IANA Stewardship Transition Cross Community Working Group (CWG) on Naming Related Functions

Background

The U.S. Government's Announcement

14 March 2014: U.S. Government announces intent to transition its stewardship of the IANA functions to the global multistakeholder community.

- Asked ICANN to convene global stakeholders to develop a proposal
- Multistakeholder Community has set policies implemented by ICANN for more than 15 years

The U.S. Government's decision:

- Marks the final phase of the privatization of the DNS
- Further supports and enhances the multistakeholder model of internet policy making and governance

ICANN was asked to serve as a facilitator, based on its role as the IANA functions administrator and global coordinator for the Internet's Domain Name System (DNS).

Transition Requirements set by NTIA

The NTIA has communicated that the transition proposal must have broad community support and address the following four principles:

Support and enhance the multistakeholder model

Maintain security, stability and resiliency of the Internet DNS

Meet the needs and expectations of the global customers and partners of the IANA services

Maintain the openness of the Internet

The NTIA also specified that it will **not** accept a proposal that replaces the NTIA role with a government-led or intergovernmental organization solution.

THE IANA FUNCTIONS

For more information, visit www.icann.org and follow @ICANN on Twitter.

The Internet depends on **unique identifiers**. When you want to visit a website, you type or paste the site's **domain name** into your browser, or click on an HTML link. That domain name is a **"unique identifier."**

That **domain name** is sent to a server which translates the name into a number – the Internet Protocol or **IP Address** – which the server uses to direct your request to the website's network location. This address is also a "**unique identifier**."

These "**unique identifiers**" are aligned with a standard set of **protocol parameters** that ensure computers can talk to and understand each other.

The **Internet Assigned Numbers Authority (IANA) functions**, which are managed by ICANN, play a role in ensuring you get to where you want to go by coordinating unique identifiers. The three core IANA functions are described below.

The History

The IANA functions were developed during the administration of the ARPANET, a U.S.-government- funded Department of Defense network.

Originally, just one person - Jon Postel - performed the functions. Since then, the Internet has grown tremendously and the IANA functions are now managed by ICANN.

Stewardship in Transition

To support and enhance the multistakeholder model of Internet policymaking and governance, NTIA announced its intent to transition the stewardship of the IANA functions to the global multistakeholder community. To learn more about this transition, visit: https://www.icann.org/stewardship.

Acronyms

ICANN: Internet Corporation for Assigned Names and Numbers
IETF: Internet Engineering Task Force
NTIA: National Telecommunications and Information Administration
DNS: Domain Name System
DNSSEC: Domain Name System Security Extensions
AS number: Autonomous System Number
TLD: Top-Level Domain

NUMBER RESOURCES

Number resources refers to the global coordination of the Internet Protocol addressing systems, commonly known as IP Addresses. There are two types in active use:

IPv4 **192.0.2.53**

IPv6 **2001:db8:582::ae33**

Autonomous System (AS) numbers are another part of this function. AS numbers are used to identify the networks that manage their own routing by connecting to multiple networks managed by other organizations.

The allocation of IP addresses and AS numbers to Regional Internet Registries (RIRs) is made according to global policies. The five RIRs, each of which services a defined region, use open, multi-stakeholder processes to reach consensus on the policies that ICANN has to implement when allocating number resources to the RIRs.

PROTOCOL PARAMETERS

The Protocol Parameters management function involves maintaining registries for many of the codes and numbers used in Internet protocols. This is done in coordination with the IETF.

These protocol parameters define how things like pictures, audio, or video are attached to e-mails, or embedded in web pages. For example, the protocol parameter for MP4 audio looks like this:

```
(RFC 4337 published March 2006, RFC 6381
published August 2011, subtype last updated
August 2011)

MIME media type name: audio

MIME subtype name: mp4

Required parameters: none

Optional parameters: none
```

These protocol parameters aren't just limited to audio or video. Almost every activity carried out in making the Internet work has protocol parameters involved.

