ccTLD Best Practices & Considerations
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ccTLD as a public trust

‣ ccTLDs are designated to operators who will operate them in the best interests of the local communities they serve.

‣ Operators should strive to tailor operations to best serve the users:

    ‣ Ensure minimum technical standards are met

    ‣ Strive for best practice

    ‣ Operate with policy that suits local requirements

Things we'll consider

‣ How a ccTLD operator can be structured

‣ Best Current Practices

‣ Interacting with ICANN

ccTLD Structures

Some options

- Government?
- Not for profit?
- Outsource?

- Most common:
  - Not for profit private organisation
  - Appropriate membership from the community
  - Chartered for limited scope
  - Some kind of liaison with the government
  - Often light regulatory oversight

Sales model

▸ Direct registration

  ▸ No middle man – easier to control most aspects of registration

▸ Registry-registrar model

  ▸ Requires an interface between registry and registrar

  ▸ Offloads end-user interface from registry

▸ Both

Scope

▸ Local or Global sales?

▸ Decide what best serves local community

▸ For global, consider legal aspects

Best Practices

Preface

▸ These are some highlighted points from a few key documents on best practice

▸ It is not exhaustive

▸ There is a wealth of information on ccTLD Operations out there

  ▸ Check meeting proceedings; regional organisation websites

RFC 2870 – Root Server Name Operational Requirements

‣ Document designed for Root Servers

‣ Still some valuable advice for TLD operators

    ‣ root servers and TLD servers aren't that different!

Server Considerations

▸ Must run servers that supports technical standards

▸ Must handle load 3x the measured peak

▸ Diverse bandwidth to support above

▸ Must answer authoritatively, and NOT be recursive

▸ Can't block access from a valid Internet host

▸ Shouldn't support AXFR (zone transfer)

Security Considerations

- Physical security
    - Limited to a specific set of individuals
- Power continuity for 48 hours
- Fire detection and retardation
- Backups
- Don't provide other services on the servers (mail, ftp, web etc.)
- Keep on a separate network segment from public hosts
- Log attempts at intrusion
- Set your reverse DNS

Communications

▸ Coordinate downtime between nameserver operators

▸ Coordinate backups between servers; keep backups off site

▸ Exchange logs and statistics between nameserver operators

▸ Nameserver operator personnel should be on call 24x7

‣ Don't place all on the same LAN/building/segment

‣ Host offline doesn't mean DNS doesn't matter!

‣ How many? 4 or 5 is probably good rule for TLDs, varies depending on circumstances

ccTLD Best Current Practice Draft

▸ A document in progress for a number of years

▸ Tries to describe some of the common practices of ccTLDs

Human Resources

▸ Administrative Point of Contact

  ▸ Responsible for making clear rules for domain policy and operation.
  ▸ Should represent the local Internet community and ensure ccTLD run for benefit of country and its citizens.

▸ Technical Point of Contact

  ▸ Maintains the zone and makes sure systems run

▸ Programmers and Technical Staff

  ▸ DNS experts, UNIX administrators should be in the team

▸ Finance and Billing

  ▸ If you are charge fees...

▸ Lawyers

  ▸ A reality if you trade globally

Structuring the TLD

- Flat or hierarchical?
  - Flat – simpler, equal access
  - Hierarchical – more domains, less disputes
  - Difficult to change later
- Two (.co.xy) or Three (.com.xy) TLDs?
  - Matter of preference, really
- Distributed distribution?
  - Delegating sub domains to other parties
  - More complicated administration for small registries

Technical Requirements for Registry

‣ Secondary Servers

‣ Networks (redundant)

‣ Physical and Electronic Security

‣ Quality of Service (24/ 7 availability!)

‣ DNS software (BIND, NSD, etc.)

‣ Registry software

‣ Diagnostic tools (ping, traceroute, zonecheck, dig)

‣ Registry Registrar Protocol

Other considerations

- Dispute Resolution

  - Local law prevails

  - Alternate Dispute Resolution (ADR) designed to be more lightweight

    - UDRP is often used as a model

    - http://www.icann.org/udrp/udrp.htm

Other considerations

- Regional organisations

  - APTLD (www.aptld.org) – Your local group

  - CENTR (www.centr.org)

  - LACTLD (www.lactld.org)

  - AfTLD (www.aftld.org)

- Country Code Network Operators Group

  - www.ccnog.org

Interacting with ICANN

ICANN

Interesting ICANN parts for ccTLDs:

▸ ccNSO

▸ Accountability Frameworks

▸ ICANN Meetings

▸ Liaisons

ccNSO

- Country Code Name Supporting Organisation

- The mechanism for ccTLDs to participate in ICANN's policy processes

    - Reviews on documents that govern ccTLDs will occur here

- Any ccTLD can join. No cost involved.

- http://ccnso.icann.org/

Accountability Frameworks

- Simple lightweight agreement on the services each will provide
    - Reflects the key elements of mutual concern identified by the ccNSO
    - Mutual recognition and commitments by both parties
    - Covers dispute resolution and termination
    - Termination clause
- Does not affect rights, or the service ICANN will provide
- Can be tailored to local requirements or circumstances

Why sign?

‣ Formalises relationship between ICANN and ccNSO

‣ Provides clarity on what to expect

‣ Shows commitment to a community-based coordination of the global interoperable Internet

If you are interested...

▸ ICANN staff responsible for these can speak to you about what it involves and what your needs are.

▸ I can link you with the appropriate people.

ICANN Meetings

‣ The main policy forums for DNS governance

‣ Held 3 times a year, rotating between 5 regions

‣ Free to come to and participate in

‣ Often has side meetings (i.e. regional meetings)

‣ Next meetings: Marrakesh, Morocco (next week), Sao Paulo, Brazil.

‣ Next AP meeting next year

Liaisons

‣ IANA Liaison

  ‣ Kim Davies <kim.davies@icann.org>

‣ Regional Liaisons

  ‣ forthcoming

‣ Update us with what you're doing. Keep your IANA details up to date!

More information

Sources for information

- RFC 1591 – ccTLD governance
  - http://www.rfc-editor.org/rfc/rfc1591.txt
- RFC 2870 – Root Server BCP
  - http://www.rfc-editor.org/rfc/rfc2870.txt
- Accountability Frameworks
  - http://ccnso.icann.org/announcements/announcement-06jan06.html
- ccTLD Best Current Practice Draft
  - http://ws.edu.isoc.org/workshops/2006/PacNOG2/track1/day3/draft-wenzel-cctld-bcp-02.txt
  - Currently a draft under development, comments welcome to the authors.

Thankyou for your attention!

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