

Introducing IANA Root Management

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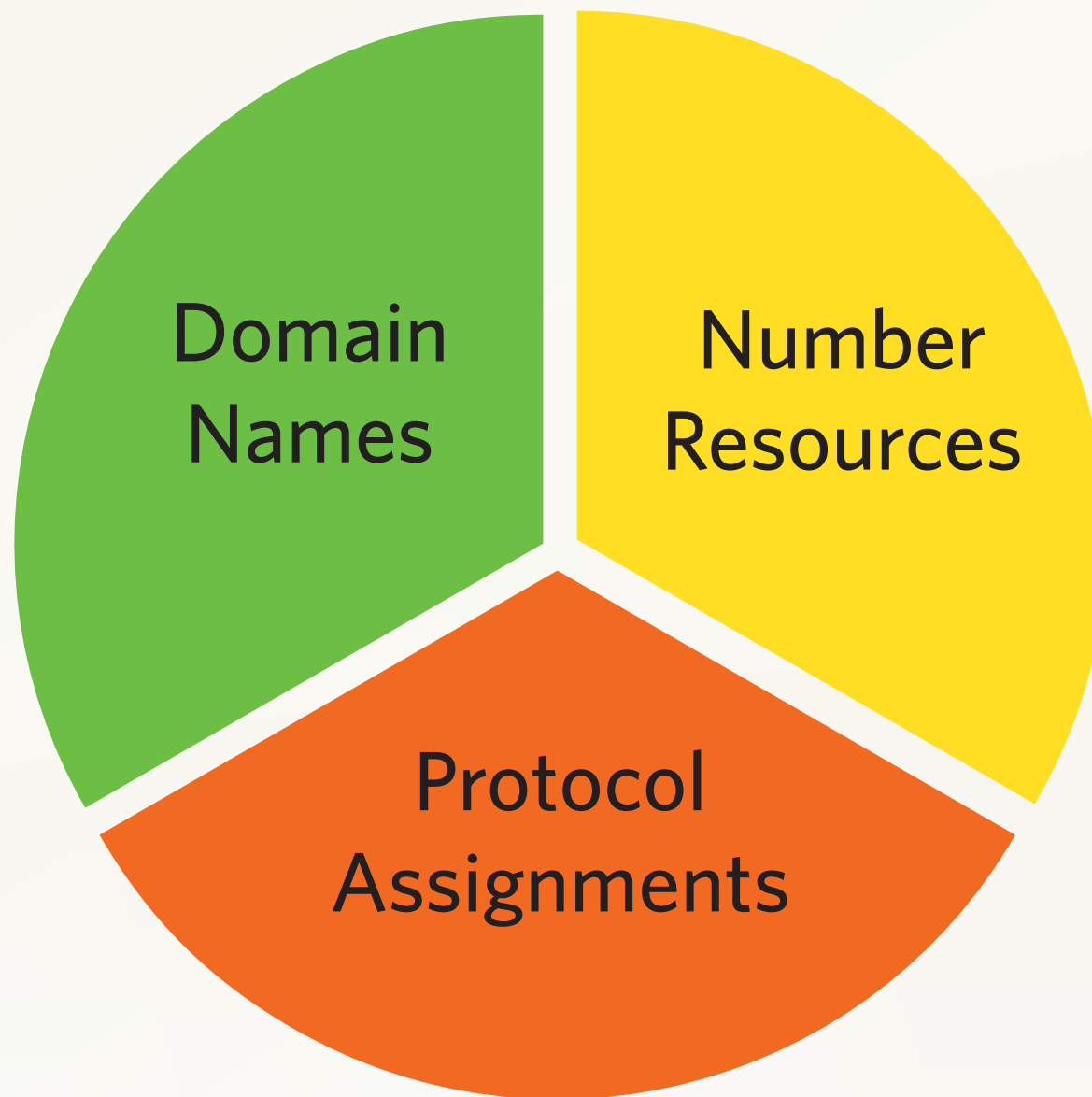
Manager, Root Zone Services

