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Understanding ICANN's complexity in a growing and changing Internet

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Abstract

Historically, the primary governance of the Internet has been in the hands of the Internet Corporation for Assigned Names and Numbers (ICANN), a non-profit corporation appointed by the US government to develop policy for and manage the critical resources of the Internet: Internet Protocol addresses, Domain Names System and parameter numbers. However, because of the immense global influence of the Internet, other national governments and international organizations are seeking to rapidly become involved in this policy-development sphere. In this particularly decisive moment of the Internet, there is a need to understand the structure and processes of ICANN before any further change. This paper studies who participates in ICANN's decision-making and policy-development processes and how. It first examines in detail the *internal* structure of the organization, and then its *structural* and *financial* evolution since its inception. The study is an in-depth analysis of legal, financial and public documents of ICANN, as well as the information published directly by ICANN's internal bodies. Although other works have studied specific internal bodies of ICANN, this is the first comprehensive examination of ICANN using ICANN's founding documents as starting point. The paper reveals the substantial *expansion* in scale and scope of ICANN's initial *technical mandate*. ICANN's recurring changes allowed it to adapt to growth, evolution and change in the Internet However, the permanent restructuring hinders follow-up by external interested parties that are now requesting more involvement in the policy-development processes.

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1. Introduction

1.1. Overview

The global diffusion of the Internet, its growing number of applications and services, as well as mediatized security breaches and privacy concerns, have significantly increased the interest of cyberspace in the political, economical and international relation spheres. The governance of the Internet and its future design and development are now relevant to many different stakeholders that want to engage and influence the decision-making and policy-making process concerning Internet. In particular, governments want to be more involved in the determination of *who gets what, when* and *how* concerning the Internet critical resources.

The purpose of this paper is to contribute to the understanding of the current governance of the Internet. Focused on the main organization that runs the critical functions at the top of the Internet architecture, it studies in detail its structure, the functions of the different internal bodies, the constituencies each of them represents, and how this organization has introduced change and has consolidated over the years.

The Internet Corporation for Assigned Names and Numbers (ICANN), a non-profit public-benefit corporation registered in California, is recognized as the central institution in the governance of the global Internet. ICANN is at the top of the Internet infrastructure, in charge of the allocation and coordination of the Internet three unique identifiers system. It manages the global level of the Domain Name System (DNS) and Internet Protocol (IP) addresses. These functions are crucial for the global connectivity and communication of the Internet.

When ICANN was created in 1998, the Internet had already spread substantially around the world, but there were only approximately 300 million users worldwide (Internet World Stats, 2012) and ICANN was conceived as having a technical mandate. Today there are near 2.7 billions users (International Telecommunication Union, 2014), and ICANN is a large and complex organization, with several internal bodies where different constituencies with divers interests have the opportunity to collaborate in the bottom-up construction of policies. It has an original structure trying to have international accountability without being an international treaty organization, such as the World Bank, and even less a traditional organization. For instance, ICANN's board has mainly directors selected by internal bodies instead of representing external organizations. Moreover, the current role of ICANN in global policy is not only undeniable but also expanding, as its policies impact a growing number of users. The International Telecommunications Union estimates that in 2013 there were 250 millions new Internet users approximately, totaling 2.75 billion users around the globe.

Despite the global relevance of ICANN's role, its structure and evolution has been only superficially described in the literature. Studies tend to analyze the pros and cons of ICANN concerning its role in global policy and its accountability. Furthermore, ICANN is not studied in the field of International Relations. In fact a very limited number of Internet users know how the Internet works or who is in charge of managing the technical functions of the Internet. And even fewer users know the existence and role of ICANN.

This in-depth study contributes to the understanding of who participates in ICANN's decision-making process and how, examining in detail the internal structure of the organization and its evolution. It looks for answers to the following questions: (1) how are the different constituencies represented and organized in ICANN's internal structure?

(2) What is their role and how do they participate and influence ICANN's decision-making process? (3) How has this role and participation evolved over time and why? (4) What are ICANN's connections with the international state system? And finally (5) what are the current contentions regarding ICANN and why? Answering these questions will significantly contribute to the understanding of the current state of Internet governance and enlighten possible evolutions for the next years.

This analysis is based on legal documents of ICANN, such as the bylaws, memoranda of understanding, contracts and financial statements, as well as on reports and webpages of the different entities studied.

1.2. Approach

Our approach consists of four steps. Each is designed to focus on specific aspects of ICANN.

Step 1: Understanding what is ICANN: Structure, function and procedures.

ICANN's website and published documents were the first step to start figuring out the structure of this organization. ICANN's webpage contains a substantial but sometimes overwhelming amount of information, and the links can be very intricate at times. However, as an accountability policy – to report and explain its actions to society, ICANN and its internal bodies publish most of their report.

All of ICANN's internal bodies' structures are described in the bylaws. The different bodies have a webpage where they describe themselves and publish appointments, reports and ongoing activities.

This study used the Bylaws as a starting point to gather information about ICANN and its bodies. Bylaws are the constitutional document of ICANN that regulates the internal affairs of the organization, in accordance with the law governing nonprofit public-benefit corporations in the state of California.

Then, the webpage of the entities was scrutinized, comparing and completing the information collected from the bylaws. The bylaws focus on the description of the mission, structure and the procedures of each entity, while the webpages have the current affairs, members, and ongoing activities happening in the entity. As a result, most of the time the information was complementary. On only one occasion the information about non-voting liaisons was not the same between the bylaws and the webpage: the advisory committee called ALAC has more than the three non-voting liaison mentioned in the Bylaws, in particular one from the body called GNSO and one from the Non-Commercial Stakeholder Group of this same body, the GNSO. Additionally, there currently is no non-voting liaison from the advisory committee called GAC appointed to the ALAC advisory committee, even though it is mentioned in the bylaws.

Additionally, when the bylaws or the web page referred to a particular document relevant to the organization, the analysis was extended to that document. This was the case for the Memoranda of Understanding between ICANN and the Number Resource Organization and between ICANN and the Internet Engineering Task Force.

Step 2: Understanding how it happen: ICANN's evolution and consolidation.

The structure of ICANN is complex, original and constantly under change. The internal bodies, their function and most of their procedures, are defined in-between the articles of the bylaws. Hence, any structural or functional change of an internal body entails a new version of the structuring document of ICANN, i.e. its bylaws. In the internal bodies' webpages, as well as in the news and press webpage of ICANN, there is an ongoing flow of reports, news and discussion of working groups about some proposal of change or creation of a policy, an article of the bylaws, or a particular procedure. Thus the question about how much of ICANN's structure is recent or very recent versus how much is more or less established, arises. Taking advantage of the archives of ICANN's bylaws[1], all the different versions of the bylaws were analyzed, from the original bylaws of 1999, to the current version as amended on April 11th, 2013.

ICANN's bylaws have been modified 34 times, more than twice per year on average, mainly because any official change in one procedure of an internal body of ICANN required a change. However, our first approach showed there was only one version that introduced significant changes to the original bylaws, the version that went effective as of December 15th, 2002. Accordingly, this study focused mainly on the three most relevant versions:

- the original bylaws of November 6th, 1998,
- the new bylaws of December 15th, 2002,
- the current bylaws, as amended in April 13th, 2013.

The current version of the bylaws is based on the new bylaws of December 2002. The new bylaws were the result of the "Evolution and Reform Process" conducted by ICANN in 2002 (Carral, 2004; ICANN Committee on ICANN Evolution and Reform, 2002). From the new bylaws to the current version, the number and name or the articles has stayed constant, which significantly simplified and standardized the comparison process of all versions in between.

When the new bylaws were published in December 2002, they were not complete. Article VIII concerning the Address Supporting Organization and article IX about the Country Code Name Supporting Organization had a note indicating they were subject to amendments and still under development, as a result of ongoing discussions at time of publishing. For assessing the evolution of those articles between the new bylaws and the current bylaws, the first versions containing the full text of each of those articles were considered: for the Article IX, the version of June 2003 was used, and for Article VIII, the version of April 2005 was used.

The original bylaws and the new bylaws were compared in detail. Examining the *sections and content* of each article, it was determined for each of the 20 articles of the new bylaws if it was a new article, or if it was based on one or part of one of the 12 articles of the original bylaws. The amount of change was qualified as considerable, limited change or minor change.

Next, the new bylaws of 2002, considering the versions of articles VIII and IX mentioned above, were *compared* in detail with the current version. Just as the previous work, by studying the sections and the content of the articles, it was determined whether an article had had a minor, limited or considerable amount of change. The figures classifying the articles by amount of change were built on these categories.

[1] http://www.icann.org/en/about/governance/bylaws/archive.

Finally, the *composition of the internal bodies* of ICANN, such as the board of directors or supporting organizations, was tracked in all versions of the Bylaws. By identifying the article where a specific body was described in the original bylaws and then in the new bylaws, its composition was followed through all versions. This allowed establishing all changes made to the internal bodies across versions.

Step 3: Where the money comes from: ICANN's financial consolidation.

Having access to sufficient financial resources is crucial for the stability and performance of an organization. Again, taking advantage of ICANN's own online archive of financial records[2], the evolution of ICANN's income was assessed. The archive contains financial records from the year of ICANN's creation.

In accordance with the literature, ICANN resources have hugely increased. As the archives contain the Form 199 and its statement or the audited financial report for each year, it was possible to study the distribution of the total income of ICANN by declared source category. Four years were chosen to perform comparison between the income sources: (1) year 2000, the first fully operating year of ICANN, (2) year 2005, after 5 years of operation, (3) year 2012, before the massive increase of income, and (4) year 2013, the year ICANN's income increase three-fold comparing to the previous year and the latest data available.

The *income categories* used were the ones listed in the unrestricted support and revenue category and the other income category of ICANN's financial statements: (1) Contributions, (2) Domain Names fees, (3) Address registry fees, (5) Accreditation fees, (6) Application fees, and (7) Interest income.

In the 2012 and 2013 audited financial report the categories changed but could be retraced to the earlier former categories. The Domain Name fees corresponded to the sum of three categories: registry fees, registrar fees and ccTLD. Additionally, the Revenue from New gTLD category and the IDN ccTLD Fast track request fees application fees were summed up in the Application fee category.

Step 4: Understanding the history of ICANN: literature review.

