

This paper is a 'draft working paper' reflecting the preliminary findings of the drafting team. It has been subject to review by all WGIG members, but it does not necessarily present a consensus position nor does it contain agreed language accepted by every member. This draft working paper has been published on the WGIG website for public comment.

15 April 2005

## Cluster One B2 Assessment Report

### 1. Issue: Domain Names Management

### 2. Institutions

- The **Internet Engineering Task Force (IETF)** is responsible for standard setting with regard to the management of domain names
- The **Internet Corporation for Assigned Names and Numbers (ICANN)** is responsible for the oversight of the Domain Name System (DNS) as a whole.
- The **Internet Assigned Numbers Authority (IANA)** is responsible for the management of TLD Zone files and the proper functioning of the linkage between the TLD Name Servers and the Root Name Servers (IANA Service)
- The **Generic Names Supporting Organization (GNSO)**, composed by six constituencies
  - gTLD Registries, representing all gTLD registries under contract to ICANN;
  - Registrars, representing all registrars accredited by and under contract to ICANN;
  - Internet Service and Connectivity Providers, representing all entities providing Internet service and connectivity to Internet users;
  - Commercial and Business Users, representing both large and small commercial entity users of the Internet;
  - Non-Commercial Users, representing the full range of non-commercial entity users of the Internet; and
  - Intellectual Property Interests, representing the full range of trademark and other intellectual property interests relating to the DNS

is responsible for developing and recommending to the ICANN Board substantive policies relating to generic top-level domains. Practical policy is coordinated by the GNSO Council, which is composed by 21 members coming from the six GNSO constituencies.

- The **Country Code Names Supporting Organization (ccNSO)**, composed by ccTLD Registries, is responsible for
  - developing and recommending to the ICANN Board global policies relating to country-code top-level domains;
  - Nurturing consensus across the ccNSO's community, including the name-related activities of ccTLDs; and

- Coordinating with other ICANN Supporting Organizations, committees, and constituencies under ICANN.

Policy is developed bottom up by the ccNSO council, composed by 18 members, representing ccTLD communities from the five ICANN regions.

- The **Internet Standardization Organization (ISO)** publishes the ISO 3166 list with 243 two letter country codes which constitutes the basis for the delegation of ccTLDs.
- The **Governmental Advisory Committee (GAC)** gives advise with regard to TLD policies in general and to ccTLD delegation and re-delegation in particular.
- The **World Wide Alliance of Top Level Domains** is a discussion forum of ccTLD managers.
- There are five **regional ccTLD organizations** for Europe (CENTR), Africa (AFTLD), Asia (APTLD), North America (NATLD) and Latin America and the Caribbean (LACTLD) (which do not necessarily group all ccTLD managers from their respective regions).
- 259 **TLD Registries**, 245 for ccTLDs and 14 for gTLDs.
- More than **300 Registrars** for the registrations of domain names in the gTLD name space, recognized by ICANN.
- **Four UDRP Service providers**, established under ICANN's Universal Dispute Resolution Policy (UDRP).

### 3. Relationship to the Internet

The Domain Name System (DNS) is the system by which domain names are associated with the numeric IP addresses which in turn identify Internet resources such as servers. More than one IP address may be associated with a server and more than one server may be associated with an IP address. Not all of the IP addresses have to be identified by domain names. Domain names are a useful way to identify resources by making it easier for users to remember and also on occasion to guess the name of the resource.

The basic function of the DNS can be understood as a set of tables which associate one IP address with each domain name. Domain names have to be registered. The person or entity to whom the registration is assigned is called a "registrant".

The DNS is organized as a tree with different domains in a hierarchical way.

There are two main categories of top level domains:

- 14 Generic Top Level Domains (gTLDs)
- 245 Country Code Top Level Domains (ccTLDs).

A subclass of gTLDs called "sponsored TLDs" has entered operation and is growing.

Each TLD is managed by a registry under a "designated manager" and operates its own set of name servers. Each TLD manages its own sub-tree for Secondary Level Domains (SLD).

The root zone contains records for all TLDs and is managed by the distribution master (hidden primary) root server. Zone files of TLDs contain records for SLDs and are managed by TLD primary name servers.

While the TLD registry operates the TLD name servers and the relevant database of the TLD, in most of the cases the registration of domain names by end users is done via registrars and/or ISPs which usually have contractual relationships with the TLD registry, especially in the case of the gTLDs. Registrars for gTLDs desiring to have direct access to ICANN-designated top-level domains need an accreditation by ICANN. In those markets where they exist separately, registries can be understood as wholesale vendors and registrars have responsibility for the direct interaction with registrants.

