow new gTLD applicants to perform their own analysis of the data. Following this analysis, each new gTLD applicant should be granted the opportunity to submit a plan to mitigate the potential risks presented by the data.

This submitted plan's ability to mitigate the risks presented by the data should then be considered and assessed by ICANN or any third party it appoints. The new gTLD applicant's ability to progress to delegation will be based on ICANN's assessment of the submitted mitigation plan.

Option 2 – 'Beta' Delegation

Another possible way to perform the analysis, and yet avoid the issue of root server operator co-operation and data aggregation, is for the proposed gTLD to be delegated to a 'trusted entity' for a defined period of time. The trusted entity may be the applicant, ICANN or any third party it appoints.

During this period that entity is prohibited from placing any resource records in the zone file, thus maintaining the current DNS behaviour; however that entity can now collect authoritative information about the 'rouge' queries. Upon delegation, query data should be captured for a defined period and presented to the applicant for analysis.

The applicant should be granted the opportunity to submit a plan to mitigate the potential risks presented by the data, or indeed explain why the risks, if any, are acceptable. This submitted plan's ability to mitigate the risks presented by the data must then be assessed by ICANN (or an appointed third party). The new gTLD applicant's ability to progress to delegation will be based on ICANN's assessment of the submitted mitigation plan.

No Name Activation Period

ARI Registry Services notes that the mitigation measures for the no name activation period may cause significant volumes of unsolicited email to be sent, possibly repeatedly. ARI Registry Services suggests that Appendix A procedures be reviewed at a point in the short term future to allow later delegated TLDs to reduce their volume of communication and thus ease the response burden on repeat recipients of these emails.

Notwithstanding the concern above, ARI Registry Services generally supports the proposal of the 30 day no name activation period (and associated notification requirements) following the delegation of the new gTLD within the public DNS root to name servers designated to the Registry Operator as described in the proposal.

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Benefits

The mechanisms proposed above provide a structured and predictable way forward for new gTLD applicants. They remove the ambiguity of a further three to six month study period and address concerns raised in the community regarding the accuracy of the data used to create the risk profiles described in the proposal.

Furthermore, these proposals encourage new gTLD applicants to take steps to promote the security, stability and resiliency of the DNS whilst allowing them to control their own fate. Finally, and most importantly, these proposals aim to prevent further unnecessary undefined delays for new gTLD applicants by ensuring that mitigation steps are based on all available information.

ARI Registry Services recognises that these proposals may cause some delays, however these delays will have a defined timeframe as they will be based on a structured process applied consistently to applicants in the "Uncalculated-Risk" category. It is the uncertainty that has plagued the new gTLD program that is most crippling to applicants. This proposal is an attempt to eliminate that uncertainty and provide those who have invested heavily in the new gTLD program with the predictability they deserve.

Name Collision Issues in Internal Certificates

ARI Registry Services recognises the importance of granting the CA operators who are members of the CA/Browser Forum, 120 days to revoke internal name certificates based on a particular gTLD. ARI Registry Services does not recognise the need to impose a blanket no name activation period of 120 days following execution of a Registry Agreement. ARI Registry Services proposes the following alternative approach that allows the safe revocation of internal certificates whilst reducing the impact on new gTLD Registry Operators.

Proposed Approach for Internal Certificates

Upon delegation of the gTLD, Registry Operators should be allowed to fetch relevant names from the Certificate Revocation List (CRL) and be required to withhold these names from delegation for the first 120 days following execution of the Registry Agreement.

During this period, the CA operators can revoke internal name certificates based on that gTLD. This approach allows Registry Operators to safely activate names not impacted by the internal certificates issue immediately following delegation.

Conclusion

ARI Registry Services supports all measures to maintain the security, stability and resiliency of the DNS but emphasises that these measures are never implemented in isolation – they impact a multitude of diverse stakeholders.

In recognition of such, it is imperative that facts, not hypotheses, form the foundation of these measures. At this point in the new gTLD program, it is critical that the fact finding process is both certain and predictable. ARI Registry Services' proposals allow for the implementation of measures based on accurate information using a predictable process.

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