While studying the different documents from ICANN, it was clear that some distinctive drivers had particularly influenced ICANN's history and structure. To learn more about the context, Mueller's books *Ruling the root: Internet governance and the taming of cyberspace* (2002) and *Network and States: The global politics of Internet governance* (2010), as well as the book *Internet governance: Infrastructure and institutions* edited by Bygrave and Bing and the article "Lessons from ICANN: Is self-regulation of the Internet fundamentally flawed?" (Carral, 2004) proved particularly useful. These texts describe the main aspects of relevant discussions and debate that shaped ICANN's structure.

This study first describes the current state of ICANN. It starts with a general overview its mission and functions, and then reviews in detail each of the internal bodies of ICANN and the external organizations also involved in ICANN's functions, revealing how they are involved in the organization and its board. Then, it assesses the evolution of

[2] http://www.icann.org/en/about/financials/historical

ICANN's bylaws since the original version to the version effective at the time of writing, followed by the assessment of ICANN's income and its different sources across the years. It concludes with a summary table of ICANN capturing the essential information for understanding ICANN.

2. ICANN current mission and structure

2.1. Mission and general overview

As stated in the bylaws, the Internet Corporation for Assigned Names and Numbers' mission is "to coordinate, at the overall level, […] and […] to ensure the stable and secure operation of the Internet's unique identifier systems" (Internet Corporation for Assigned Names and Numbers, 2013). The unique identifier systems are three: the Domain Name System (DNS), the Internet Protocol (IP) and Autonomous System (AS) addresses, and the protocol port and parameter numbers. The mission of ICANN is to coordinate the allocation and assignment of these three systems, and secure their operation and stability.

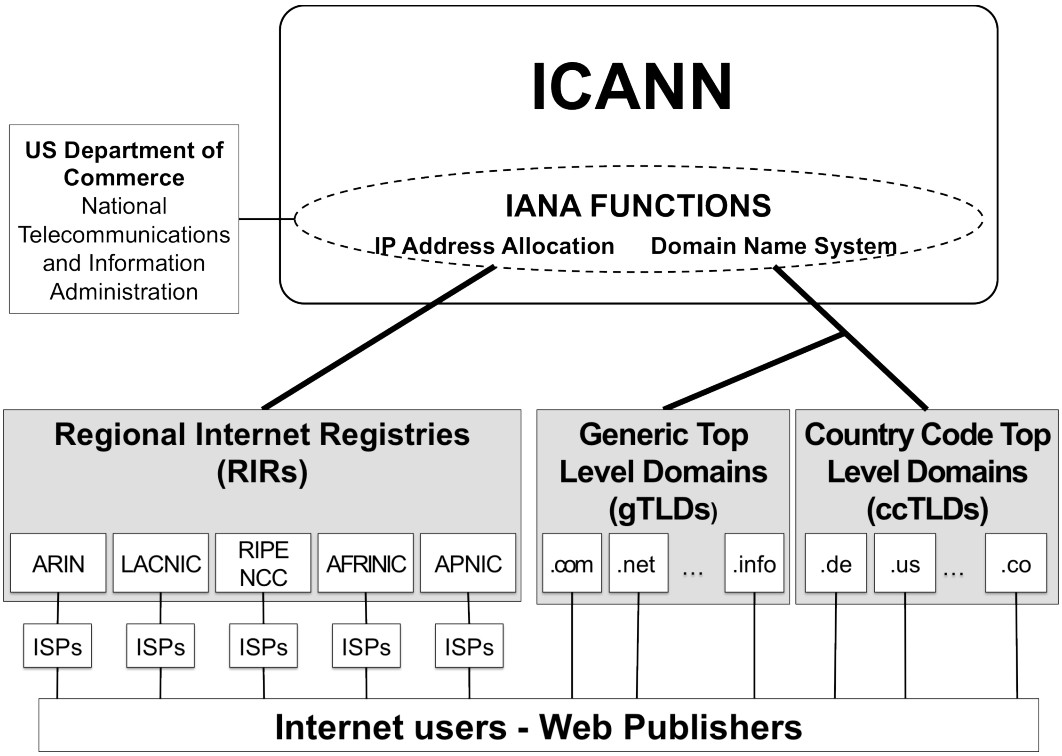


Figure 1: ICANN main function and high-level role in Internet operation and governance.
Source: Expended from **(The CP80 Foundation, 2006)** as cited in **(Choucri, 2012)**.

ICANN's authority to provide these functions, derive from a contract with the National Telecommunications and Information Administration of the Department of Commerce of the United States. In this contract, ICANN takes the responsibility of performing the Internet Assigned Numbers Authority functions, known as the IANA functions. The IANA functions are in fact the functions of maintaining and operating the

three unique identifier systems of the Internet, and of coordinating the allocation of these systems' resources, which details are explained below. The latest version of this contract was awarded to ICANN in July 2012 for 3 years (ICANN, 2012). Figure 1 shows a high-level diagram of the role of ICANN with respect to the Internet unique identifier systems in the Internet global operation and governance. A brief description of these functions follows:

IANA Functions

ICANN management of the IANA functions concerning IP and AS addresses is connected to the Regional Internet Registries (RIRs). There is a process for the RIR to request and receive IP blocks from ICANN. The RIRs are then in charge of distributing the addresses in the geographic zone each of them represents. RIRs assign IP addresses to Internet Service Providers and other organizations, which ultimately assign IP addresses to Internet users and web publishers (Internet Assigned Numbers Authority, 2013; Postel, 1994).

ICANN management of the IANA functions concerning the DNS is the operation and management of change requests to the authoritative zone file –the file containing the information of the top level domains (TLDs), and the management of the root zone system –the system of the servers that publish the list of all top-level domains and the file containing that list. ICANN recognizes two different categories of TLDs: country codes Top-Level Domains (ccTLDs), and generic Top-Level Domains (gTLDs). ccTLDs are domains for countries and organized territories, such as .us for the US, .cn for China, and .eu for the European Union. gTLDs are commercial and non-commercial TLDs such as .com, .org and .edu.

Finally, ICANN management of the IANA functions concerning the protocol port and parameter numbers is developed in collaboration with the Internet Engineering Task Force. ICANN manages the technical protocol parameters and standards registries that provide the basic information for creating applications over the Internet infrastructure.

Policy coordination

To ensure the three Internet systems operation and stability, ICANN coordinates the policy development related to these systems because it recognizes that policy development concerning the DNS, IP addresses and protocols, and the evolution of the DNS root, are fundamental to the secure and stable operation of the Internet. Hence, these policy developments, involving internal and external organizations, are relevant parts of its mission.

Internal Bodies

Seven internal bodies help ICANN achieving its mission and engage with its constituencies. Three Supporting Organizations advise the board and develop policy relating to IP addresses and the DNS. Additionally, four Advisory Committees advise the board with respect to policies concerning government interests, Internet-users interests, security of the root server system and stability and security of the naming and Internet address systems.

External bodies

ICANN has strong links with two external organizations that advice the board concerning protocol policies and development: the Internet Engineering Task Force

(IETF) and the Technical Liaison Group, which is composed of representatives from the International Telecommunication Union, the European Telecommunication Standard Institute, the World Wide Web Consortium and the Internet Architecture Board.

Board of Directors

The board of directors of ICANN is composed by members coming from all these internal bodies and external organizations described above, and from the selection of the Nominating Committee. The Nominating Committee is another internal body of ICANN in charge of selecting eight members of the board. The members of the Nominating Committee are in turn selected by the afore mentioned bodies and organizations

Geographic regions

Additionally, in order to account the geographic zone represented by the members of its different bodies, ICANN divided the world in five "Geographic Regions": Europe; Asia/Australia/Pacific; Latin America/Caribbean islands; Africa; and North America. As stated in the bylaws, the specific countries in each of these Geographic Regions is decided by the board, and must be reviewed at least every three years, taking into account the evolution of the Internet around the globe. These Geographic Regions are relevant for the selection of members of the different bodies.

The following sections describe the mission and composition of ICANN's internal bodies and of the two external organizations mentioned above.

2.2. Supporting Organizations

ICANN has three internal bodies called Supporting Organizations (SO) to help the development of policy with respect to IP addresses and the DNS: the Address Support Organization (ASO), the Country Code Names Supporting Organization (ccNSO), and the Generic Names Supporting Organization (GNSO). Their structure and missions are described in the articles VIII to X of the current Bylaws. Additionally, each SO has a dedicated webpage, in ICANN's website, were they publish their current affairs, council members and active workgroups and discussions (ICANN Address Supporting Organization, 2012; ICANN Country Code Names Supporting Organization, 2013; ICANN Generic Names Supporting Organization, 2014). Table 1 summarizes each SO mission and members.

The Address Support Organization

The ASO is in charge of advising the board on policy matters regarding Internet number resources, their operation, assignment and management. The functions of the ASO are carried out by the ASO Address Council (ASO AC), whose members are elected by the five RIRs: ARIN, for the US and Canada; LACNIC, for Central and Latin America; RIPE NCC, for Europe, Middle East and Northern Asia; AFRICNIC, for Africa; and APNIC for main Asia and Oceania. Figure 2 shows the geographic zones of each RIR. These zones differ from ICANN "Geographic Regions". For instance Lebanon and Turkey are part of RIPE NCC European area, but for ICANN, Lebanon and Turkey are part of the Asia-Pacific geographic region.

Table 1: ICANN Supporting Organization names, missions and members.
Source: Based on ICANN Bylaws **(Internet Corporation for Assigned Names and Numbers, 2013)** and SOs webpage **(ICANN Address Supporting Organization, 2012; ICANN Country Code Names Supporting Organization, 2013; ICANN Generic Names Supporting Organization, 2014)**

SO Name	Mission	Members
Address Supporting Organization (ASO)	Advisory policy-development body relating to the operation, assignment, and management of Internet addresses.	Members of the Regional Internet Registries.
Country Code Names Supporting Organization (ccNSO)	Policy-development body responsible of developing and recommending to the Board global policies relating to country-code top-level domains.	Managers of ccTLDs that have agreed to be members.
Generic Names Supporting Organization (GNSO)	Policy-development body responsible for developing and recommending to the Board policies relating to generic top-level .	Managers of gTLDs registries and registrars, Internet Service Providers, Business, Non-commercial institutions, not-for-profit organizations.

