U.S. Government announcement on the future of IANA

Background paper

March 2014

Introduction: The announcement of the United States Government of its intent to transition key Internet domain function has created a lot of commotion in the Internet Governance ecosystem. It is probably one of the most important events that will determine the current and future Internet Governance debates.
This paper wants to take a step back to give the reader some basic insight to better understand the ongoing discussion and why this discussion is relevant for ccTLD registries.

1. What is IANA – The IANA functions?

IANA stands for '*Internet Assigned Number Authority*'. The IANA functions consist of a set of coordinating tasks critical to the functioning of the Internet and the Domain Name System (DNS).
The IANA functions can be grouped into three categories[1]:

Domain Names
IANA manages the DNS Root, the .int and .arpa domains, and an IDN practices resource.

Number Resources
IANA coordinates the global pool of IP and AS numbers, providing them to Regional Internet Registries.

Protocol Assignments
Internet protocols' numbering systems are managed by IANA in conjunction with standards bodies (IETF, IAB).

The IANA role dates back to 1970s. Since 1998 the IANA functions are operated by ICANN on behalf of the United States Government through a contract with the NTIA, the U.S. National Telecommunications and Information Administration. [2]
The acronym IANA is used to refer both to the IANA functions, or to the department within ICANN that runs the IANA functions.

2. Why is IANA important for ccTLDs?

IANA does not decide who operates a domain registry. This responsibility lays with the 'Local Internet community' in case of a ccTLD or by the ICANN Board in case of a gTLD.

IANA is responsible for the management of the DNS root zone. This role means assigning the operators of top-level domains, such as .uk and .com, and maintaining their technical (e.g. name server records) and administrative details (e.g. administrative and technical contacts).

The name server data of the different TLD registries is one of the key pieces of information IANA has to keep up to date in the Root zone. The name servers of a TLD contain the information on the domains registered under

[1] http://www.iana.org/about
[2] http://www.ntia.doc.gov/page/iana-functions-purchase-order

that TLD and this information is necessary to find back the place on the Internet where for example the content of a webpage is stored.

When a ccTLD registry changes its name servers, IANA will receive a request to update the information in the Root zone, it will examine the authenticity of the request, perform technical checks and implement the changes.[3] A name server change is usually a planned action for example as part of a registry's maintenance or upgrade programme but might also occur as an urgent action if a name server becomes dysfunctional.

At this moment such requests pass via the US Department of Commerce before they are executed.

Two other IANA functions are relevant for ccTLD registries.
IANA maintains a collection of "IDN tables" which list all the characters a particular TLD registry supports for Internationalised Domain Name Registrations. For example the '.eu Greek IDN table'[4] contains all the Greek character that can be used in a .eu domain name.

IANA is also the operator of the Key Signing Key for the DNS Root Zone. This responsibility includes, amongst other: 'issuing, managing, changing and distributing DNS keys'[5]. DNS keys are important for ccTLD registries that provide DNSSEC to their domain holders. DNSSEC helps to secure the Internet by complicating the manipulation of the information that passes through the DNS.
IANA performs this task in accordance with the specific requirements of the U.S.

3. US Government oversight going to change?

The Internet Corporation for Assigned Names and Numbers (ICANN) currently performs the IANA functions, on behalf of the United States Government, through a contract with NTIA.[6] The current contract[7] expires on 30 September 2015.

On 14 March 2014[8] the US Government announced 'its intent to transition key Internet domain name functions to the global multistakeholder community. As the first step, NTIA is asking ICANN to convene global stakeholders to develop a proposal to transition the current role played by NTIA in the coordination of the Internet's domain name system (DNS). This includes the IANA functions contract NTIA currently has with ICANN and NTIA's responsibility and oversight regarding the changes to the authoritative root zone file.

Link: US gov statement "NTIA Announces Intent to Transition Key Internet Domain Name Functions"

4. CENTR statement

In response to the statement of the US Government CENTR, the European ccTLD organisation emphasized in a statement that regardless of the changes the IANA functions have to be performed at the highest standard and managed through an open, transparent and consistent multistakeholder model.