## **4. Governance mechanisms**

### **a. RFC 1591**

A general description of the Governance Structure of the Domain Name System (DNS) and guidelines for delegation can be found in the “informational” RFC 1591 (March 1994).

The RFC 1591 includes also a number of general principles and criteria for the delegation of TLDs and a list of requirements for the management of a TLD.

- \* according to RFC 1591, the management of a TLD is delegated to a “designated manager”.
- \* a “designated manager” has to be able “to carry out the necessary responsibilities” and “to do a equitable, just, honest and competent job”.
- \* there must be an “administrative contact” and a “technical contact”.
- \* in case of a ccTLD, the administrative contact must reside in the country involved.
- \* the “designated authorities” are “trustees for the delegated domain” and have a duty to serve “the global Internet community” in a “non-discriminatory fashion”.

While both gTLDs and ccTLDs are equal and full compatible from a technical point of view, there are substantial differences with regard to governance mechanisms.

### **b. Generic Top Level Domains (gTLDs)**

There has been no legal basis for the creation and delegation of the original seven gTLDs (.com, .org, .net, .gov, .edu, .mil, .int). After the establishment of ICANN in October 1998, ICANN started negotiations with Network Solutions Inc./NSI and finally entered into contractual arrangements for .com, .net, and .org in 1999. According with this contract, a re-delegation for .org was implemented in 2003. In fall 2004 ICANN started a process for a re-delegation of .net which is currently in progress.

In December 2000, the ICANN Board of Directors decided on the creation and delegation of seven new gTLDs (.info, .name, .biz, .pro, .coop, .aero, .museum). ICANN has entered into bilateral contractual arrangements with the registries of these seven new gTLDs.

Based on a Call for Proposals (CFP), ICANN started in 2004 a process to introduce a set of up to ten new sTLDs. Up to now, ICANN has started negotiations with five candidates, including .travel, .post, .jobs, .mobi, and .tel. Contracts with .travel and .jobs were finalized in March 2005, and adopted by the ICANN Board in April 2005.

While the process moves forward, there are no policy guidelines and defined criteria for the further development of the gTLD Name Space. These are currently being developed in a broad, participative process. In Annex A to the ICANN Bylaws there is a defined procedure for a Policy Development Process (PDP) for issues, falling into the competence of the GNSO.

### **c. Country Code Top Level Domains (ccTLDs)**

ccTLDs have been delegated on the basis of ISO Standard 3166, a list of 243 two letter country codes, managed by the International Standardization Organization (ISO). The list was chosen by Jon Postel for practical reasons. In RFC 1591 Postel made clear, that IANA “is not in the business of deciding what is and what is not a country” and that the selection of the ISO 3166 list “was made with the knowledge that ISO has a procedure for determining which entities should be and should not be on that list.”

There is no unique organizational model for a ccTLD Registry. With regard to the political and legal status of ccTLD Registries, there exist a broad range of different forms, according to the national circumstances and the history of the development of TLD services by each ccTLD Registry. In some

countries, the ccTLD Domain Name Space has been regulated by national law, very often as a special part in or an Annex to the National Telecommunication Law.

Some ccTLD Registries have entered into different types of contractual arrangements with ICANN these being developed jointly by ICANN and respective ccTLD managers. The majority of ccTLDs have no formal arrangement with ICANN but are dependent on the IANA service. “Accountability Frameworks” are also in development between ICANN and ccTLD managers, both within the ccNSO and bilaterally.

ccTLD managers are represented through the ccNSO, and have a voice, vote, and exert influence in ICANN governance structures. The ccNSO appoints two members of the ICANN Board of Directors. The ccNSO Council has a voting delegate on the Nominating Committee, which in turn populates most of the ICANN Board, and provides Liaisons to other SOs and committees.

In March 2005, the Governmental Advisory Committee (GAC) adopted new “Principles for the Delegation and Administration of Country Code Top Level Domains”. The GAC Principles define guidelines for the communication and cooperation between a ccTLD registry, the relevant public administration/government and ICANN in the processes of delegation/re-delegation and administration of ccTLDs. The GAC principles are complemented by a “Best Practice” document on delegation and re-delegation of the World Wide Alliance of Top Level Domains from June 2001.

#### **d. IANA Service**

Name Servers of TLDs are linked to the Root Server System. Both gTLD and ccTLD Registries need the IANA Service in cases of modifications of their TLD records in the root zone. RFC 1591 says, that TLDs have to have “a primary and a secondary name server that have IP connectivity to the Internet and can be easily checked for operational status and database accuracy by IANA”.