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

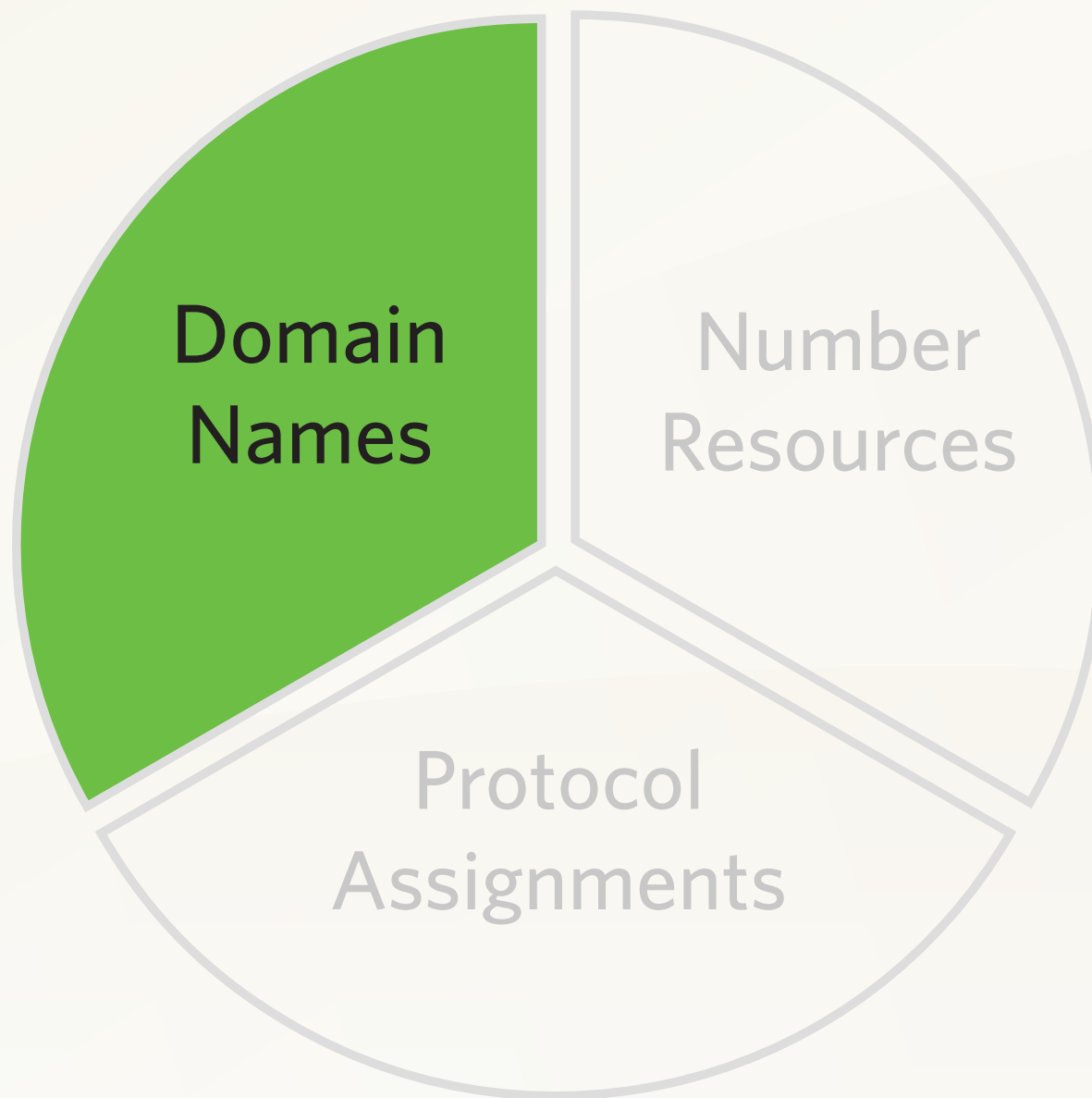


- IPv4 Addresses
- IPv6 Addresses
- AS Numbers

- Hundreds of other protocol systems that are non-hierarchical
- In liaison with IETF, IAB etc.