DOMAIN NAMES

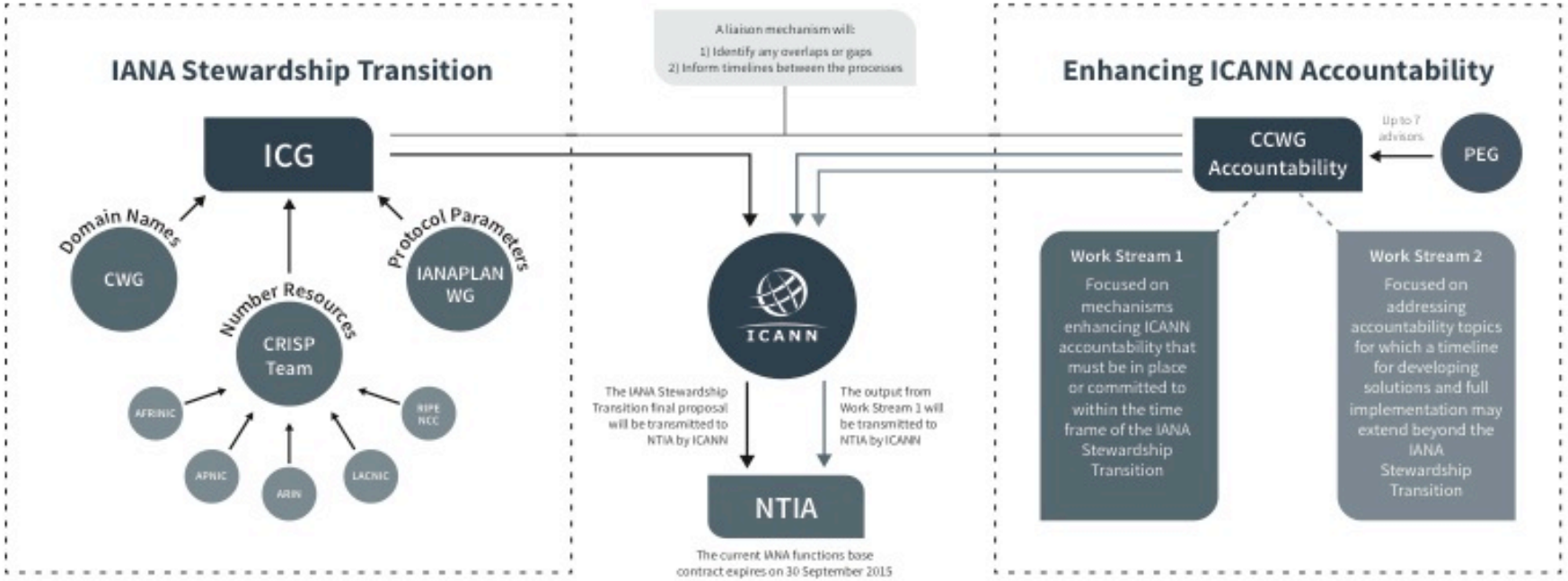
Maintaining the Root Zone Database is a key IANA function. It contains the authoritative record of all the Top Level Domains (TLDs - the ".org" prt of "icann.org"). Part of that function is processing routine updates for TLD operators (such as changes to nameservers, DNSSEC DNS records, or contact information for the operators), as well as adding new TLDs into the root of the DNS.

Root DNS Key Signing Key (KSK) management is also part of that function. The KSK enables DNSSEC, which is important to the security of the Internet root zone file.

Root Zone Management Partners

ICANN currently performs the IANA functions on behalf of the global Internet community under contract with the United States' Department of Commerce (DoC). NTIA, an agency of the DoC, verifies that ICANN followed established policies and procedures in processing changes before authorizing Verisign, the Root Zone Maintainer, to make edits and publish the authoritative root zone file.