In cases of a contractual arrangement between TLD Registries and ICANN, the IANA service is included in the agreement. Otherwise the IANA service is offered in a universal, cost-free and non-discriminatory regime based on a voluntary arrangement. IANA has several services offered on that same basis to other actors of the Internet community, such as the registration of technical parameter protocols, tables for the use of IDNs, etc.

#### **e. Main Legal Documents and Contractual Arrangements**

There is no single legal document which constitutes a basis for the DNS.

**RFC 1591** can be seen as the basic description of the DNS Structure and Delegation. ICANN’s policy is based on RFC 1591 as it is stated in its policy paper ICP-1 on “Internet Domain Name System Structure and Delegation (ccTLD Administration and Delegation)” from May 1999. In the same spirit, the GAC Principles refer to RFC 1591 as a basic reference document in its preamble.

With regard to the **gTLDs**, in March 2005 there are ten bilateral contracts between ICANN and the relevant designated manager of the gTLD Registry for .com, .org, .net, .info, .biz, .name, .museum, .aero, .pro, .coop. There are draft contracts between ICANN and the registries for .travel and .jobs. There are no legal arrangements between ICANN and the registries for .edu, .gov and .mil. These three gTLDs are operated by US organisations (US General Service Administration for .gov; Educause for .edu and US Department of Defence Network Information Center/DoDNIC for .mil) under US law. The gTLD .int is operated by IANA .int Domain Registry. For conflict resolution on registered domain names, ICANN in consultation with WIPO has introduced a “Universal Dispute Resolution Policy” (UDRP) and recognized four UDRP Service providers (of which WIPO is one), which operate under a contract with ICANN.

With regard to **ccTLD**, in March 2005 there are six “Sponsorship Agreements” (.tw, .uz, .au., .ke, .sd, .jp.) and six MoU (.ps, .ng, .af, .bi, .la, .mw) between ICANN and ccTLD Registry managers. 231 ccTLD registries, of the ISO 3166 list do not have a formal contractual arrangement with ICANN. There is a so-

called “Reserve List” (ISO 3166-1) which includes, inter alia, .eu for the European Union (EU). The EU is preparing since 2000 the launching of the .eu Domain and its designated organization, EURID, has recently entered into negotiations with ICANN for the final approval of the TLD, which now has had the favorable vote of the ICANN Board and will be made operative by EURID.

The GAC Principles, although legally not binding, can be seen as the main policy guideline for the delegation and administration of ccTLDs. The GAC principles are complemented by a “Best Practice” document on delegation and re-delegation, adopted by the World Wide Alliance of Top Level Domain Names (June 2001). Additionally, there are more than 300 bilateral agreements between ICANN and registrars in the gTLD name space.

## 5. Evaluation against WSIS criteria

**5.1 Process Criteria** *To what extent to the institution’s Internet-related governance mechanisms meet the following criteria, given what could be reasonably expected in light of the governance mechanism used?*

- *Multilateral*
- *Transparent*
- *Democratic*
- *Full involvement of governments, the private sector, civil society and international organizations*

The main actors in this field of the Management/Governance of Domain Names are ICANN, IANA, GNSO and its constituencies, ccNSO and related international and regional ccTLD organizations. A special role is played by the Governmental Advisory Committee (GAC).

The general process of the management of domain names both in the gTLD and the ccTLD name space is rather transparent and allows, where needed and in accordance with the legal arrangements, the full involvement of governments, private sector and civil society.

In the area of gTLDs, one problem of concern is the non-existing policy for the further development of the domain name space, in particular the introduction of new gTLDs. There is no clarity about the status of the .int TLD. Planned transfer from IANA to an organization under the authority of the UN has been several times delayed but continues to progress. The zone files of the three gTLDs (.gov, .mil and .edu), which are used by US institutions only, are linked to the authoritative root and part of the root zone file, but are operating outside the ICANN system and do not have so far any contractual relationship with ICANN.

In the area of ccTLDs, one problem of concern is that there are no contractual relationships between ICANN/IANA and the majority of ccTLDs. While the GAC principles and the “Best Practice” document of the ccTLD Community on delegation and re-delegation constitutes workable guidelines, there are no legally binding international arrangements for the delegation and redelegation of ccTLDs. This includes also the missing legal basis for the so-called IANA service.

