~~ALT Special Use TLD~~

SUDN - What now?!

What's the problem?!

RFC2860 & IETF/ICANN MoU supplements:

...
4.3. Two particular assigned spaces present policy issues in addition to the technical considerations specified by the IETF: the assignment of domain names, and the assignment of IP address blocks. These policy issues are outside the scope of this MOU.

Note that (a) **assignments of domain names for technical uses (such as domain names for inverse DNS lookup), (b) assignments of specialized address blocks (such as multicast or anycast blocks), and (c) experimental assignments are not considered to be policy issues,** and shall remain subject to the provisions of this Section 4.

What's the problem?!

- ## RFC6761 (Special-Use Domain Names) (edited to fit)

Describes what it means to say that a Domain Name (DNS name) is reserved for special use, when reserving such a name is appropriate, and the procedure for doing so.

…

Similarly, if a domain name has special properties that affect the way hardware and software implementations handle the name,[…] then that domain name may be a candidate for having the IETF declare it to be a Special-Use Domain Name […]

…

Where the desired behaviour can be achieved via the existing domain name registration processes, that process should be used. **Reservation of a Special-Use Domain Name is not a mechanism for circumventing normal domain name registration processes.**

…

If it is determined that special handling of a name is required in order to implement some desired new functionality, then an IETF "**Standards Action**" **or** "**IESG Approval**" specification [RFC5226] MUST be published describing the new functionality.

Great, so what's the problem?!

- There were ~1400 applied for new gTLDs
  - World seems to have decided TLDs (and TLD like things) have value
  - ***Lots*** of policy and politics in this space
    … seriously, lots…

- .amazon - geography or shopping?
- .patagonia - country or clothes?
- .kosher - OU Kosher or STAR-K Kosher or OK Kosher or Chicago Rabbinical Council Inc. or…
- .wine / .vin - who woulda thunk?!
- .africa - don't ask… No, seriously, just don't….

Don't want IETF to become another ICANN!

But… we're not ICANN!

- Lots of requests for RFC6761 names
  - currently ~40
  - Many for names in non-DNS context
- No safe place for experimentation

.onion

- 2013 - Request to reserve .onion
- We like Tor!
- How hard can it be!?
  - Substantially over 2000 emails
  - Contentious, political (us vs. them), beauty competition.
- … and we like Tor.

.onion

https://www.ietf.org/blog/onion/ (Jari, 2015)

Because this might garner attention beyond the usual standard actions, I wanted to briefly summarize some points of the process to date, and share an outcome of the IESG's discussion that suggests possible future IETF work.

. . .

Some contention arose during the processing of the document in the working group. There also was some discussion about needing to clarify or adjust RFC 6761 before making any additions.

. . .

However, subsequent to this action, **the IESG believes RFC 6761 needs action**, and substantial community input. It needs to be open for review and modification because the current process is unscalable. **Several other names had also been submitted for consideration as special names, and the RFC may not give adequate guidance about how when names should be identified as special names. Special names should also be, as the name implies – special and rare. The DNSOP working group is chartered to address this RFC 6761 review.**

DNSOP **Tried** to Fix This

- Design team

- Interim meeting #1
  - draft-lewis-user-assigned-tlds/
  - draft-chapin-additional-reserved-tlds/ (.home, .corp, .mail)
  - draft-appelbaum-dnsop-onion-tld/ (.onion)
  - draft-wkumari-dnsop-alt-tld/ (.alt)
  - draft-grothoff-iesg-special-use-p2p-names/ (.gnu, .zkey, .onion, .exit, .i2p, and .bit)
  - draft-cheshire-homenet-dot-home/ (.home)

- Interim meeting #2
  - draft-ietf-dnsop-sutld-ps
  - draft-adpkja-dnsop-special-names-problem

- IETF92 (20min), IETF93 (40min), IETF94 (30min), IETF95 (30min), IETF96 (20min), etc.

- Another 2000+ emails, thousands of hours

Success!

RFC8244 - Special-Use Domain Names
Problem Statement
(Oct 2017)

Yay! What does it say?! #1

1. No formal process for coordinating allocations

2. No scoping as to "technical use" and what cannot; there is also no consensus within the IETF as to what this term means.

3. Not all developers agree that authority over Domain Namespace should reside solely with IETF / ICANN

4. No protocol police

5. People squat

Yay! What does it say?! #2

6. demand for more than one name resolution protocol

7. when a name added to registry, not all software knows

8. our process too slow / painful

9. strong resistance within the IETF to assigning domain names to resolution systems outside of the DNS

…

21. DNSEC

Summary

Abstract:

This document should be considered required reading for IETF participants who wish to express an informed opinion on the topic of Special-Use Domain Names.