High Level Overview of the IANA Stewardship Transition and Enhancing ICANN Accountability Processes



Assessing accountability within the two processes

IANA Stewardship Transition Final Proposal

Assessment of each operational community's respective oversight and accountability to the IANA functions

Enhancing ICANN Accountability Process

Assessment of ICANN's accountability in light of its changing historical relationship with the U.S. Government

ICG	IANA Stewardship Transition Coordination Group
CRISP	Consolidated RIR IANA Stewardship Proposal Team
CWG	Cross Community Working Group on Naming Related Functions
CCWG	Accountability Cross Community Working Group
PEG	Public Experts Group

For more information visit **www.icann.org**

Final Process Elements

1 Establishment of a Coordination Group (ICG)

- Will have representation from all stakeholders
- The community will self-select its members
- Will establish its own working methods and modes of operation
- Encouraged to adhere to diversity standards
- Supported by an independent, non-ICANN staff secretariat

2 ICANN serves as a convener and facilitator

- ICANN will remain neutral
- Provide engagement and outreach, travel and additional support services

Main Tasks of the ICG

Act as a **liaison** to all interested parties, including the three operational communities of the IANA functions

Assess the outputs of the three operational communities for **compatibility** and **interoperability**

Assemble a complete proposal for the transition

Information sharing and public communication

ICG RFP Required Proposal Elements

1 **Description of community's use of IANA functions**

2 **A description of the function**

- A description of the customer(s) of the function
- What registries are involved in providing the function?
- A description of any overlaps or interdependencies between that community's IANA requirements and the functions required by other customer communities

3 **Existing, Pre-Transition arrangements**

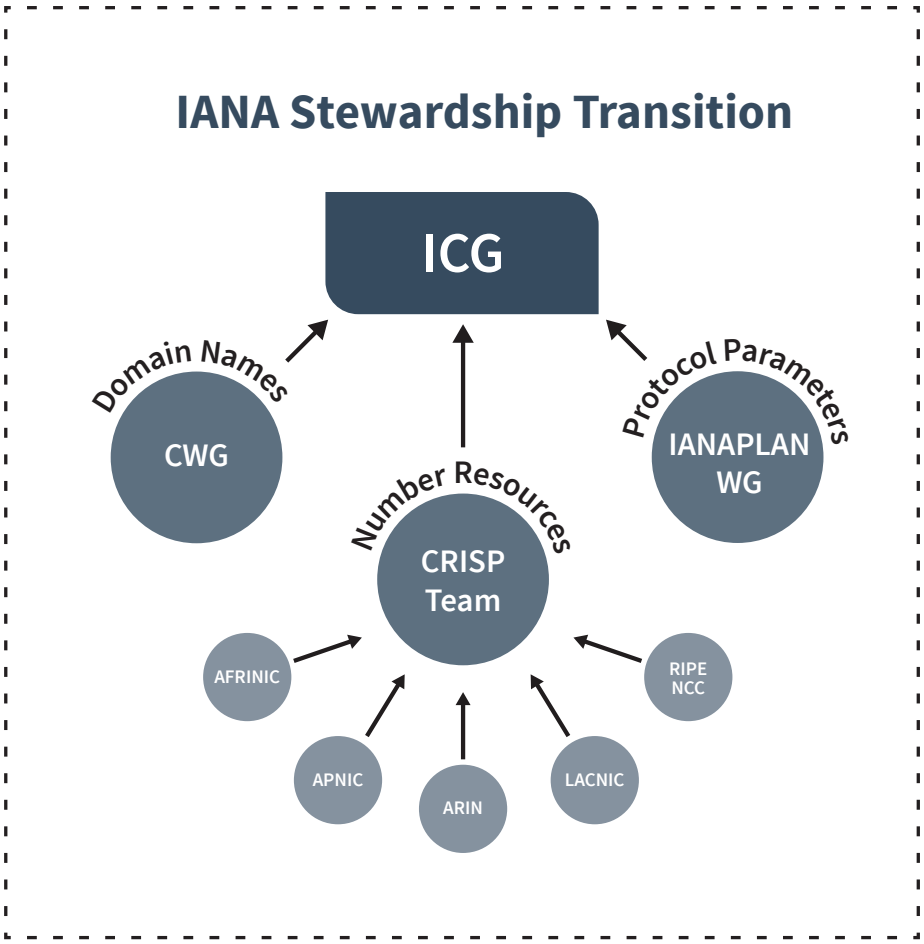
- Policy sources
- Oversight and accountability

4 **Proposed Post-Transition oversight and accountability arrangements**

Transition implications

5

Request for Transition Proposal Structure



Domain Names:

Cross Community Working Group to Develop an IANA Stewardship Transition Proposal on Naming Related Functions (**CWG-Stewardship**)

Number Resources:

Consolidated RIR IANA Stewardship Proposal Team (**CRISP Team**)

Protocol Parameters:

IANAPLAN Working Group (**IANAPLAN WG**)

Community Discussions

CWG-Stewardship:

community.icann.org/x/37fhAg

Engages over publicly archived mailing list: cwg-stewardship@icann.org

Designated sub-groups to develop proposal

Posted draft proposal for public comment from 1-22 Dec 2014

Held an intensive work weekend 10-11 January 2015 and had a significant focus on input received from public comments on the draft proposal

CRISP Team:

www.nro.net/crisp-team

Engages over publicly archived mailing list: ianaxfer@nro.net

Formed CRISP Team to integrate input from each RIR region into final submission

Published initial draft proposal for public comment 19 Dec 2014

After undergoing two public comments, the final proposal was **submitted to the ICG on 15 January 2015**

IANAPLAN WG:

www.ietf.org/iana-transition.html

Engages over publicly archived mailing list ianaplan@ietf.org

Draft proposal underwent IETF-wide "last call" to identify any latent issues

After some minor editorial changes, the document was formally approved by the Internet Engineering Steering Group (IESG) as of **6 January 2015 and submitted to the ICG**

Proposals requested to be delivered to the ICG on 15 January 2015

IANA Stewardship Transition Cross Community Working Group (CWG) on Naming Related Functions

CWG-IANA

There are currently 134 people in the IANA Stewardship Transition Cross Community Working Group:

19 Members

Chartering organization-appointed members

115 Participants

Actively contribute to mailing list conversations and meetings

Full CWG has been meeting weekly, in addition to many sub-group meetings

- Includes face-to-face meeting in Frankfurt, Germany on 19 & 20 November
- Will have two sessions at ICANN 52

Designated five sub-groups to organize work in line with the ICG RFP:

RFP 1	Description of Community's Use of IANA Function (Completed)
RFP 2	Existing, Pre-Transition Arrangements, Policy Sources (Completed)
RFP 3	Proposed Post-Transition Oversight & Accountability Arrangements (Ongoing)
RFP 4	Transition Implications (Ongoing)
RFP 5	Validation of NTIA Requirements (On hold)
RFP 6	Summary of community process (On hold)

Draft Transition Proposal – Main Components

Draft Transition Proposal published for public comment on 1 December

1

Contract Co.
Holds the right to contract the IANA Functions Operator

2

Multistakeholder Review Team (MRT)
Responsible for making all critical decisions

3

Customer Standing Committee
Responsible for IANA performance

4

Independent Appeals Panel
Binding appeals process for IANA actions or inactions

5

NTIA Authorization Function
No recommendations in draft transition proposal

Public Comments – Main Findings

48 Contributions

Including individuals, organizations (involved with ICANN or not) as well as companies and governments

- Very strong support for current IANA operator (ICANN) and that the IANA functions should not be moved from ICANN, or tendered for, at the onset of the transition
- Transition should not take place prior to the adoption of required accountability mechanisms (being developed by the CCWG-Accountability) being implemented by ICANN or at least guaranteed to be adopted in a timely manner
- There should be a Customer Standing Committee
- There should be an Independent Appeals Panel that can make binding decisions regarding IANA actions or inactions
- Proposal as a whole deemed too complex, did not provide enough details to properly evaluate it and time to comment too short

CWG Intensive Work Weekend - 10 Jan 2015

Considered the results of the public comment forum as well as responses to CWG survey which was used to assess support for comments / proposals received

1. Given the results of the public consultation and the surveys the CWG should develop alternative transition proposals which should include ICANN Internal type solutions.

2. Some of the key issues related to the Contract Co. option but both Contract Co and an ICANN internal solution can only be properly resolved by obtaining qualified independent legal advice.

3. Initial misalignment of the IANA CWG's and the Accountability CCWG's schedules created issues for both groups and has impacted the CWG's ability to complete the timely development of a transition proposal.

4. Because of the above issues, it became clear that it would not be possible for CWG to meet its original target date of delivering a proposal to the CWG Chartering Organizations in time for the delivery of a proposal to the ICG by 30 January 2015.

