Update on Root Zone Management

Kim Davies
Manager, Root Zone Services
IDN ccTLDs
283 delegated

11 testing

20 “g”s

251 country codes

1 .arpa

242 ISO 3166-1 alpha-2

4 restricted

3 generic

13 sponsored

4 unrestricted

246 in 3166-1

5  non-Latin

243 in 3166-1

4 not deleg.

2 former countries

3 exceptional current “countries”

4 not deleg.
What we've done

- Delegated 4 IDN ccTLDs
- So far well exceeded our standard processing times
  - “3-6 months” for standard request once comprehensive satisfactory application is lodged
  - So far, staff processing typically complete within a few weeks of submission of all requested documents
- Without sacrificing quality
What we’ve learned

- Applicants don’t contact us prior to application about process
  - Within country a process may be conducted based on assumptions of the delegation process that may or may not be correct.
  - This is very different to ASCII ccTLD delegation/redelegation where there is lots of dialogue over the months/years prior.
- The model works best if it is collaborative and iterative.
- Many are surprised by the process (it is more detailed than the string selection process, requires Board approval, etc.)
The ICANN Requestors Manual has no indication that ICANN needs supporting documents evidencing community support for the proposed ccTLD manager, although such requirement was mentioned in the Final Implementation Plan.

It is likely that ICANN believes it is sufficient for the applicant to show that the Government supports the application and has nominated [the organisation] to be the ccTLD manager.

Therefore, evidence for community endorsement for [the organisation] to administer [the domain] is technical not required for our application to ICANN.
What we've learned (2)

- Lack of understanding of the process
  - Standard root zone management process applies
    - implementation involved NTIA and VeriSign
The “fast” track

- The root zone management partners (ICANN, NTIA and VeriSign) worked faster than normal, after applicants expressed a desire for quick delegations.

- At least one applicant was “surprised” by the swiftness.
Avoiding weekends

- One applicant expressed unhappiness that delegation was performed “on a weekend”
- Executed approximately Wednesday 6am LA time
- Referred them to the ccNSO
  - We don’t control timing, but if ccTLDs have consensus approach on embargoing or delaying root zone changes, we’d relay that desire to appropriate parties.
What we're doing

‣ Processing many more delegation requests due to Fast Track

‣ Last week 46 active root zone change requests — a record!

‣ Continuing to pursue publication of more documentation

‣ Encourage prospective applicants to liaise with ICANN IANA staff prior to submission, to avoid incorrect assumptions

‣ Looking at staffing as we see more applications, and foresee new gTLDs coming along
New WHOIS Server
IANA Whois Service
Domain: xn--zckzah
ID: xn--zckzah

Sponsoring Organization:
  Name:
  Organization: Internet Assigned Numbers Authority
  Address1: 4676 Admiralty Way
  Address2: Suite 330
  Address3:
  City: Marina del Rey
  State/Province: California
  Country: United States
  Postal Code: 90292
  Phone:
  Fax:
  Email:
  Registration Date: 01-January-1985
  Last Updated Date: 18-June-2007

Administrative Contact:
  Name:
  Organization: Internet Assigned Numbers Authority
  Address1: 4676 Admiralty Way
  Address2: Suite 330
  Address3:
  City: Marina del Rey
  State/Province: California
  Country: United States
  Postal Code: 90292
  Phone: +1 310 823-9358
  Fax: +1 310 823-8649
  Email: iana@iana.org
  Registration Date: 01-January-1985
  Last Updated Date: 01-January-1985
% IANA WHOIS server
% for more information on IANA, visit http://www.iana.org
% This query returned 1 object

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<td>domain</td>
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**IDN support**

**RPSL-style notation**
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nserver: A.IANA-SERVERS.NET 192.0.34.43
nserver: B.IANA-SERVERS.NET 193.0.0.236
nserver: C.IANA-SERVERS.NET 139.91.1.10 2001:648:2c30:0:0:0:1:10
ds-rdata: 46069 5 2 DA79DAC649FA22E4E67AA9BE3C0BEECE07216640277406E4

remarks: Registration information:
remarks: http://www.iana.org/domains/idn-test/

created: 2007-10-19
changed: 2009-10-12
source: IANA
Accepts any domain
... and Number Resources

- IPv4 allocations
- IPv6 allocations
- AS numbers
- specific numbers and range support
- converts 6to4, TEREDO, GLOP etc. addresses
- referrals to RIR WHOIS servers
- references to RFCs for special allocations
Signing the Root
Where we are at

- Now accepting DS records
- Key Signing Key generated at a “Key Ceremony”.
- Root Zone signed, published as “deliberately unvalidatable” prior to full launch.
Key Ceremony
“A ceremony lasts several hours (7-ish in our case) and combines the scripted predictability of a Broadway show, the detail-oriented pedantry of a pilot's checklist, and the excitement of watching paint dry (brand spankin' new facility even smelled like paint). It's choreographed to the nines, with signoff and timestamp on pretty much every single step.”
NOTICE
ALL EMPLOYEES AND VISITORS MUST WEAR IDENTIFICATION BADGES

NOTICE
UNAUTHORIZED PERSONS NOT PERMITTED BEYOND THIS POINT

NOTICE
NO FOOD OR DRINK BEYOND THIS POINT

NOTICE
TURN OFF CELLULAR PHONES, PAGERS AND OTHER WIRELESS DEVICES

NOTICE
NO FIREARMS OR WEAPONS ALLOWED ON THIS PROPERTY.
rtt min/avg/max/mdev = 0.256/0.434/0.965/0.306 ms
[root@localhost HSMFD]# kskgen
Starting: kskgen (at Wed Jun 16 21:19:06 2010 UTC)
Use HSM /opt/dnssec/aep.hsmconfig?
Activate HSM prior to accepting in the affirmative!! (y/N): y

HSM /opt/dnssec/aep.hsmconfig activated.
[debug] setenv KEYPER_LIBRARY_PATH=/opt/dnssec
[debug] setenv PKCS11_LIBRARY_PATH=/opt/Keyper/PKCS11Provider/pkcs11.GCC4.0.2.so.4.07
Found 1 slots on HSM /opt/Keyper/PKCS11Provider/pkcs11.GCC4.0.2.so.4.07
HSM slot 0 included
Loaded /opt/Keyper/PKCS11Provider/pkcs11.GCC4.0.2.so.4.07 Slot=0
HSM Information:
- Label: ICANNKS
- ManufacturerID: AEP Networks
- Model: Keyper Pro 0405
- Serial: K6002013

Generating 2048 bit RSA keypair...
What now

- TLDs using DNSSEC can submit their DS records at any time
  - Expanded template on www.iana.org
  - Process the same as other root zone changes
- Removal of the “DURZ” estimated for 15 July
http://www.iana.org/procedures/root-dnssec-records.html
Finally...