"The CENTR community acknowledges the statement by the United States Government in relation to the transition of the IANA stewardship.

[3] http://www.cctld.ru/files/pdf/Presentations_08-09/12-20_kjd-sofia-cctldiana-080908.pdf
[4] http://www.iana.org/domains/idn-tables/tables/eu_grek_1.0.html
[5] DNSSEC Practice Statement for the Root Zone KSK Operator https://www.iana.org/dnssec/icann-dps.txt
[6] http://www.ntia.doc.gov/page/iana-functions-purchase-order
[7] IANA contract http://www.ntia.doc.gov/files/ntia/publications/sf_26_pg_1-2-final_award_and_sacs.pdf
[8] NTIA Announces Intent to Transition Key Internet Domain Name Functions
http://www.ntia.doc.gov/press-release/2014/ntia-announces-intent-transition-key-internet-domain-name-functions

The CENTR ccTLD community believes that IANA should be managed through an open, transparent and consistent multistakeholder model in which ccTLDs should continue to be actively involved.
In the long standing tradition of valuable and constructive cooperation with IANA, the ccTLDs will closely monitor IANA's responsiveness, stability and reliability in delivering its technical and administrative service at the highest standard.
It is crucial that IANA remains accountable to the community it serves."[9]

CENTR, as one of the four ccTLD Regional Organisations, is committed to the dialogue within the I* group of organisations responsible for coordination of the different parts of the Internet technical infrastructure to finalize a proposal to progress the transition.

To contribute to this process a CENTR ad hoc working group of ccTLD registries started drafting a position paper on the future of IANA.

Link: CENTR news release

5. The I* (I-stars) and the Technical Internet Community's reaction

A handful of different organisations play a role in the coordination of the Internet Technical infrastructure on a global level (IETF, IAB, RIRs, ccTLD represented through their ROs, ICANN, ISOC, and W3C). The leadership of these organisations, sometimes referred to as the I* or I-stars, released a statement in which they welcome the US Government's announcement of the suggested changes related to the IANA functions contract.
The signees of the statement make the commitment to fully engage in the transition and to be strong enough to assume the stewardship over the IANA functions with ICANN in the role of administrator and the Technical community as participants in the open multi-stakeholder policy making processes.

Link: Statement from the Internet Technical Leaders on the IANA Globalization Process

[9] https://centr.org/news/i/03-14-2014/3359/us-government-announcement-iana-globalization-statement-centr-general-assembl

6. Acronyms

ccTLD – country code Top Level Domain
gTLD – generic Top Level Domain

IAB - Internet Architecture Board - www.iab.org
IANA - Internet Assigned Numbers Authority - www.iana.org
ICANN - Internet Corporation for Assigned Names and Numbers - www.icann.org
IETF - Internet Engineering Task Force - www.ietf.org
ISOC - Internet Society - www.internetsociety.org
NTIA - U.S. National Telecommunications and Information Administration - www.ntia.doc.gov
W3C - World Wide Web Consortium - www.w3.org

ccTLD ROs (Regional Organisations)
AfTLD (Africa) - www.aftld.org
APTLD (Asia and the Pacific) – www.aptld.org
CENTR (Europe) – www.centr.org
LACTLD (Latin America and the Caribbean) – www.lactld.org
RIRs (Regional Internet Registries)
Afrinic (Africa) – www.afrinic.net
ARIN (US, Canada and parts of the Caribbean) – www.apnic.net
APNIC (Asia, Australia, New Zealand and surroundings) – www.arin.net
LACNIC (Latin American and parts of the Caribbean) – www.lacnic.net
RIPE NCC (Europe, Russia, the Middle East, Central Asia) – www.ripe.net

About CENTR

CENTR is the European association of Internet domain name registries. CENTR has over 50 members which account for a large share of the country code domain name registrations worldwide. Each CENTR Full Member operates a country code top level domain such as .uk, .es or .be. In this capacity they play a pivotal role in the stability of the Domain Name System and the Internet.
More about CENTR: www.centr.org