Activities to date

- CWG invited to discuss and develop ICANN Internal option(s) – establishment of RFP3B to further consider and develop ICANN Internal proposals
- Development of a list of legal questions related to both options to obtain independent legal advice on these
- A revised timeline for the delivery of a CWG transition has been developed, coordinated with the CCWG and communicated to the ICG
- Improve and further extend coordination of the work of the CWG and the work of the CCWG Accountability, in particular its work stream 1
- Publication of discussion document prior to ICANN Meeting in Singapore

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CWG Timeline

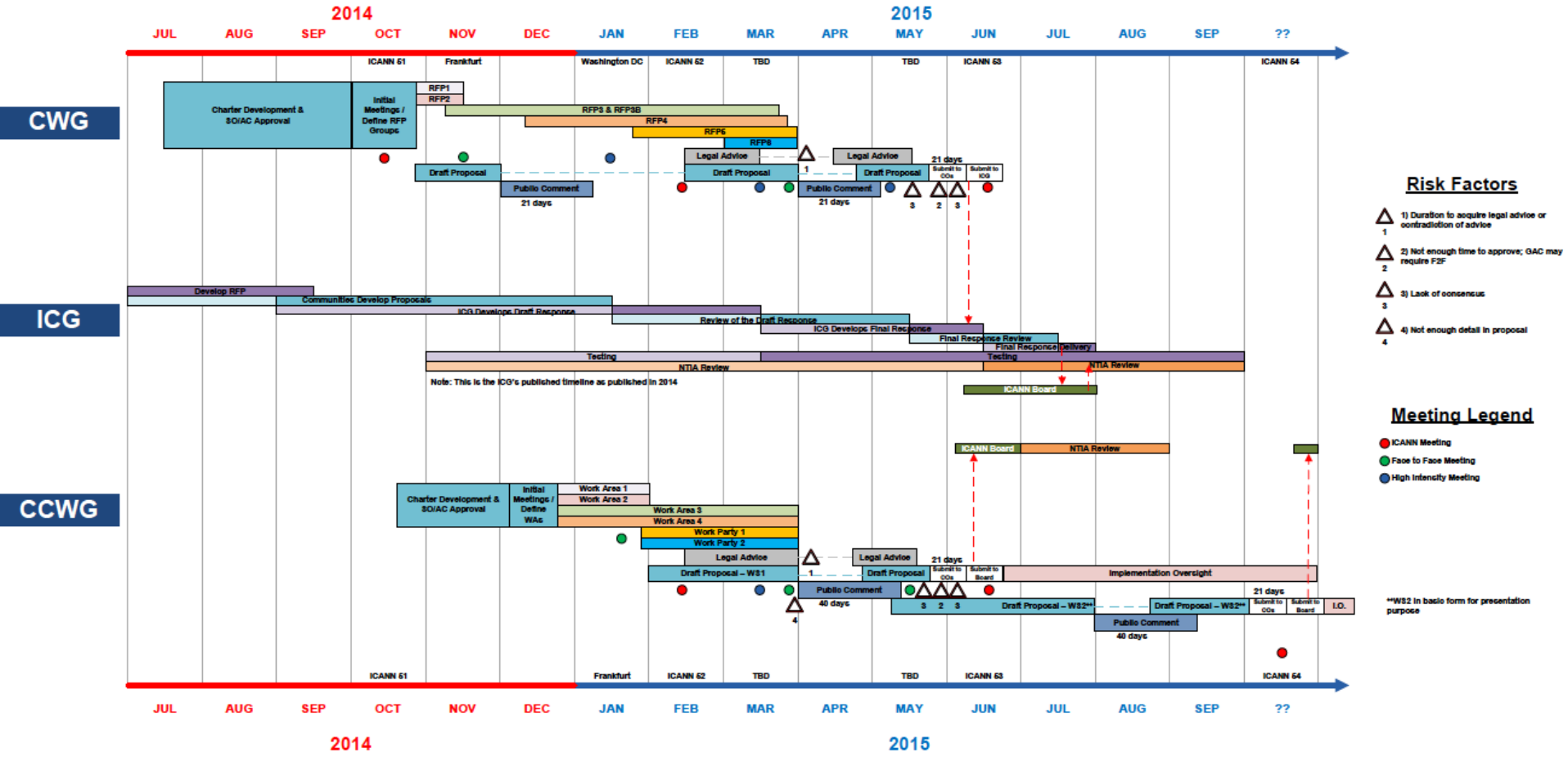
Best case scenario provides for delivering a proposal to the ICG in June 2015. Assumes at least the following risks can be minimized:

- Legal advice can be obtained as shown in the timeline
- Consensus can be reached in the community on a proposal as shown in the timeline
- The chartering SOs and ACs are able to approve the proposal in the 21 days shown in the timeline

See https://community.icann.org/download/attachments/50823981/ICG-CWG-CCWG_timeline_20150129.pdf?version=1&modificationDate=1422907899313&api=v2

CWG Timeline

CWG-ICG-CCWG Timeline – Best Case as of 29 Jan 2015



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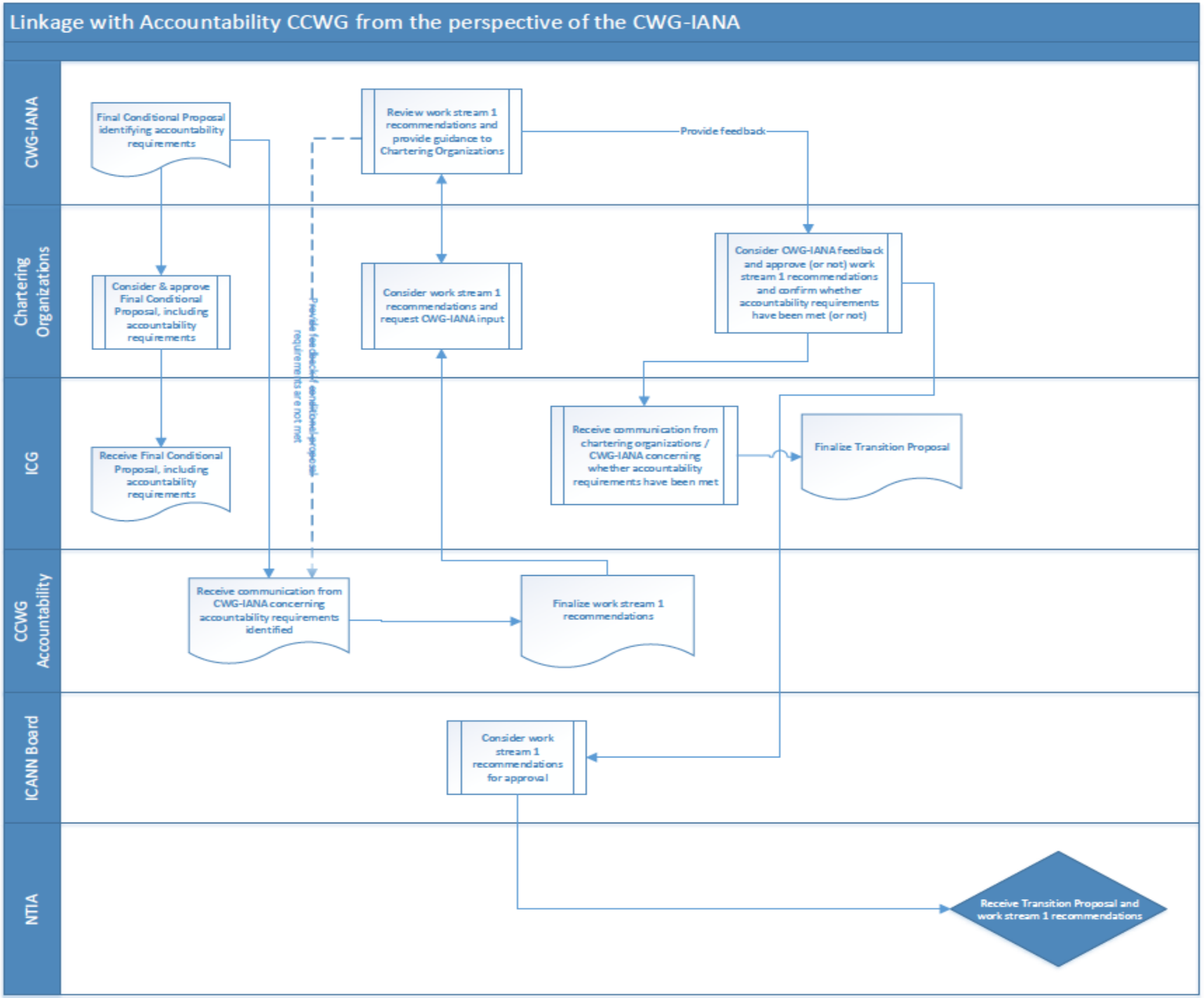
Linkage with Accountability CCWG from the perspective of the CWG-IANA
CWG-IANA
Chartering Organizations
ICG
CCWG Accountability
ICANN Board
NTIA
Final Conditional Proposal identifying accountability requirements
Review work stream 1 recommendations and provide guidance to Chartering Organizations
Provide feedback
Consider & approve Final Conditional Proposal, including accountability requirements
Consider work stream 1 recommendations and request CWG-IANA input
Consider CWG-IANA feedback and approve (or not) work stream 1 recommendations and confirm whether accountability requirements have been met (or not)
Provide feedback if operational proposals requirements are not met
Receive Final Conditional Proposal, including accountability requirements
Receive communication from chartering organizations / CWG-IANA concerning whether accountability requirements have been met
Finalize Transition Proposal
Receive communication from CWG-IANA concerning accountability requirements identified
Finalize work stream 1 recommendations
Consider work stream 1 recommendations for approval
Receive Transition Proposal and work stream 1 recommendations

