Collisions:
An Alternative View

Collisions as a Unicorn Management Problem

- Collisions happen, they always have, and they always will
- Collisions happen in delegated namespaces, cc's, .com – everywhere
- Very rarely do they cause any trouble at all
- Exceedingly rarely they could, in theory, cause serious, widespread trouble
- Apply a defensible and necessarily high threshold for actionable "harm"
- Have a plan if a Unicorn is encountered
  - Both detection and response!
- Don't assume in advance every string is a Unicorn
- Be vigilant of the "cure being worse than the disease"

What do we know (NCAP Study 1):

- *"The vast majority of new TLDs delegated since July 2014 have not been the subject of any name collision reports to ICANN"*
- *"During the three-year period from 2017 through 2019, there was only <u>one</u> report to ICANN"*

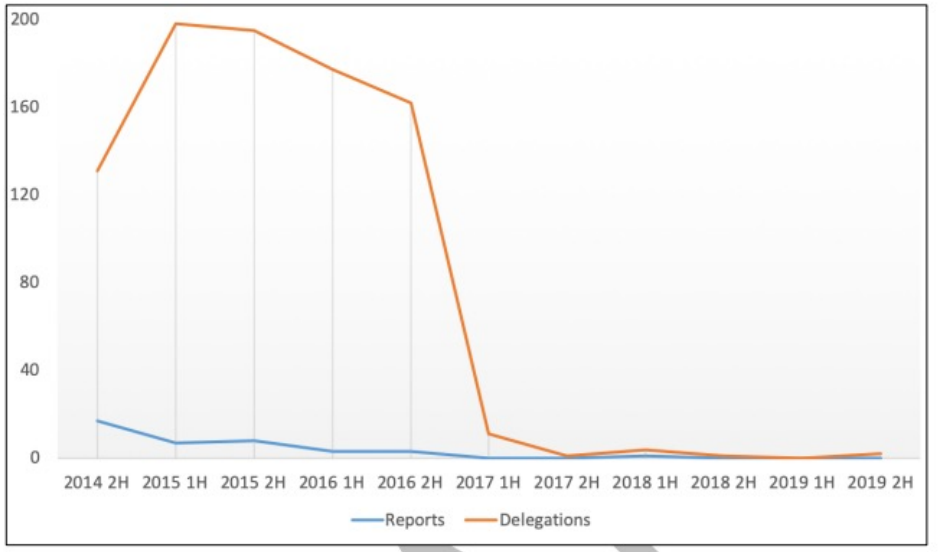

Figure 1: Name Collision Reports to ICANN by Half Year

Findings for the Name Collision Analysis Project (NCAP) Study 1, Page 37
https://www.icann.org/en/system/files/files/managing-risks-tld-2-name-collision-07may20-en.pdf

What do we know (NCAP Study 1):

"…there have been minimal name collision problems reported since controlled interruption was instituted, given the number of new TLDs it has been used for in the past six years. Research conducted for this report included extensive searches for evidence, and NCAP DG members were repeatedly asked to provide information on any evidence they were aware of. The counterargument to this has been the old saying, "Absence of evidence is not evidence of absence." Although that saying has merit, over time the continued absence of evidence that controlled interruption has not been successful makes it less likely to be true. The lack of interest in alternatives to controlled interruption outside a few groups within ICANN further supports the likelihood that controlled interruption has been successful"

Impossibility of defining “Harm” globally

Even attempting to weigh economic harm or “national security” on a global basis creates a slippery slope and forces registries and ICANN to arbitrate impossible scenarios. Concepts like “national security,” “law and order,” and “key economic processes” do not translate well on a global basis and risk another “Morality and Public Order” debate – which is exactly what happened when similar terms were introduced into the ICANN landscape previously. There will not be time for such a debate in real-time, leaving emergency responders forced to make rapid decisions concerning extremely serious issues – like root-level changes – in a nondeterministic state.

JAS Final Report, Page 3
https://www.icann.org/en/system/files/files/name-collision-mitigation-final-28oct15-en.pdf

What was done in 2012?

- Unicorns detected prior to delegation using the same metrics currently being considered:
  - Query Volume
  - Query Origin Diversity
  - IP/ASN distribution
  - Query Type Diversity
  - Label Diversity and Characteristics
  - Other characteristics including OSINT
- Emergency threshold and emergency procedures defined
- Notification period (inspired by telephone and postal collisions)

An alternate idea for a path forward

- Initial Evaluation contained a “DNS Stability: String Review” procedure
- This review, like all AGB reviews, was performed by outside experts
- The stated goal of this review is to: *“determine whether any strings raise significant security or stability issues that may require further review”* (AGB 2-12)
- This step was performed in batch for all strings after the application round was closed
- A check for collision Unicorns should be explicitly added here
- The review should leverage the metrics used in 2012 (same ones being discussed here) and in general implement the 2012 procedures
- CI notification period should be used

DNS Stability: String Review

"The panel will determine whether the string fails to comply with relevant standards or creates a condition that adversely affects the throughput, response time, consistency, or coherence of responses to Internet servers or end systems, and will report on its findings"
(AGB 12-2)

- Emphasis mine
- The intent of this review is to look for unforeseen technical Unicorns
- Collisions clearly not far from existing scope