draft-liman-tld-names

Lars-Johan Liman, Netnod IX
Joe Abley, ICANN

Rationale

- Syntax for domain names specified in DNS related RFCs.
- However, additional requirements on the top level domain (TLD) label in RFC 1123 (Host Requirements) in a section entitled "DISCUSSION", where the TLD label is asserted to be alphabetic only.
- This latter requirement is old, and prevents standards compliant use of the much anticipated Internationalized Domain names (IDN) in top level domains.

Proposed Action

- Relax the syntax specification for TLD labels to encompass the ASCII encoding of IDN labels that can be interpreted to correspond to "alphabetic".
- Harmonize with IANA's rules for IDNs in TLDs.
    - Developed in cooperation with the DNS technical community.
    - Already in use. We're not aware of bad effects.
- It will update RFC 1123.

What we *don't* propose

- A panacea solution to the entire problem of DNS label syntax.
  - This is intended as a *minimal* change, to harmonize with IANA's spec.
  - We expect the document to superseded by a richer solution for a wider problem, but this document is not at odds with that.

The Gory Details

tld-dns-label = traditional-tld-label / idn-label

traditional-tld-label = 1*63(ALPHA)

idn-label = Restricted-A-Label

ALPHA = %x41-5A / %x61-7A ;A-Z / a-z

The Gory Details

A Restricted-A-Label is a DNS-Label which satisfies all the following conditions:

1. the DNS-Label is a valid A-Label according to [RFC5890];

2. the derived property value of all code points, as defined by [RFC5890], is PVALID;

3. the general category of all code points, is one of { Ll, Lo, Lm, Mn }.

This new specification reflects current practice in registration of TLD names by the IANA, extended to accommodate IDNs.

Discussion

- Has been discussed in DNSOP WG.
  - The main comments have been voices to look at the bigger problem of syntax specification for all labels, but this document is needed to make current practice "legal", and it doesn't impinge future work to expand the DNS syntax.

Comments?