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Discussion Document

Purpose of the document is:

- To inform the community of the work undertaken and progress to date

and

- To seek community input on key and intractable issues in order to assist the CWG in its deliberations

The discussion document is available here:
https://community.icann.org/display/gnsocwgdtstwrdshp/Documents

Models under discussion

Internal / External Options

Fundamental difference: Who replaces NTIA as the body responsible for overseeing the performance of the IANA Functions and determining who will perform them?

External

Replacement entity cannot be ICANN but ICANN would be granted the contract for the IANA functions post transition of this entity

VS

Internal

NTIA would transition its functions, including the right to determine who performs the IANA Functions, to ICANN, which would continue to operate the IANA Functions (without a contract) subject to the community's ultimate right to require ICANN to transfer the authority and the IANA Functions to another operator

Common feature: Separability derived from the Principles of the CWG

Common points between the two models

1

Multistakeholder Review Team (MRT)

A group of stakeholder representatives responsible for completing the new IANA functions definitions (a contract under the external solutions), deciding, under certain limited circumstances, if the IANA functions should be moved from ICANN, and how to select a new operator in that case. Also responsible for addressing IANA performance issues escalated by the CSC.

2

Customer Standing Committee (CSC)

A small group of individuals responsible for overseeing the IANA performance on a regular basis, predominantly composed of registry representatives. CSC would take issues up directly with IANA with possibility of escalating to MRT.

3

Independent Appeals Panel (IAP)

All decisions and actions (including deliberate inaction of the IANA Functions Operator would be subject to an independent and binding appeals mechanism.

4

Separability

The IANA Function would not be transferred from ICANN at the beginning of the transition from NTIA. MRT (or equivalent) could only initiate the mechanisms for the separation of the IANA functions from ICANN if ICANN materially breached the IANA functions agreement and failed to cure that breach (separability). Bother external and internal models include mechanisms to insure that the IANA functions can be separated from ICANN but these can vary significantly between models.


External Models

Contract Co.

- Authority – multistakeholder community would establish a non-profit corporation which would assume the NTIA's IANA Functions responsibilities.
- Contract Co. would be a small, lightweight company whose main responsibility is holding and entering into the IANA Functions Contract with ICANN.
- Should ICANN materially breach the contract and fail to cure the breach, Contract Co. could select a new operator. Because Contract Co. is a legal entity, it would be able to enforce the agreement against ICANN.
- MRT likely to be a committee of Contract. Co. Would be responsible for providing instructions to Contract. Co.
- CSC would be similar as described before. Likely to be a committee of Contract Co.
- IAP as described before