IANA's key roles

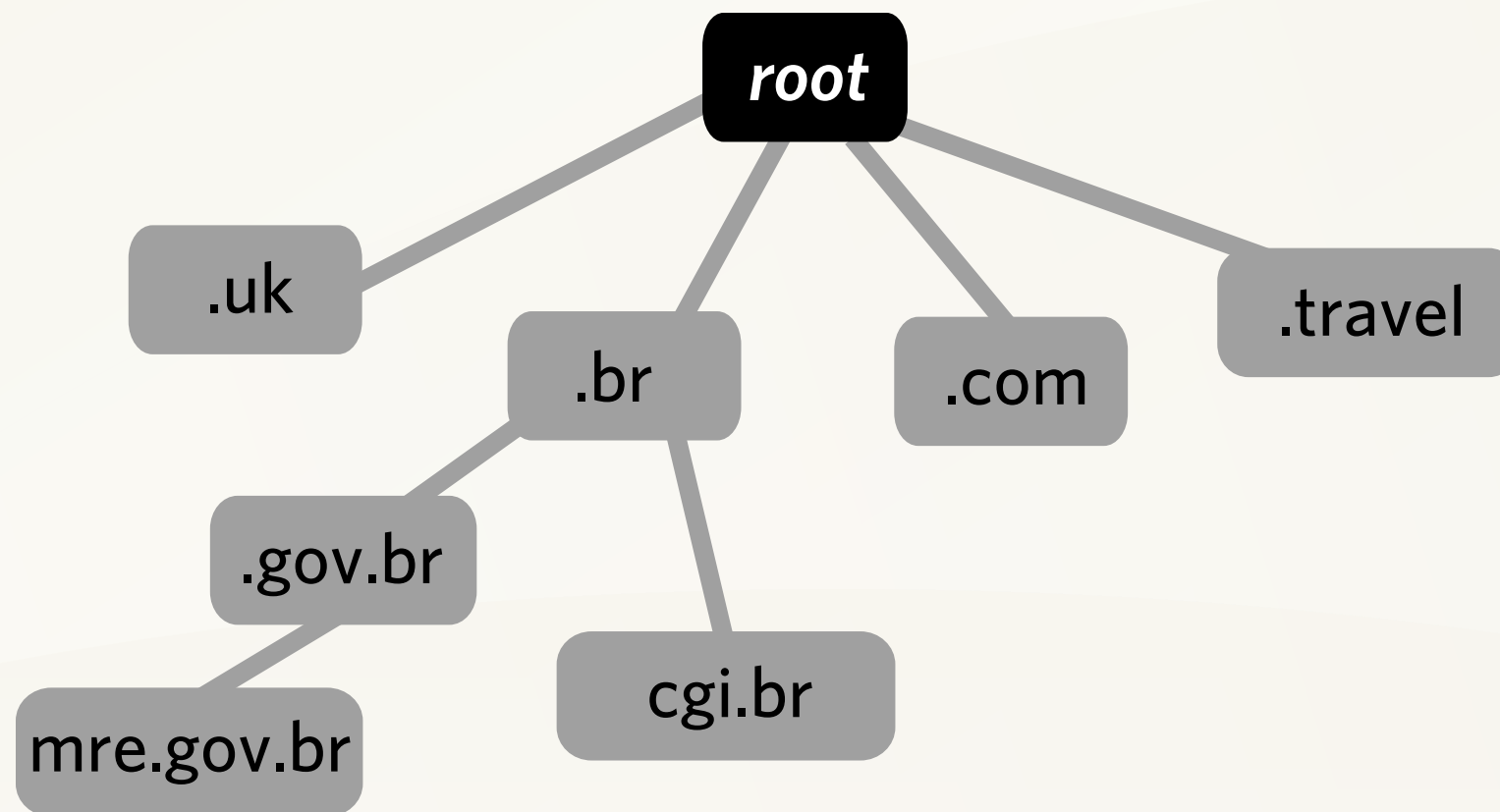
- ▶ Coordinating Internet identifiers that need to be globally unique



- **.INT**
*Intergovernmental
Treaty Organisations*
- **.ARPA**
*Key internal
technical systems*
- **DNS root zone**