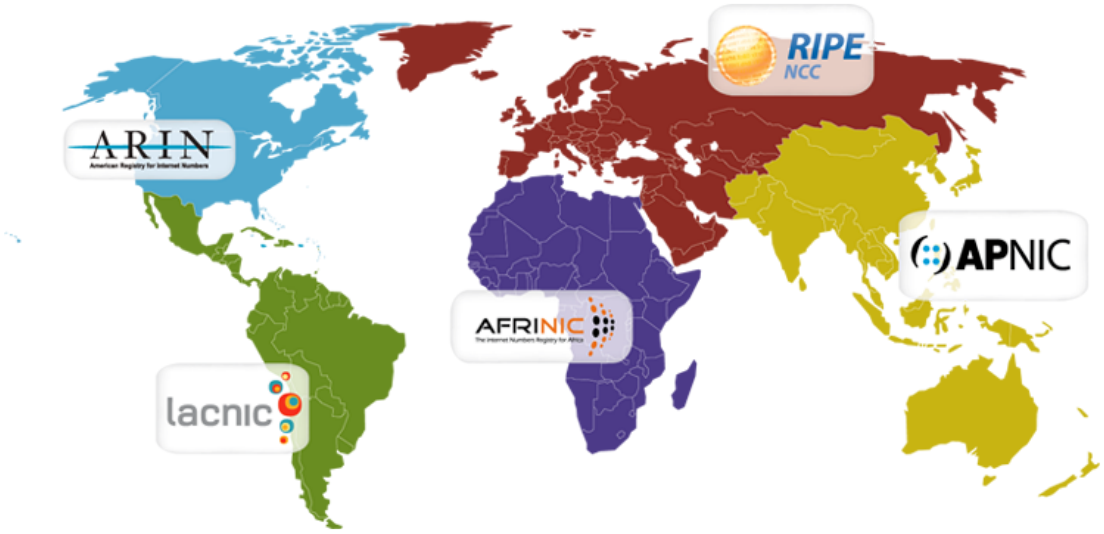


Figure 2: Regional Internet Registries and world zones they represent.
Source: RIRs **(Number Resource Organization, 2014)**

A Memorandum of Understanding between ICANN and the three first RIRs -ARIN, RIPE NCC and APNIC, established the ASO in 1999. The Memorandum was renewed in 2004 between ICANN and the Number Resource Organization (NRO), the organization formed by the five current RIRs. The NRO has a council named the NRO Number Council that acts as the ASO Address Council. Each RIR elects three members of the

council. The term of the council members lasts three years (ICANN Address Supporting Organization, 2012; Number Resource Organization, 2014).

The country code Names Supporting Organization

The ccNSO is in charge of policy development related with country code Top-Level Domains (ccTLDs). It is composed of ccTLD managers that have agreed to be members and it has a council leading its function.

The ccNSO council is composed of 18 voting member, 15 elected by the ccNSO members – three council members per each of the five Geographic Regions of ICANN, and three appointed by the Nominating Committee of ICANN. The members are appointed for three years. Additionally, the ccNSO council accepts non-voting liaisons from the Governmental Advisory Committee, the At-Large Advisory Committee and ccNSO local regional organizations –organizations of ccTLD managers by Geographic Region, such as LACTDL for Latin America and CENTR for Europe. Moreover, the ccNSO council also accepts to exchange "observers" with the two other supporting organizations of ICANN. Currently only the GNSO exchanges an observer with the ccNSO.

The Generic Names Supporting Organization

The GNSO is in charge of policy development related with generic Top-Level Domains (gTLDs), and its members are registries and registrars of gTLDs, commercial Internet users, such as Internet Service Providers (ISPs) and Intellectual Property organizations, and non-commercial Internet users, such as not-for-profit and non-commercial organizations. These constituencies are organized in four different stakeholder groups: the Registries Stakeholder Group, the Registrars Stakeholder Group, the Commercial Stakeholder Group, the Non-Commercial Stakeholder Group.

The GNSO Council consist of:

- 18 voting representatives selected by the different stakeholder groups - three representatives for the Registries Stakeholder Group, three for the Registrars Stakeholder Group, six for the Commercial Stakeholder Group, and six for the Non-Commercial Stakeholder Group;
- two voting representatives selected by the Nominating Committee of ICANN;
- one non-voting representative selected by the Nominating Committee of ICANN;
- one non-voting liaison from by the At-Large Advisory Committee; and
- one observer from the ccNSO.

Additionally, the GNSO council is organized in a "bicameral house structure" (Internet Corporation for Assigned Names and Numbers, 2013): the Contracted Party House formed by the six Registries and Registrars Stakeholder group representatives and one voting Nominating Committee representative; and the Non-Contracted Party house composed by the 12 Commercial and Non-Commercial Stakeholder group representatives and one voting Nominating Committee representative.

Supporting Organization's procedures

Although the three Supporting Organizations described above have a similar internal structure, that is a large membership with a leading council, the constitution of the councils and the openness of the memberships differ considerably. Each SO has different procedure's definition concerning their membership and the process to select who seat in

their council. For instance, the ccNSO is open only to ccTLD managers and consequently all the members of the ccNSO council are ccTLD managers. In contrast, the ASO Address Council is selected by the RIRs, from their community, which is an open community: anybody with interest in the subject can participate in their discussion and join the mailing lists (Number Resource Organization, 2014), even though some technical background would be needed to understand the discussions. Similarly, some of the Stakeholder groups of the GNSO that elect council members have constituency groups that are open to people who share the same values concerning the Internet, such as the Non-Commercial Users Constituency of the Non-Commercial Stakeholder group (Non-Commercial Users Constituency, 2014).

Each SO has a different Policy Development Procedure (PDP). It is stated in the Bylaws for the ccNSO and the GNSO, and it is in the MoU signed between ICANN and the NRO for the ASO advisory committee. Each PDP defines all the steps, meetings and documents necessary from the initiation of a procedure to the approval or rejection of a policy by the board of directors of ICANN.

In all PDP, the initiation may come by an internal request or by a request of the board. In addition, the GNSO accepts requests coming from any advisory committee of ICANN and the ccNSO accepts requests coming from any SO or advisory committee of ICANN.

The final step of a PDP is the acceptance or rejection of the policy by ICANN's board. In case of rejection of a policy, the board must submit a report to the SO councils clearly stating the reasons for its decision. Additionally, in the PDPs is also described how the board can ask or recommend modifications to a policy.

The Bylaws state that ICANN shall provide staff, as well as administrative and operational support for the ccNSO and the GNSO. The respective Chairs of the councils will assign the work and assess the needs. In contrast, the NRO is the organization providing administrative and operational support to the ASO, which obtain resources to finance this from the allocation of IP and AS addresses.

Finally, each SO selects two voting directors for ICANN's board.

2.3. Advisory Committees

ICANN has four advisory committees on matters related to specific interest: the Governmental Advisory Committee (GAC), the At-Large Advisory Committee (ALAC), the DNS Root Server System Advisory Committee (RSSAC), and the Security and Stability Advisory Committee (SSAC). Their structure and mission are described in the article IX of the current Bylaws. Additionally, the GAC and the ALAC have their own webpage, linked to ICANN's website, where they publish their members and documents (ICANN Governmental Advisory Committee, 2013; ICANN At-Large, 2013). The RSSAC and the SSAC have a place in the main ICANN website to make their documents and members information publicly available. Table 2 summarizes the members and missions of ICANN's advisory committees.

The Governmental Advisory Committee

The GAC is in charge of providing advice on matters of interest for governments and interactions of ICANN policies with public policy, law and international agreements. All national governments can become members, and treaty and multinational governmental organizations, such as the European Commission, can also become member when invited

by the GAC through its Chair. Additionally, the GAC may accept international organizations, such as the ITU and the OECD, as "Observers". Each government member of the GAC appoints one representative, who must hold an official position in the respective public administration. At the time of writing, the GAC had 128 representatives and 28 observers, however, according to the GAC webpage, approximately 50 representatives and observers attend the GAC meetings regularly (ICANN Governmental Advisory Committee, 2013).

Table 2: ICANN Advisory Committees missions and members.
Source: Based on ICANN Bylaws **(Internet Corporation for Assigned Names and Numbers, 2013)** and advisory committees webpage **(ICANN Governmental Advisory Committee, 2013; ICANN At-Large, 2013; ICANN DNS Root Server System Advisory Committee, 2014; ICANN Security and Stability Advisory Committee, 2014)**

Committee Name	Mission	Members
Governmental Advisory Committee (GAC)	Provide advise on public policy, especially when related to national laws or international agreements.	128 government representatives and 28 international organizations as observers.
At-Large Advisory Committee (ALAC)	Provide advise on policy development related to the interest of individual Internet users organized in the At-Large Community.	- 15 members from the At – Large Community and 3 non-voting liaisons from the ccNSO, the GNSO and the SSAC
DNS Root Server System Advisory Committee (RSSAC)	Advise on matters relating to the operation, administration, security and integrity of the Internet's Root Server System.	Members appointed by ICANN's Board of directors
Security and Stability Advisory Committee (SSAC)	Advice on matters relating to the security and integrity of the Internet's naming and address allocation systems.	Members appointed by ICANN's Board of directors

The At-Large Advisory Committee

The ALAC is in charge of providing advice on policy concerning individual Internet users organized through the At-Large community. The At-Large community was created "for people who want to be involved in issues that affect individual's use of the Internet's domain name system" (ICANN At-Large, 2013). Organizations interested in the matter can register as an At-Large Structure to participate in the Regional At-Large Organization (RALO) that correspond to its geographic location. There are five RALOs, one for each Geographic Region defined by ICANN. At the time of writing, there were over 150 organizations certified as At-Large Structure in the five Geographic Regions (ICANN At-Large, 2013).

The ALAC is composed of 15 voting members. Each RALO appoints two members from their region and the Nominating Committee appoints one member for each Geographic Region of ICANN. Additionally, the ALAC accepts non-voting liaisons from the ccNSO, the GNSO, the SSAC and the GAC. The terms of the members last approximately two year, covering two ICANN annual meetings each term.

The Security and Stability Advisory Committee

The SSAC is in charge of advising ICANN's community and board on issues relating to "the security and integrity of the Internet's naming and address allocation systems" (Internet Corporation for Assigned Names and Numbers, 2013). The SSAC is responsible for communicating risks and security matters to all actors involved in the Internet technical community, performing a continuous risk analysis of the Internet systems, and synchronizing deployment and coordination of security related activities. ICANN's board appoints the SSAC members for three years.

The Root Server System Advisory Committee

The RSSAC is in charge of advising ICANN's community and board on security issues relating to the operation and administration of the Internet's Root Server System – the authoritative name servers and file that resolve TLD queries. It is responsible for communicating any security matter concerning the system, as well as for performing a continuous risk analysis of it. ICANN's board appoints the RSSAC members for three years.