External Trust Model

- Authority – Contract Co. would take the form of a Trust established under US law. The Trust would have a Board of Trustees which would likely be incorporated as a legal entity. Trustees would be selected from the multistakeholder community.
- The Trust would receive an assignment and/or conveyance from the NTIA of all of the US Governments rights and duties included within its stewardship role.
- The Trust's primary purpose and duty would be to select and contract for an IANA Functions Operator (presently ICANN).
- The IANA Functions Operator would be under contract for a term of years (subject to termination for cause and other necessary or appropriate terms and conditions).
- MRT, CSC and IAP could be the same as under the Contract Co. model. Or moved (some or all functions) internally to ICANN)


Internal Models

ICANN Internal Bylaw Model

- Authority – NTIA would transfer the rights for contracting the IANA functions to ICANN, but only after it had amended its Bylaws to create a "Golden Bylaw" – i.e. a Bylaw that cannot be unilaterally amended by the ICANN Board.
- The Golden Bylaw would guarantee that ICANN would relinquish the right to perform the IANA functions to a third party if required to do so by a multistakeholder MRT.
- Separation of IANA could possibly require the creation of a Contract Co. or a Trust.
- MRT – additional Bylaw modifications that would crate a standing committee in ICANN to be the MRT.
- CSC would be similar as described before but could be merged with the MRT to varying degrees depending on the requirements.
- IAP – additional Bylaw modifications to specify the IAP procedures

ICANN Internal Trust Model

- Authority – Transition from the NTIA would require ICANN to enter into a "Declaration of Trust" to hold the rights to the IANA function in trust for, and perform the names IANA functions for the benefit of, the MS community – as defined by clearly identified mechanisms.
- The Declaration of Trust itself does not necessarily create a separate company, but would be a legally valid instrument.
- There would be a "Guardian" (or protector of "Appointer") of the trust, which would be a cross-community group similar to the MRT.
- Guardian has the authority to initiate an escalation process, but it cannot decide to execute the transfer. Action would only be taken with the input and agreement of the MS community, through pre-defined processes.
- MRT/Guardian – declaration of trust would codify the membership, responsibilities and operating procedures of the MRT.
- CSC – similar as described before. Standing committee which performs a strictly operational and administrative role.
- IAP – additional Bylaw modifications to specify the IAP procedures

Questions for the Community

1. Do you believe that the transition from the NTIA should happen (Please provide the reasons for your answer)?
2. Are you comfortable with ICANN as policy-maker also being the IANA operator without the benefit of external oversight?
3. Should registries, as the primary customers of the IANA functions, have more of a say as to which transition proposal is acceptable?
4. What does functional separation of IANA from ICANN mean to you? (this is not referring to having another operator than ICANN performing the IANA functions but rather the internal separation between ICANN and IANA in the context where ICANN is the IANA operator)
5. Do you believe the IANA function is adequately separated from ICANN under the current arrangements (internal separation)?

Questions for the Community (continued)

6. In considering the key factors (such as security and stability, ease of separating the IANA function from ICANN, quality of services, accountability mechanisms etc.) for evaluating the various transition proposals what importance would you give to the ability to separate IANA from ICANN (separability) vs. the other factors?
7. Given the IANA functions could be separated from ICANN do you believe it would be important for the community to obtain from ICANN on an annual basis the costs for operating IANA including overhead costs?
    - Would it be important to separate out the costs associated with address and protocol functions?
8. Could there be unforeseen impacts relative to selecting a new operator for the IANA functions vs the ICANN policy role (should ICANN determine that there will be another round of new gTLDs, how could it ensure that the new operator would accept this)?
9. Are there other transition models which the CWG should be exploring?

Get Involved in the Discussion

Thank You and Questions

Website:
https://community.icann.org/x/37fhAg

twitter.com/icann

facebook.com/icannorg

IANA Stewardship Transition

- CWG Working Session on Wednesday 11 February from 17.15 – 19.15 Singapore time (see http://singapore52.icann.org/en/schedule/wed-cwg-stewardship)
- CWG Q&A Session on Thursday 12 February from 10.30 – 11.15 Singapore time (see http://singapore52.icann.org/en/schedule/thu-cwg-stewardship)