The application of national sovereignty decisions to ccTLD management is continuously evolving. While some consider that there is a lack of clarity as regards the limits of national sovereignty in relation to delegation and redelegation, others take the view that the “GAC Principles and Guidelines for the Delegation and Administration of Country Code Top Level Domains” are very clear in this regard. The GAC Principles specify that ccTLDs be “administered in the public interest, within the framework of its national public policy and relevant laws and regulations” and that the ccTLD manager “has a duty to serve the local Internet community as well as the global Internet community”. Redelegations of ccTLD management decided by governments “in accordance with national law, taking into account the views of all local stakeholders and the rights of the existing ccTLD Registry”, are performed by IANA which is

obligated to the users to confirm the agreement of all parties involved. Changes to the zone file derived from redelegations are approved by the ICANN Board and under the present regime overseen by the US DOC NTIA.

The participation of governments in ICANN decision-making through the GAC, in particular with respect to ccTLD management, has been described above. There exist differing views as to whether this is fully democratic. One view is that since governments have no authority in the decision making of ICANN, it cannot be viewed as being fully democratic and it is argued that the only way for the process to be fully democratic would be to place it under full global intergovernmental authority. More specifically, the step of approval of IANA recommendations by the US DoC cannot be seen as multilateral or democratic since it does not involve other governments, the private sector, civil society and international organizations, which do, however, contribute to all other steps of redelegations.

**5.2 *Role and responsibility criteria*** *(To what extent do the institution's Internet-related governance mechanisms enable the different stakeholder groups to fulfill their roles and responsibilities as defined by WSIS? To what extent to the different stakeholder groups have the capacity to fulfill their roles and responsibilities?)*

- Governments
- Private Sector
- Civil society
- Intergovernmental organizations
- Other international organizations

The management of domain names, particularly in the gTLD space, is primarily in the hand of the **private sector**. The main private sector actors are

- gTLD Registries
- gTLD Registrars
- ISPs

The overwhelming majority of the private sector actors have demonstrated their capability to fulfill their tasks and to make their contribution to the functioning of the Internet. With regard to the practical management there is no specific weakness in the system.

While most registries in the ccTLD space, regardless of their legal status as a public or private body, operate under their national legislation, some also operate under a formal contract or informal agreement with ICANN. The revised ICANN by-laws have introduced a clearly specified procedure for bottom up policy development with regard to ccTLD policies, taking into account that ICANN does not have overall authority over ccTLD registries. The ccNSO so far (March 2005) includes about 42 ccTLD registries but communicates and obtains input and feedback from many more.

**Governments** can channel their positions with regard to the global management of domain names via the Governmental Advisory Committee (GAC), the working groups created under the ccPDP and via Liaisons with other bodies and supporting organizations.

Recommendations of the GAC on gTLD issues to the ICANN Board had have been taken into consideration, as was the case – after a series of consultations – with regard to the registration of country names in the .info gTLD. The same criteria are in use in the contracts for .travel and .jobs.

With regard to ccTLDs, the GAC principles have clarified the role and relationships of the involved partners, that is the designated manager, ICANN and public authority. According to Article 5 of the GAC principles, the “relevant government or public authority ultimately represents the interests of the people of

the country or territory for which the ccTLD has been delegated. Accordingly, the role of the relevant government or public authority is to ensure that the ccTLD is being administered in the public interest, whilst taking into consideration issues of public policy and relevant law and regulation”.

ccTLD management is subject to public policy of the relevant government; the ccTLD sections of the ICANN Bylaws expressly consider the supreme rule of national law and public policy and indicate that no policy agreed globally can be made to override them. However, the GAC has no decision-making powers, and cannot determine policies. This is further reflected in the fact that ICANN has so far met with limited success in extending its outreach to all regions of the world.

As mentioned above, ccTLD managers, governments, and ICANN are in the process of determining the form of agreements which can satisfy the requirements of all parties involved and continue to serve the Internet community both locally and globally. Examples of this are further provided by the start-up of IDN systems within ccTLDs which are ongoing at the writing of this paper.

**Civil society** organizations are involved in different forms and levels in domain name management. In some countries the ccTLDs are managed by civil-society organizations while, in other countries, civil societies are not involved. The .org TLD is operated by a non-commercial, non-profit organization and identified to serve non-profit, civil society registrants as its main focus. Within the GNSO, the Non-Commercial Users Constituency delegates three members to the GNSO Council (which has 21 members). Other possibilities for involvement include the At-Large Advisory Committee, which can send recommendations to the ICANN Board of Directors, but the Board has no obligation to comment on ALAC recommendations or to take them into consideration within its own policy development or decision making processes.