Operations

The four advisory committees have determined their own operating principles, rules of procedures, and quorum requirements; the documents are publicly available in their webpages.

Additionally, all advisory committees have members or liaisons to the board of directors of ICANN. However, while the GAC, the RSSAC and the SSAC have one non-voting liaison each, the ALAC appoints a voting member to the board.

Moreover, the advisory committees have different levels of connection with ICANN functions and internal bodies work. For instance, the board shall notify the GAC on matters of public policy concerning proposals of any SO or advisory committee of ICANN, prior to taking definite actions. In addition, the GAC may request the board to start a new policy development or revision of existing policies, and may have liaisons to all SOs and advisory committees. Equally important, as stated by the Bylaws, the ALAC is responsible informing the community, distributing through its network ICANN policy developments and news, and performing outreach activities.

2.4. Independent organizations involved in ICANN's function

The management of the IANA functions is the coordination and allocation of Internet addresses, domain names, and also, protocol and port numbers. However, the policy development concerning protocols and port numbers has been done mainly by independent organizations that were created before ICANN. Today, they collaborate closely with ICANN and are in charge of policy development relating to protocols and port numbers.

The Internet Engineering Task Force

Since the earlier days of the Internet, the Internet Engineering Task Force has been developing protocol standards with the objective of "mak[ing] the Internet work better" (Internet Engineering Task Force, 2004). The IETF is an open technical community concerned with "the evolution of the Internet architecture and the smooth operation of the Internet" (Internet Engineering Task Force, 2013), whose first meeting was held in January 1986 (Internet Engineering Task Force, 2006). The technical work of the IETF is done in its working groups, which are organized by topic into several areas such as routing, transport and security. The IETF operates under the umbrella of the Internet Architecture Board (IAB), a committee of the not-for-profit Internet Society organization. The IETF signed a Memorandum of Understanding with ICANN where the terms of their collaboration concerning the technical work are stated (ICANN, IETF, 2000).

The Technical Liaison Group

In 2002 ICANN created, through article XI-A of the Bylaws, the Technical Liaison Group (TLG) to "connect the Board with appropriate sources of technical advice on specific matters pertinent to ICANN's activities" concerning technical standards (Internet Corporation for Assigned Names and Numbers, 2013). The TLG consists of 2 representative of the following 4 organizations:

- the European Telecommunications Standards Institute (ETSI),
- the International Telecommunications Union's Telecommunication Standardization Sector (ITU-T),
- the World Wide Web Consortium (W3C), and ,
- the Internet Architecture Board (IAB).

The IETF and the TLG appoint one non-voting liaison each to the board of directors. However, in October 2013, ICANN announced proposed bylaws changes concerning the revocation of the TLG non-voting liaison. At the time of writing there was no conclusion on the adoption of the proposed change.

2.5. The Nominating Committee

The Nominating Committee (NomCom) is "responsible for the selection of all ICANN Directors except the President and those Directors selected by ICANN's Supporting Organizations" (Internet Corporation for Assigned Names and Numbers, 2013). It appoints 8 voting members of the board, three members of the ccNSO council and three members of the GNSO council.

The NomCom is composed of 20 voting and non-voting delegates selected by the different internal bodies of ICANN, the IETF and the TLG. Additionally, the Chair may appoint a non-voting associate chair. Figure 3 shows the NomCom composition according to the selecting body or organization. The GNSO is the body with most participation with six voting delegates, followed by the ALAC with five voting delegate. The ccNSO, the ASO, the IETF and the TLG appoint one voting member each, and the GAC, the RSSAC and the SSAC appoint one non-voting member each. Finally the board selects two non-voting members: the Chair and the Chair-elected. The term of the voting delegates lasts one year and may be renewed once.

The NomCom is the body that selects the most directors of ICANN's board.

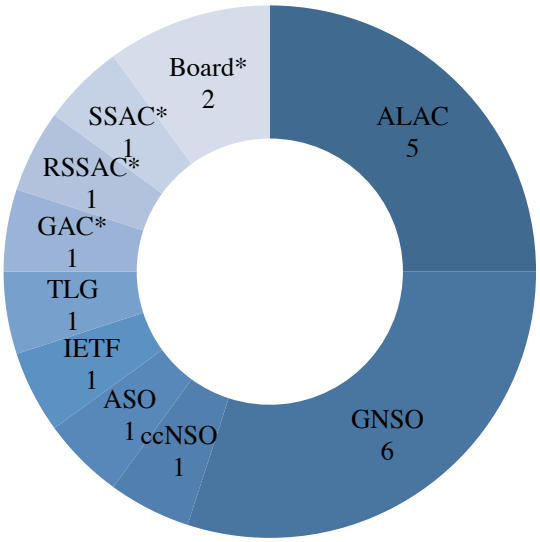


Figure 3: Members and liaisons of the Nominating Committee of ICANN from ICANN internal bodies and the IETF (external organization).
Source: Based on ICANN Bylaws **(Internet Corporation for Assigned Names and Numbers, 2013)**.

2.6. The Board of directors

ICANN's board of directors is the body that holds the general powers of ICANN. It is composed of 16 voting members and five non-voting liaisons. The members of and liaisons to the board are selected by the internal bodies of ICANN, the IETF and the TLG. Figure 4 show the composition of the board according to the selecting entity. Half of the voting members are selected by the NomCom -8 out of 16. Each of the SO (ASO, ccNSO and GNSO) selects two voting members. The ALAC is the only advisory committee that appoints a voting member, the other three advisory committees –the GAC, the RSSAC and the SSAC, appoint one non-voting liaison each. Likewise, the IETF and the TLG select one non-voting liaison each. The president of ICANN –selected by the board upon recommendation of the Chair, is de facto a voting member of the board. The term of the directors lasts three years, and a Chair and vice-Chair are elected annually from the voting members excluding the president.

Figure 4: ICANN Board of director: members and non-voting liaisons coming from ICANN internal bodies and the IETF (external organization).
Source: Based on ICANN Bylaws **(Internet Corporation for Assigned Names and Numbers, 2013)**.

In order to ensure the international representation of the Board, the Bylaws require that at least one director of the board must come from each of the five Geographic Regions defined by ICANN at all times. Additionally, no more than five directors may come from the same Geographic Region, not including the president.

Equally important, no member of the board may also be part of a national government or multinational treaty or agreement organization. In addition, no member of the board may at the same time participate in the council of a Supporting Organization or in the ALAC, and the members of the NomCom are not eligible as board directors.

2.7. Summary representation

This main section of the paper has been devoted to the description of each internal body of ICANN and of independent organizations involved in the functions of ICANN. Figure 5 is a representation of ICANN's structure that allows visualizing the boundaries of the organization and its connection with the entities running other parts of the Internet unique identifier systems, which ultimately connect with the final users. In this figure, each internal body is represented according to its status: all advisory board and supporting organizations are presented at a same level. However, as described earlier, there is considerable dissimilarity in-between advisory committees and SOs. Addtionally, the Governmental Advisory Committee is the only place where states and the international state system is represented.

One of main difference between the internal bodies of ICANN is the level of connection between them. Some internal bodies are more intermingled in ICANN's structure than others, in terms of connections between councils and committees, through the possibility of appointing liaisons and observers or of selecting members or council members. Figure 6 is a representation of the links between the all the mentioned entities. It shows disparities in the amount of connections between them. For instance, while the ALAC receives three liaisons and has three members or liaison in other bodies, the GAC does not receive nor have any liaison. This figure also reveals the relevant role of the Nominating Committee, the only body different from the board where all the entities seat together and which has the privilege of naming members in the three SOs and the board. Finally, it exposes the strong bonds between the ccNSO, GNSO and ALAC, all of whom have active liaisons in-between them.

To better understand how ICANN ended up with the current structure, the next section in dedicated to the study of the bylaws evolution and the organization consolidation.

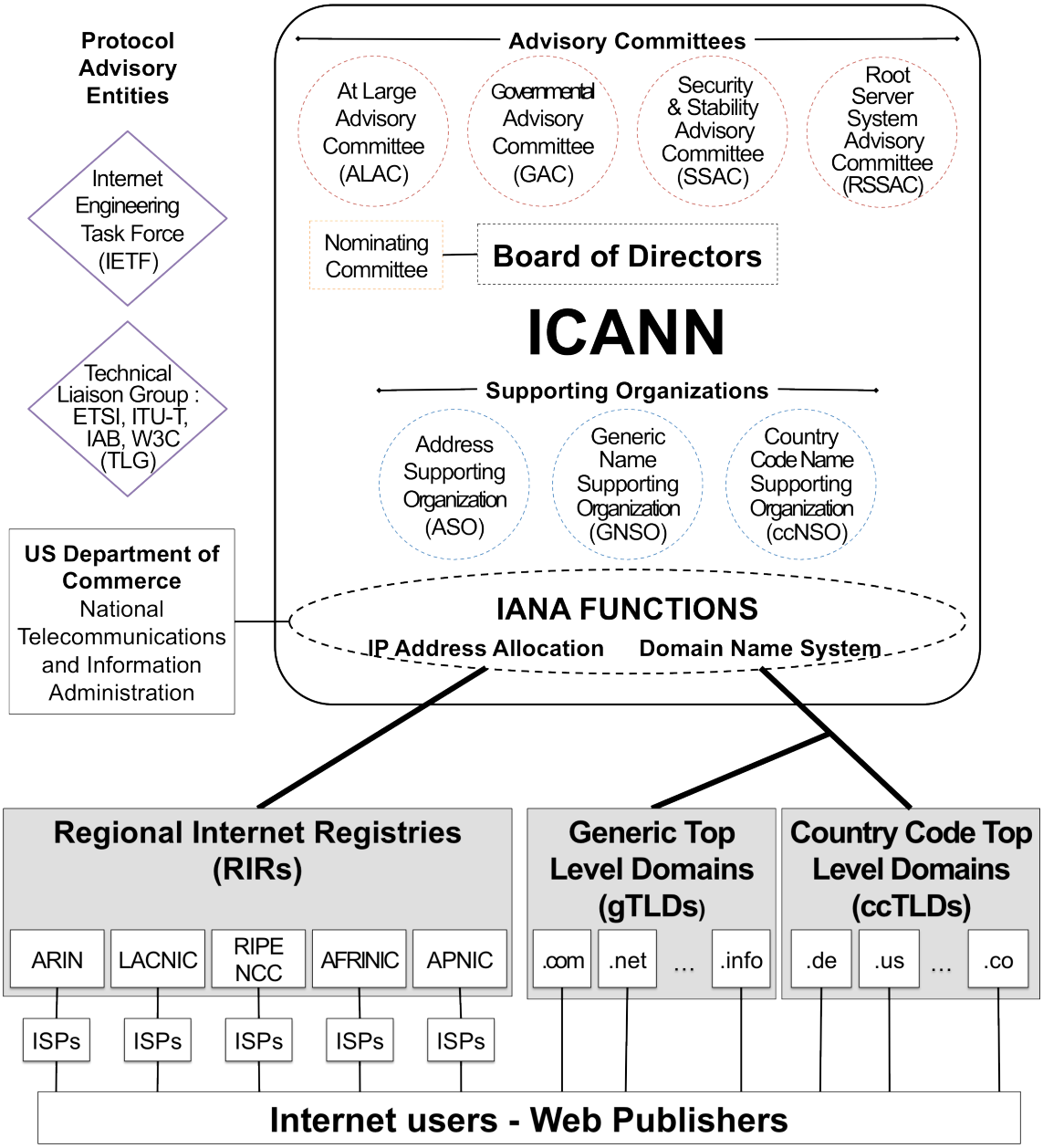


Figure 5: ICANN structure and links with external institutions.
Source: Expended from **(The CP80 Foundation, 2006)** as cited in **(Choucri, 2012)**.