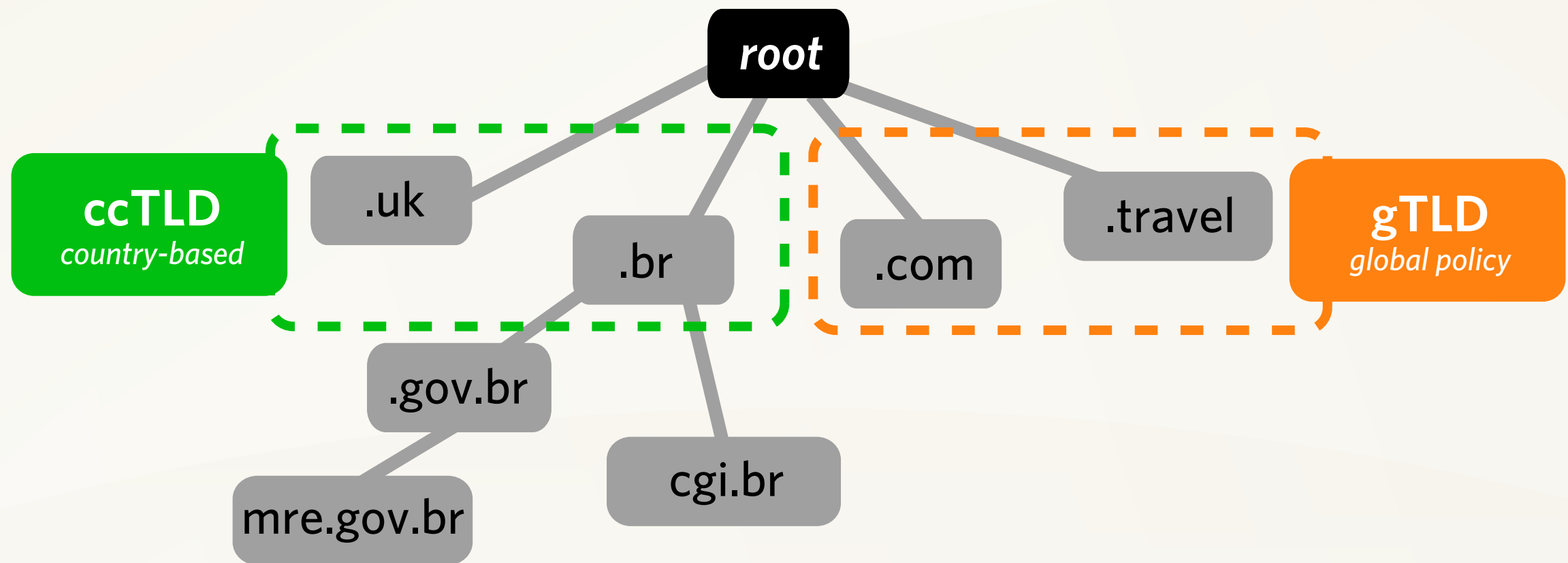
IANA's key roles

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



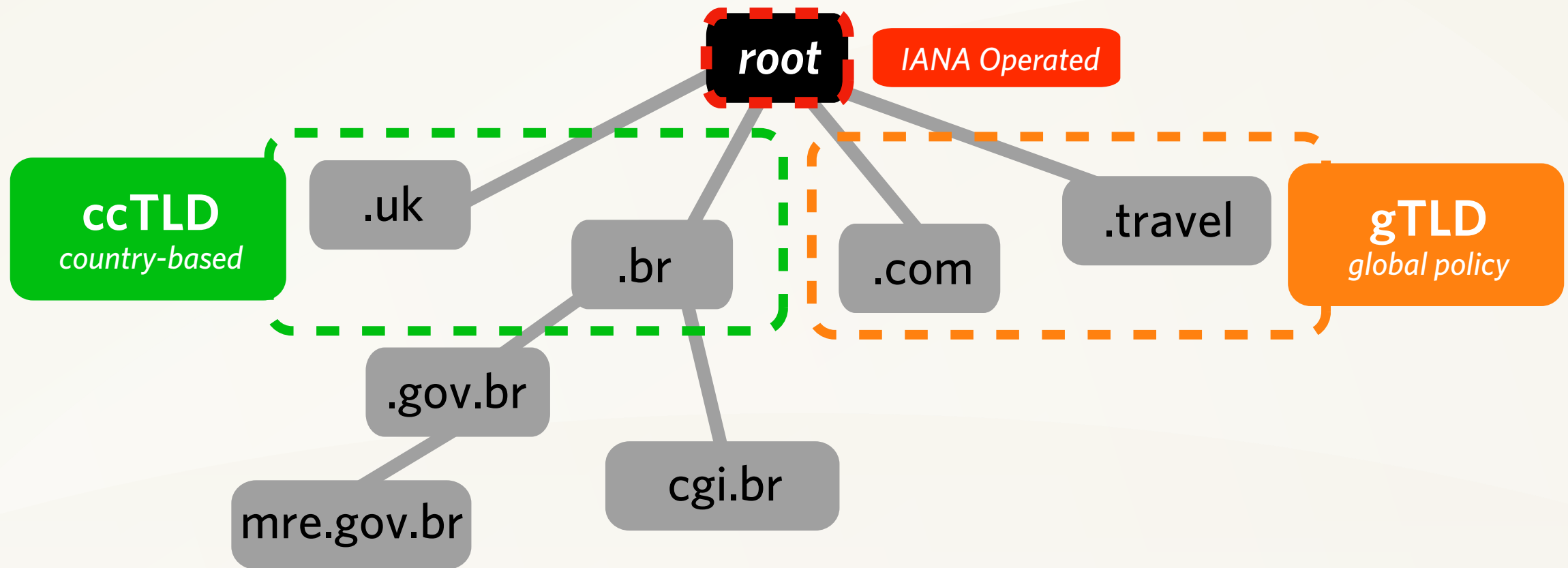
DNS structure

- ▶ Delegations are made down a “tree”.
- ▶ $root \rightarrow .br \rightarrow .gov.br \rightarrow mre.gov.br$



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)
 - ▶ <http://www.rfc-editor.org/rfc/rfc1591.txt>
- ▶ Domain Name Structure and Delegation (1999)
 - ▶ <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>
- ▶ 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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