Introducing IANA Root Management
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Internet Assigned Numbers Authority
What is IANA?

- the “Internet Assigned Numbers Authority”
- Quite likely the oldest Internet institution
  - first documented in 1972
- Responsible for global coordination of the Internet’s unique names and numbers
- Since 1998, a service provided by ICANN
  - Previously operated in academia under US Government research contracts.
  - Internally within ICANN, a department
IANA’s key roles

- Coordinating Internet identifiers that need to be globally unique

- Domain Names
- Number Resources
  - IPv4 Addresses
  - IPv6 Addresses
  - AS Numbers
- Protocol Assignments
  - Hundreds of other protocol systems that are non-hierarchical
  - In liaison with IETF, IAB etc.
IANA’s key roles

- Domain name administration is a small, but important and highly visible, component.

- **.INT**
  Intergovernmental Treaty Organisations

- **.ARPA**
  Key internal technical systems

- **DNS root zone**
DNS structure

- Delegations are made down a “tree”.
- root → .br → .gov.br → mre.gov.br
DNS structure

- “top-level domains” can be divided into:
  - country-codes: local policy, local law, subsidiarity
  - global: worldwide use, ICANN policy
DNS structure

- IANA operates the root
  - delegates operators of TLDs (incl. ccTLDs)
How we manage the root zone

- Maintain data for the DNS root
  - Technical data (NS records, “glue”)
  - Social data (admin and tech contacts, sponsoring organisations, WHOIS, Registration URLs)

- Two types of changes
  - Routine (easy)
    - Confirm authenticity, check for technical problems, implement
  - Redelegations (hard)
    - Perform evaluation, submit to ICANN board, implement as appropriate.
Documents that guide us

- Domain Name Structure and Delegation (1994)

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  - http://www.icann.org/icp/icp1.htm

- The Governmental Advisory Committee Principles for Delegation and Administration of ccTLDs
  - http://www.icann.org/committees/gac/gac-cctldprinciples-23feb00.htm
What we *don’t* do

- Don’t set policy
  - We follow precedent where possible, encourage review of our operations by the community.

- Don’t decide what the two letter codes should be
  - ISO 3166-1 standard provides these

- Don’t decide who runs a ccTLD
  - The local Internet community decides this.
  - IANA performs due diligence to ensure requests accord with LIC view
What should you do?
Keep your data accurate

- IANA keeps official records on who runs each TLD
- If it is out of date, we don’t know who is responsible any more
  - Causes problems if changes need to be made later
  - Also causes problems if someone needs to contact you for operational reasons
- Check your IANA records and update if necessary!
Checking your data

- Visit http://whois.iana.org
- Type in your TLD
- Review the data listed
Making changes to your data

- Download change template
  - [http://www.iana.org/cctld/cctld-template.txt](http://www.iana.org/cctld/cctld-template.txt)

- Fill in your updated details
  - For sections that don’t require a change, just write “No change”

- Make sure the admin and tech contact are aware of the change you are going to submit
  - They must approve of changes

- Email it to root-mgmt@iana.org
IANA’s processing steps

1. For all changes:
   - Check the template is filled out correctly
   - Check the current contacts agree to the change
2. For sponsoring organisation (SO) changes:
   - Perform a redelegation evaluation
3. For contact (AC and/or TC) changes:
   - Check the new contacts also agree
4. For name server (NS) changes:
   - Ensure name servers work and meet technical tests
5. For all changes:
   - Seek authorisation from US Government
   - Implement in the DNS root with VeriSign
   - Update our database
Summary

- ccTLDs are operated in the public interest, within countries, involving local Internet community and local government.

- IANA manages the root zone, and therefore the delegations that allow TLDs to do their work.

- IANA’s procedures to verify changes are thorough, to ensure the stability of the DNS root.

- It is important that ccTLD operator details are kept up to date with IANA to ensure Internet stability. If in doubt, talk to us.
Thank you for your attention!

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