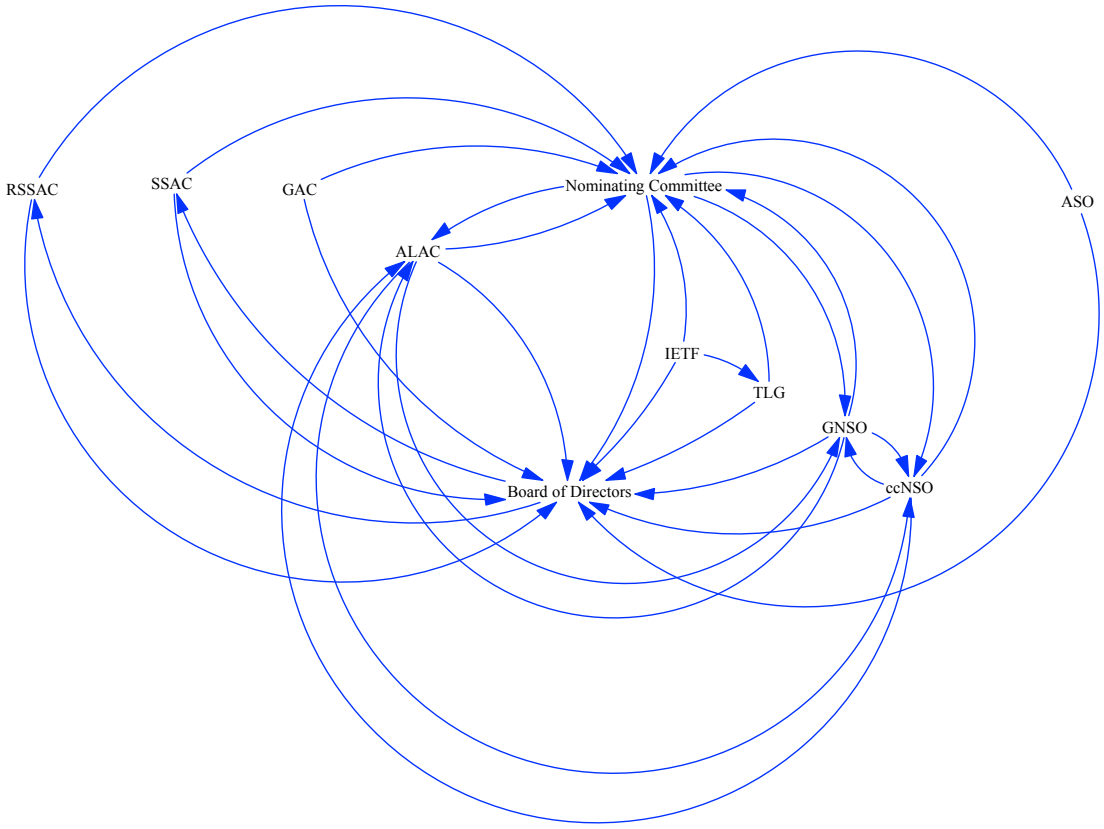


Figure 6: Representation of links between ICANN internal bodies and external organizations through liaisons and council members selection that were active at the time of writing.
Source: ICANN Bylaws **(Internet Corporation for Assigned Names and Numbers, 2013)** and appointments at the time of writing **(ICANN Address Supporting Organization, 2012; ICANN Country Code Names Supporting Organization, 2013; ICANN Generic Names Supporting Organization, 2014; ICANN Governmental Advisory Committee, 2013; ICANN At-Large, 2013; ICANN DNS Root Server System Advisory Committee, 2014; ICANN Security and Stability Advisory Committee, 2014)**

3. ICANN consolidation and shifts in structure

Examining ICANN's bylaws gives a unique insight into the consolidation process of ICANN, into how ICANN role, objectives and positioning in the Internet governance structure have changed since the beginning. This section purpose is to describe the changes and evolution of ICANN through the analysis of the bylaws. Then we turn to financial consolidation

3.1 Functional Framework

The Original Bylaws of ICANN were effective on November 6th, 1998, establishing ICANN as a non-profit, public benefit corporation based in Los Angeles, California. The original bylaws were considerably shorter than the current version of the Bylaws. This first version had 12 Articles and already considered some of the characteristic features of ICANN's structure, and was focused on explaining how would ICANN work.

Since the beginning, ICANN had Supporting Organizations for policy development and advisory committee considering special interest and constituencies. Article VI describes the structure of the three initial Supporting Organizations of ICANN: the

Address Supporting Organization (ASO), the Domain Name Supporting Organization (DNSO) and the Protocol Supporting Organization (PSO). These three SOs addressed directly the three Internet unique identifiers systems and the core of the IANA functions, to provide recommendations to the board. Each SO appointed three members to the board.

Article VII of the Original Bylaws describes in Section 3 the three initial advisory committees of ICANN: the Governmental Advisory Committee, the DNS Root Server System Advisory Committee, and the Advisory Committee on Membership. Just as the current GAC, the role of this advisory committee was to provide advice to ICANN on government interest and possible interactions of ICANN activities with policies, laws and international agreements. The RSSAC had the same responsibility as it has today; they were only less developed in the article. Finally, the Advisory Committee on Membership had a temporal role of creating a process and structure for the selection of At Large members of the Board.

One very significant difference in the original bylaws was the members of the board of directors. Initially, there were 19 members of the board:

- nine At Large Directors,
- three directors nominated by the ASO,
- three directors nominated by the DNSO,
- three directors nominated by the PSO, and
- the president.

There were only voting members; no advisory committee had liaisons.

Additionally, the Geographic Regions of ICANN were already defined in those Bylaws and no more than half of the directors could come from the same Geographic Region and no more than two of the three directors nominated by each SO. Once all board member selection procedures were in place, the term of the directors was three years, and no director could be also serving as official of a government, multinational, agreement or treaty organization.

Modifications

Since this original version ICANN's Bylaws have been modified over 30 times. In average, they have been modified twice per year. However, most of the new versions have had little difference with the previous ones, except the "New Bylaws" version written in 2002 and effective as December 15th, 2002 (Internet Coporation for Assigned Names and Numbers, 2002).

In 2002, three years after its creation, ICANN was facing a severe crisis. Stuart Lynn, ICANN president in 2002, identified the critical issues his corporation was facing as: lack of commitment and participation by relevant players, excessive delays because of processes, and lack of funding (as cited in Carral, 2004, p.21). Early in 2002, ICANN started a reform process. The main results of the reform are easily visible in the modification of the Bylaws: changes in the number and affiliation of directors, creation of the Nominating Committee, the division of the DNSO, the assertion of the global policy role of ICANN, and the accountability. Figure 7 shows the distribution of the articles of the New Bylaws according to the amount of change with respect to the articles of the original bylaws. On the left side are the articles with almost no change. Conversely, on the right side are the new articles that did not had precedent in the original bylaws.