A number of TLD registries (both generic and ccTLDs) have advisory boards, which include civil society institutions or individual representatives as members.

**5.3 Outcome Criteria** *(How effectively to the institution’s Internet-related governance mechanisms contribute to achievement of the following goals?)*

- Equitable distribution of resources
- Access for all
- Stable and secure functioning
- Multilingualism

The present management system for domain names is providing so far a stable and secure functioning of the Internet.

In general, domain names are an unlimited resource. Limits emerge from policy restrictions. Because each domain name has to be unique, there are potential conflicts around special names where different parties want to have the same name. Domain names are allocated on the basis of the principle “first come, first served”, with some exceptions (so called sunrise-phase in new TLDs). Conflicts around names are decided either by courts or via the UDRP system, introduced by ICANN in 2000. Recourse to courts is in no way precluded by the UDRP, which is an international arbitration regime, but access to courts may be complex in some cases due to their trans-jurisdictional character and to the fact that in many countries the conduct which is cause of the UDRP to be applied is not legally codified.

With regard to the ccTLD name space it can be stated that this resource is equitably distributed and guarantees access for all users on a non-discriminatory bases.

With regard to the gTLD name space, the resource is artificially restricted and there are no defined policies and/or criteria for a further development and broadening of gTLD name space. While on the one

hand, competition in the gTLD domain name market has been improved, the market is still dominated by one big player (VeriSign), which controls more than 50 percent of the market. Furthermore, the equitable distribution of resources and Multilingualism are still major concerns in the current situation. With the introduction of IDNs, a process has started which will enable Internet users to use domain names on a non-ASCII basis<sup>1</sup>.

**6. Coordination: How effectively is governance of this issue coordinated with governance of other Internet-related issues?**

The coordination between the DNS, IP addresses and the root server system as well as within the different segments of the DNS is mainly organized via ICANN, their supporting organizations and the relevant constituencies. The cross constituency coordination is mainly guaranteed via a system of liaisons in the relevant councils of the GNSO and the ccNSO. There is no special coordination mechanism between the DNS and other applications and services, which make use of the DNS like eCommerce, eGovernment and others.

Conflicts which arise from the registration of domain names, are either settled by national courts (in particular in the ccTLD name space) or by the mechanisms, established by the Universal Dispute Resolution Policy (UDRP), that is the UDRP Service Providers, recognized by ICANN.

**7. Overall assessment: What are the points that most need improvement in order to meet the WSIS criteria?**

Proposals for improvement need to consider that in general the existing system has so far functioned for more than two decades and that adjustments, where needed, both for technical and political reasons, have to be made in a proper and adequate way related to the functioning, stability, security and further development of the Internet.

Based on this general evaluation, studies on possible improvements could be made in the following directions:

- Assessment and, if necessary, revision of the balance and roles of the three stakeholder groups (governments, private sector and civil society) in the Internet governance structure and policy-making. This includes the governance structure of ICANN and of the other organizations that may be involved in domain names management;
- The role of ICANN/ GAC and their current consensus model, as well as the role of all stakeholders with regard to decision-making in, and a transparent and inclusive policy for, the process of introduction of new gTLDs and delegation and redelegation of ccTLDs;
- Clarification of the status of the .int TLD and the relationship between ICANN and the gTLD registries for .edu, .gov and .mil;
- Reassessment of concerns over privacy with the WHOIS database;
- Assessment of the effectiveness of the UDRP in protection of the interests of non-commercial users and protection of country names, etc;
- Extending and increasing the involvement of all stakeholder groups in Internet governance processes, especially from the developing countries;

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<sup>1</sup> Refer to an extensive discussion of this issue in the paper on Multilingual Naming Systems.

- Bottom up development of a transparent policy for the introduction of multilingual domain names.

**Annex:**

Article 5, GAC principles (March 2000):

**ROLE OF GOVERNMENT OR PUBLIC AUTHORITY**

5.1 The relevant government or public authority ultimately represents the interests of the people of the country or territory for which the ccTLD has been delegated. Accordingly, the role of the relevant government or public authority is to ensure that the ccTLD is being administered in the public interest, whilst taking into consideration issues of public policy and relevant law and regulation.

5.2 Governments or public authorities have responsibility for public policy objectives such as: transparency and non-discriminatory practices; greater choice, lower prices and better services for all categories of users; respect for personal privacy; and consumer protection issues. Considering their responsibility to protect these interests, governments or public authorities maintain ultimate policy authority over their respective ccTLDs and should ensure that they are operated in conformity with domestic public policy objectives, laws and regulations, and international law and applicable international conventions.