3. Problems Associated with Special-Use Domain Names:

Solutions to these problems, including their costs or trade-offs, **are out of scope** for this document and will be **covered in a separate document.**

.home

IAB statement on registration of SUN in .arpa

Through the IAB, the IETF is in a position to specify names beneath the top-level domain ARPA, which is designated as the Address and Routing Parameter Area domain. … All names registered in the Special-Use Domain Names registry that are intended for use via the DNS protocol are found beneath the ARPA top-level domain. Other names in the Special-Use Domain Names registry are intended for exclusion from DNS resolution.

Suzanne's principles

1. ## Location in namespace

   Location of a name in the namespace as a consideration. TLDs are hard, whether you're asking for them to be reserved from use in the root zone, or you're asking for them to be added to the root zone, because ICANN. It's hypothetically possible … ICANN has never promised to respect the special use names registry, and it's unlikely they would …Don't do that unless you have a compelling need that can't be met any other way.(WGs shouldn't ask the IESG, and the IESG shouldn't ask for IETF consensus, and the IETF shouldn't approve.) (Case: home/homenet/home.arpa)

   1.1. ### Compatibility

   Compatibility with an installed base *might* be a compelling need to reserve a specific string as a single label or TLD, but the bar should be *very* high, because of the imposed burden of coordination on ICANN, the IETF, and the IAB. There needs to be significant benefit to interoperability, at the very least. (Case: .onion, .bit, etc.)

   1.2. ### Dog in the manger

   Preventing ICANN from delegating a name is *not*, by itself, a compelling reason to reserve it. There's no written policy or agreement that says it would work, it's likely to cause pain, and it's (arguably) not compatible with RFC 2860 ("technical use"). Name collision is bad, but so is using standards action in one body to constrain policy in another. (Case: home/corp/mail)

2. ## Use .arpa

   For names reserved as part of an IETF protocol, in a standards-track RFC coming out of an IETF WG, proponents should consider using .arpa (see the IAB note on home.arpa). This can work whether the name is supposed to be instantiated in the DNS or not, since the IAB sets policy for .arpa. (Case: home.arpa)

3. ## The characteristics are important

   Names that aren't TLDs require a *lot* less work for the community because they don't have to be coordinated with another body. All such names, however, should be thought out as far as the characteristics we've discussed before: do they need to exist in the DNS, or just be reserved for another protocol? do they need to be human-friendly? etc. This may require adding some new questions to the RFC 6761 list, which talks about how the names are treated by DNS but otherwise not much about why they're being reserved or how they're being used. (Case: home.arpa)

4. ## Visitors must follow the rules too…

   For names initially reserved or used outside of the IETF, for which a proponent wants to add a special use name registry entry, the bar should be just as high. For single labels in particular, the IESG and the community should require both a stable spec and some assurance that a one-time delegation won't multiply as the protocol evolves or the community forks. (Case: .onion; we failed.)

Now what?!

- RFC?
- IESG statement?
- Internal Wiki page?
- Ignore this until it is on fire?
- Something else?

Questions?

Organizations use subsets of Namespace

1. Lack of knowledge that a process exists for assigning such names.

2. Intended use is covered by the gTLD process [SDO-ICANN-DAG], but no gTLD process is ongoing.

3. Intended use is covered by the gTLD process, but the third party doesn't want to pay a fee.

4. Intended use is covered by some IETF process, but the third party doesn't want to follow the process.

5. Intended use is covered by an ICANN or IETF process, but the third party expects that the outcome will be refusal or non-action.

6. Lack of knowledge that a name intended to be used only locally may nevertheless leak.

7. Lack of knowledge that a name used locally with informal allocation may subsequently be allocated formally, creating operational problems.

Not invented here.

1. It requires a mechanism for identifying which set of resolution processes is required in order to resolve a particular name.

2. Assertion of authority: there is a sense that the Domain Namespace is "owned" by the IETF or by ICANN, so, if a name is claimed without following their processes, the person or entity that claimed that name should suffer some consequence that would, presumably, deter future circumvention of the official processes.

3. More than one name resolution protocol is bad, in the sense that a single protocol is less complicated to implement and deploy.

4. The semantics of alternative resolution protocols may differ from the DNS protocol; DNS has the concept of RRtypes, whereas other protocols may not support RRtypes or may support some entirely different data structuring mechanism.

5. If there is an IETF process through which a TLD can be assigned at zero cost other than time, this process will be used as an alternative to the more costly process of getting the name registered through ICANN.

6. A name might be assigned for a particular purpose when a more general use of the name would be more beneficial.

7. If the IETF assigns a name that some third party or parties believe belongs to them in some way, the IETF could become embroiled in an expensive dispute with those parties.