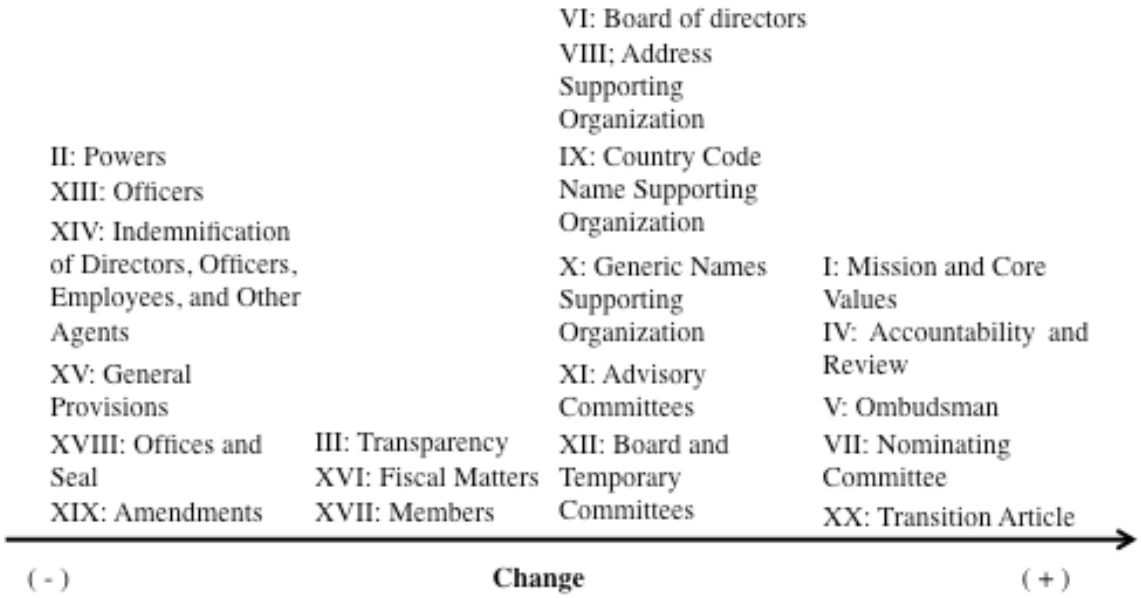
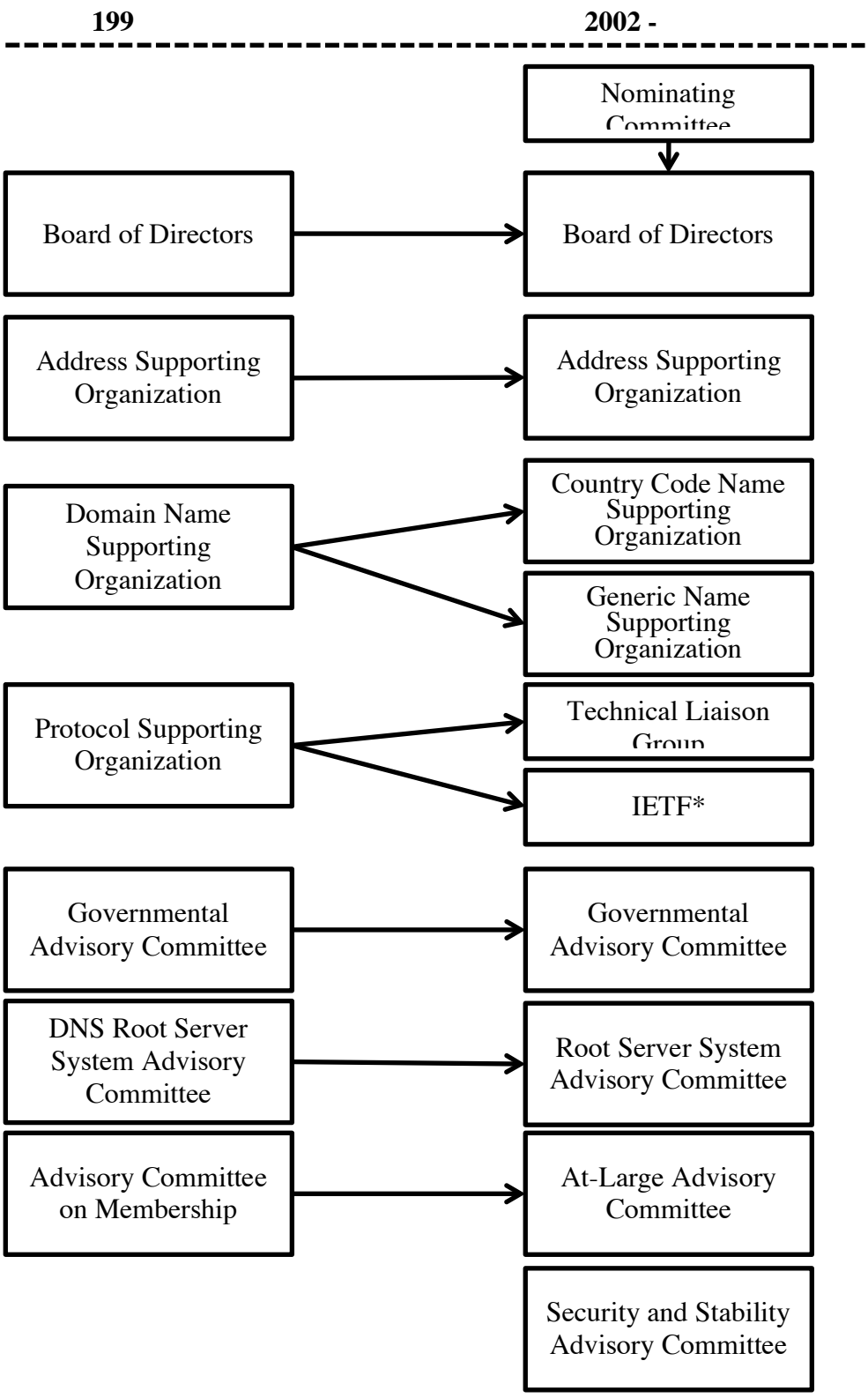


Figure 7: Distribution of articles according to amount of change between the New Bylaws of 2002 and the Original. ***Source:*** Based on the original bylaws and the new bylaws **(Internet Corporation for Assigned Names and Numbers, 1998; Internet Coporation for Assigned Names and Numbers, 2002)**

The new bylaws of ICANN start with a new article I stating the mission and core values of ICANN. In the original bylaws, there was statement declaring the objective of ICANN or what were it main functions. In contrast, the first article of the new bylaws immediately presents ICANN mission of managing the Internet three unique identifier systems and of coordinating the policy development related to this function. As Carral (2004) writes, "ICANN […] dropped all pretense that it is performing only technical and operational functions".

Equally important are the new articles IV: Accountability and Review and V: Ombudsman. These articles describe the process of accountability of ICANN to the community, and process of conflict resolution through the Ombudsman office.

In Figure 7, left to the new articles, are articles of the new bylaws that had a clear predecessor in the original bylaws but that have considerable changes. The six articles with considerable amount of change are article describing internal structures of ICANN. In fact, the new bylaws give more information about the role and procedures of the Supporting Organizations and the advisory committees.. The Article IX describing the ccNSO was still under development when the new bylaws went public; it was completed in the version amended in June 26, 2003. This is the version being considered of the new bylaws for the ccNSO.



*The IETF is an organization independent of ICANN. The IETF-ICANN MoU describes their relationship

Figure 8: Changes in the structure of ICANN between the original bylaws of 1998 and the new bylaws of 2002. ***Source:*** ICANN original bylaws (1998) and new bylaws (2002).

Figure 8 shows the shifts over different time periods and summarizes the changes of the internal bodies of ICANN coming from the modifications incorporated in the new bylaws. The early structure having one SO related to each IANA function evolved into two separate SO related to the two different status of top-level domains and the substitution of the Protocol SO by the IETF and TLG, organizations that performed policy development related to technical parameter before the establishment of ICANN.

The Nominating Committee (NomCom) and the Security and Stability Advisory Committee (SSAC) were introduced. The NomCom is responsible of selecting 8 voting members of the board. The SSAC role is to provide advice to the board and ICANN's community of security and integrity of the Internet related matter.

Moreover, the Domain Name Supporting Organization was divided into the Generic Names Supporting Organization and the country code Names Supporting Organization. In the DNSO, registries and registrars of gTLDs had contractual relationships with ICANN, whereas ccTLDs did not need to have such relation, although ICANN was pushing for that (Mueller, Network and States: The lobal Politics of Internet Governance, 2010), as Jon Postel had delegated most of them many years before without any formal relationship (Postel, 1994). Hence, the ccNSO and the GNSO emerged.

Additionally, the Protocol Supporting Organization, which representative should come from the "Internet Protocol organizations" (Internet Coporation for Assigned Names and Numbers, 2002), was put aside in favor of the IETF participating directly with a policy development role defined in the MoU it signed with ICANN, and the Technical Liaison Group, where other protocol organizations would participate.

Additional Changes

Equally important, although there was no significant change in the article describing the ASO, in the first release of the new bylaws the article included a header stating it was "subject to amendment as a result of continuing discussion" with the Regional Internet Registries (Internet Coporation for Assigned Names and Numbers, 2002). The final version of this article appeared in the bylaws version as amended in April 8th, 2005, and stated the ASO is "the entity established by the Memorandum of Understanding entered on 21 October 2004 between ICANN and the Number Resource Organization (NRO), an organization of the existing regional Internet registries (RIRs)" (Internet Corporation for Assigned Names and Numbers, 2005). As Mueller (2004) notes, the RIRs "detached themselves from direct dependence on ICANN". The process and structure of the ASO are now governed by the MoU.

Concerning advisory committees, the GAC and the RSSAC were kept, the Advisory Committee on Membership evolved onto the ALAC, and the Security and Stability Advisory Committee was introduced.

After 2002 the new bylaws have also been modified recurrently, but in a lesser extend. Usually, only one or two articles have minor changes between versions. For a distinction purpose, the 2002 version of the bylaws will always be referred as the new bylaws. Figure 9 shows the distribution of the articles with respect to the amount of change between the new bylaws of 2002 and the current bylaws, as amended in April 13th, 2013. The current version of the bylaws has the same articles as the new bylaws; there is no new article. Accordingly, all articles are more to the left side of Figure 9 in comparison with Figure 7.

One of the articles with more changes is article IV: Accountability and Review, concerning the process for review and reconsideration of actions by the board.

Nonetheless, the changes apply to particular procedures, the purpose and spirit of the article was kept.

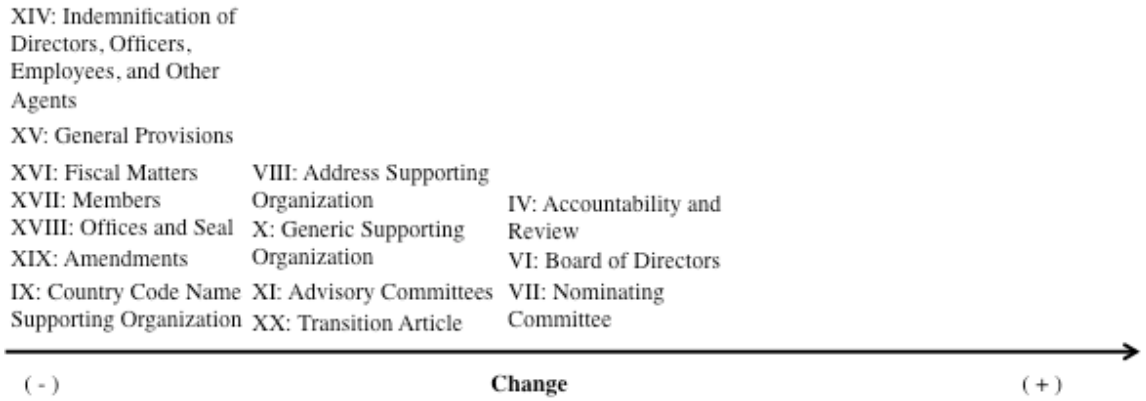


Figure 9: Distribution of articles according to amount of change between the New Bylaws of 2002 and the current version of the Byalaws (April 2013)
Source: Based on the new Bylaws and on the current Bylaws **(Internet Corporation for Assigned Names and Numbers, 2013; Internet Coporation for Assigned Names and Numbers, 2002)**

Similarly, articles describing the internal bodies of ICANN have also had a certain amount of change. These articles describe the internal bodies' structure and procedures. Most of the changes affect the procedures of a body instead of the structure of the body itself. As an example, the Nominating Committee and the board have had limited changes in their composition. In the new bylaws, there was a member of the Nominating Committee selected by an entity representing "academic and similar organizations" (Internet Coporation for Assigned Names and Numbers, 2002; Internet Corporation for Assigned Names and Numbers, 2005), which is not in the current bylaws.

Shifts in Decision-making

Figure 10 show in detail the evolution of whose interest the members of ICANN's board of directors represent according to the different versions of the bylaws since the original version until the last and current version of the bylaws. The arrows depict the evolution of the body or organization that selects members or a change in the number of members a body or organization selects.

Initially, all the members of the board were voting members, there was no liaison coming from other internal bodies on ICANN or external organizations. However, since 2002, the new bylaws introduced non-voting members, that are liaisons to the four advisory committees, the IETF and the Technical Liaison Group.

After the release of the new bylaws in 2002, the only change in the composition of the board has concerned the ALAC non-voting liaison to the board. This liaison is now a voting member of the board. This change appeared in the version as amended in October 28th, 2010.

The limited structural changes in the bylaws since the release of the new bylaws indicate the consolidation of ICANN, its function, structure and internal processes. Nonetheless, the continual amendments of small procedural aspects in the bylaws hinder the perception of stability.

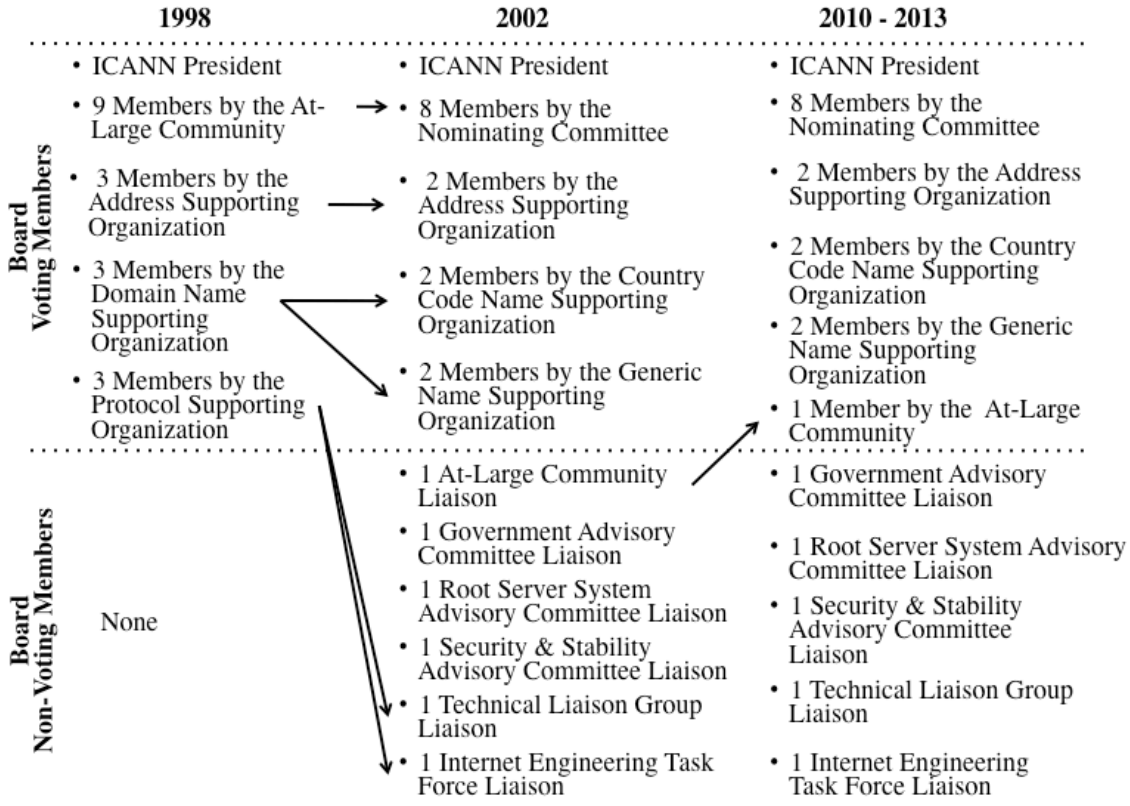


Figure 10: Evolution of the members of the Board of directors of ICANN. The arrows show the evolution of a particular group of members of the board. They can also be seen as inheritances from the earlier structures of the board. The Internet Engineering Task Force is an organization independent from ICANN.
Source: ICANN Bylaws 1999 – 2013.

3.2 Financial consolidation

The analysis of ICANN financial resources reveals how the distribution of the income has changed while increasing over thirty-fold in the last ten years. The purpose of this section is to take a look at the evolution of the revenue and the share of the different sources.

Figure 11 depicts the total income of ICANN from 1999 to 2013 for fiscal years ending in June. It includes the representation of the same data from 1999 to 2012, which shows the shape of the income increase during that period. Although in 2002 ICANN's President indicated that ICANN did not have sufficient funding, ICANN has managed considerable income since its beginnings. The fiscal year ended in June 2000 was the first complete year of operation of ICANN, as it was created in November 1998, and ICANN had over 5 million dollars of income that year.

Moreover, ICANN's income has consistently and strongly increased since 2003. As it can be seen from the small graph, ICANN's total income hugely increased in the second half of the 2000s. It increased from 5.3 millions dollars in 2000 –the first fully operational year of ICANN, to over 73 million dollars in 2012, more than ten-fold. Nonetheless, in the main graph, this significant increase seems minor with respect to the

massive growth of revenue in 2013. The total income of ICANN in fiscal year ending in June 2013 was over 235 million dollars; over three times the income of the previous year.

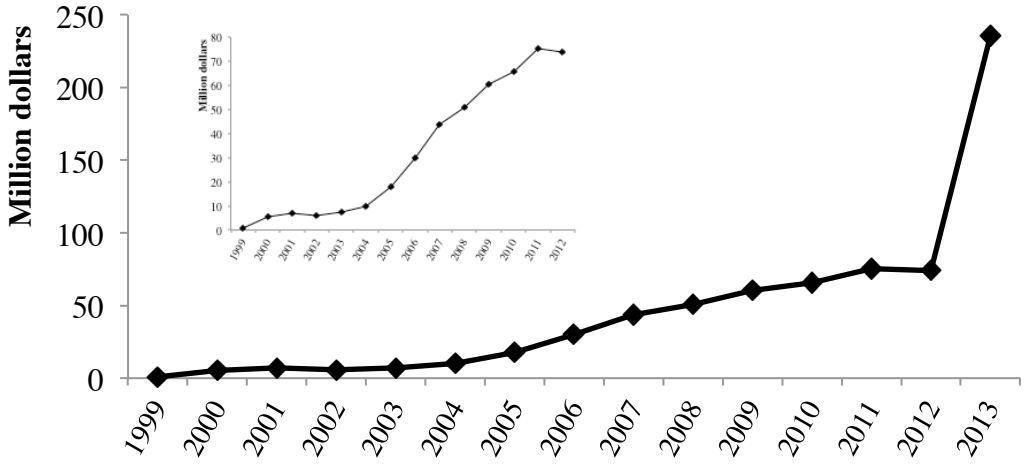


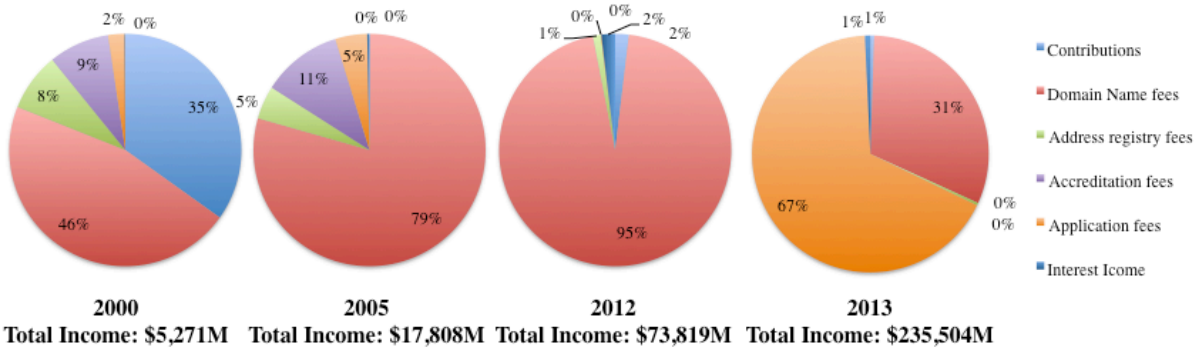
Figure 11: Evolution of ICANN Total Income from 1999 to 2013 for fiscal year ending in June. ***Source:*** Data collected from ICANN financial reports, and form 199 **(ICANN, 1999; ICANN, 2000-2002; ICANN, 2003-2005, &2007-2013; ICANN, 2006)**

Four years are of particular interest to review the sources of income of ICANN:

- 2000, as it is the first year of operations;
- 2005, when ICANN resources started to increase considerably;
- 2012, the year before the huge expansion of revenue; and
- 2013, the year with a massive increase in revenue and the last data available.

Figure 12 shows the data compiled from ICANN financial statements and tax forms, revealing how income sources have varied across the years. Since the beginning, most of ICANN revenue has come form its function as coordinator and overall manager institution of the DNS. From 2000 to 2012, the relative weight of the Domain Names fees in the total income rose constantly and significantly going from 46% in 2005 to 95%. These fees constitute a strong and stable source of financing for ICANN. Each Top-Level Domain (TLD) has to pay ICANN a fee for operating a TLD. gTLD fees consist of a small fixed part and a variable part depending on the number of domain names registered or administered. ccTLDs fees are almost negligible compared with gTLD registry and registrar fees. Moreover, the accreditation and application fees for new top-level domains are also related to ICANN role as the global coordinator of DNS. Including these fees, DNS management represented 95% of ICANN income in 2005, 96% in 2012 and 98% in 2013.

The data show that the massive income increase in 2013 was in application fees of new TLD managers. Application fees are one-time payments an entity has to pay ICANN when applying for becoming a new TLD. In 2012 International Domain Names (IDN) were enabled, and ICANN received a considerable batch of new applications for IDN gTLD. These applications accounted for 160 million dollars of ICANN income in 2013. Although the application fee is paid once, if the TLD is accepted, ICANN should later receive yearly the registry fee. Hence, even if 2013 may be an exceptional year because of the many application of new IDN gTLD, ICANN income the next year will probably be much higher than the 2012 level.



Note: The data shown is for fiscal year ending on June 30 2000, 2005, 2012 and 2013.

Figure 12: ICANN income distribution in 2000, 2005, 2012 and 2013 according to contributions, domain names fees, address registry fees, accreditation fees, applications fees and interest income[3].
Source: Data collected from ICANN Form 199 and Form 199 Statements for fiscal year ending in June 2000, and from ICANN audited financial reports for fiscal year ending in 2005, 2012 an 2013 **(ICANN, 2000; ICANN, 2000; ICANN, 2005; ICANN, 2012; ICANN, 2013)**

Additionally, Figure 12 also reveals that contributions accounted for 35% of ICANN income in 2000. As a new not-for-profit organization, ICANN received many contributions that year. The statements of the 2000 Form 199 of ICANN shows over 40 contributors giving cash contributions of 5,000 dollars or more. The list of contributors includes more than 30 different countries such as France, Germany, South Africa, Israel, Brazil and Mexico. In contrast, there were almost no contributions in 2005, and in 2012 and 2013 they accounted for 2% and 1% of the total income respectively.

Receiving large incomes from the management of DNS, ICANN has reached a confortable financial stability. However, as the growth continues, ICANN's revenues are getting ever more attention in the media as the global community asks for accountability not only of actions but also of expenses.

4. Conclusions: ICANN to Date

ICANN is undeniably a cornerstone in Internet architecture global policy and governance. This study reveals the substantial expansion in scale and scope of ICANN's mandate and activities since its creation.

Clearly, ICANN has succeeded in creating a structure where Internet users, Internet service providers, registries, registrars, Top-Level domain managers, Regional Internet Registries, businesses, intellectual property interested parties, not-for-profit organizations, non-commercial users, the technical community, other organizations in the Internet governance ecosystem and even government and treaty organizations have a place to contribute in policy development concerning the global Internet. ICANN has seven internal bodies where these different constituencies are spread and mixed.

ICANN has managed to make the top-level management of the Internet work since 1998, because it has been able to cope with and adapt to the growth of the Internet and its usages. ICANN's complex and iterative processes for policy development, building bottom up from its constituencies, have allowed it to assimilate and act

[3] The income categories are the categories found in the Statement of activities for each year, listed under the unrestricted support and revenue, and other income categories. For 2012 and 2013, the Domain Name fees category is the sum of the Registry fees, Registrar fees and ccTLD categories.

appropriately to changes and evolution. Additionally, these back-and-forth processes have been a valuable outreach mechanism for ICANN to its constituencies, providing necessary buy-in for the policy development processes in place. Table 3 returns to the questions raised at the onset, and summarizes the basic features central to ICANN and its internal bodies allowing understanding at an overall level how it works.

Table 3: Summary of ICANN main characteristics.
Source: Based on the research performed on ICANN.

	Internet Corporation for Assigned Names and Numbers (ICANN)
What, when and how it was created?	- Founded in 1998 by the National Telecommunications and Information Administration of the US Department of Commerce.
What is the institution job?	- Coordinate the overall level of the Internet: management and allocation of domain names, Internet Protocol (IP) and Autonomous System (AS) addresses, and protocol ports and parameters numbers. - Coordinate the operation and evolution of the Domain Name System (DNS) root system. - Coordinate policy development related to these technical functions
What tools it has to do its job?	- ICANN has three supporting organizations to overlook and advice the board: the Address Supporting Organizations for IP and AS addresses and the Country Code Names Supporting Organization and Generic Names Supporting Organization for DNS. - ICANN has four advisory committees where relevant constituencies are represented: the Governmental Advisory Committee for national governments, the At-Large Advisory Committee for Internet, the Roost Server System Advisory Committee for the overall DNS root system operation, and Security and Stability Advisory Committee for the overall security and stability of the system the SSAC. - ICANN has a Memorandum of Understanding with the Internet Engineering Task Force (IETF) for management and improvement of standards, and the Technical Liaison Group where the International Telecommunication Union, the European Telecommunication Standard Institute, the World Wide Web Consortium and the Internet Architecture Board sit. - ICANN has over 220 employees for the operation of the DNS and IP system and conference organization, as well as for staff, administrative and operational support of the GNSO and ccNSO.
Who are its constituencies?	ICANN recognizes many constituencies: Internet users, national governments, international treaty organizations, Regional Internet Registries, country code top-level domain managers, generic top-level domain Registries, Registrars, Internet Service Providers, Businesses, Non-commercial organizations, standard organizations.
Where does its resources come from?	- Registries of top-level domains, Registrars and RIRs pay ICANN an annual fee. - ICANN also receives contributions.

However, although ICANN has only two categories of internal bodies, there are tangible differences in the involvement of these bodies in ICANN's function and policy development and decision-making processes. Figure 13 shows how constituencies are organized in different bodies of ICANN and external organizations involved in ICANN's policy development processes. The figure reveals varied levels of involvement of the different constituencies with ICANN's mission. First, some of them have a legal relationship with ICANN, being an internal body defined in one founding legal document, such as the bylaws. Second, some constituencies, such as the ccTLD managers, are more directly linked to the mission of ICANN than others, such as ISPs. And third, some constituencies, such as the ones represented by RIRs and the At-Large community, have organized themselves outside of ICANN, incorporating in an external organization, which then elects a council or committee that collaborates with ICANN.

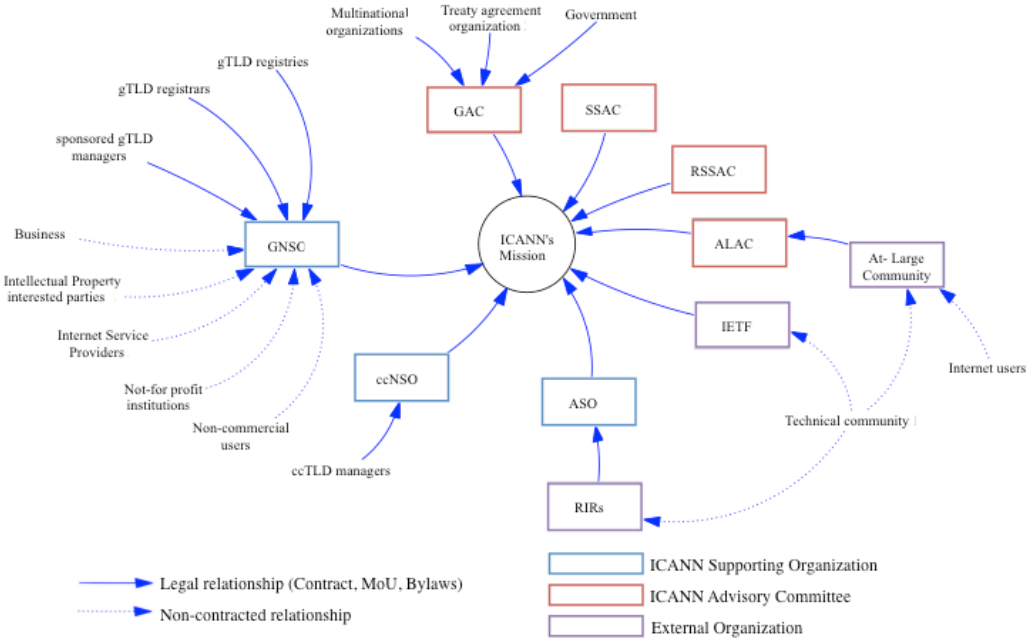


Figure 13: Constituency support system of ICANN for policy development. Constituencies are grouped in different internal bodies or external organizations that then participate in an internal body or directly contribute to policy development concerning the technical functions of the Internet, the core of ICANN's mission.
Source: **(ICANN, 2013; ICANN Generic Names Supporting Organization, 2014; ICANN Country Code Names Supporting Organization, 2013; Number Resource Organization, 2014; ICANN At-Large, 2013; ICANN Governmental Advisory Committee, 2013; ICANN DNS Root Server System Advisory Committee, 2014; ICANN Security and Stability Advisory Committee, 2014)**

Moreover, as some constituencies did not engage as described in the bylaws, different stakeholders do not have the same power or influence inside ICANN. The reforms of 2002, as well as some ongoing processes, such as the re-definition of the Technical Liaison group (ICANN, 2014), address these issues in an effort to reconcile the governing principles with the operation of ICANN. Adding to this complexity is the fact that not all internal bodies were created at the same time or use the same instrument as definition. Hence, there is not a unified document where the principles governing the structure and work of ICANN are clearly exposed.

Equally important, there is a significant barrier for constituencies to actively participate in or follow-up inside ICANN. The accountability process of ICANN requires

full disclosure of reports and meeting documents by the parties involved, but it does not standardize how the disclosure has to be done. As a result, there is a continual feed of announcements, ongoing activities, open discussions and reports spread across ICANN's main website and each internal body's website. There are no tools to easily search for particular documents, compare content, follow a particular thread or simply have all relevant documents in the same repository.

Consequently, the most influential stakeholders or constituencies are also the most active, increasing the gap between them and the less involved ones or new comers. For instance, the main link of ICANN with the International System is the Governmental Advisory Committee, which fails to be a sufficient mechanism for many governments. This committee is in the delicate position of being an advisory committee but with more influence and internal links than other structures. However, it seldom uses them. This difference and internal inequality is a source of future contentions.

In addition, ICANN's resources have been constantly growing in the past 10 years, and only in the last year increased three-fold compared with the year before. These growing resources are also growing sources of concern to stakeholders such as top-level domain managers, registries, registrars and Internet users.

Adding to the concerns of the international community is the fact that the National Telecommunication and Information Agency (NTIA) of the US Department of Commerce has the final authority concerning the IANA function. This substantially undermines ICANN's position in the international system and its international accountability. Hence, the recent announcement by the US government of the transition of the NTIA role in regarding the critical Internet resource was largely welcome by other national governments and international treaty organizations, as well as NGOs and Internet users organizations. However, the question of the structure of the Internet governance of the future arises now more prominently. As of this writing, the process of defining the transition has just started.

A critical principle the Internet governance of the future has to consider, is the capacity of absorbing and adapting to change. ICANN has followed this principle but has not failed in communicating it clearly. It constitutes a challenge to understand ICANN's internal structure and follow-up its different processes. The role of its internal bodies should be clearly stated and represent the operational mechanisms in place, and there should be a centralized online tool where all relevant documents can be found and searched for.

There are still more than three billion potential new Internet users on the world and many new usage trends are just emerging. What will the killer Internet application be in ten years? The evolution of the Internet governance system has to be able to enable it and develop with it, and the different actors and constituencies of Internet governance have to understand their roles in the process.

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