

Public Consultation on the .mu ccTLD

- Agenda
 - Objective of Public Consultation
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 - Need for redelegation
 - Domain Name System
 - Concept of Authority & delegation*
 - Name servers and zones*
 - Operational framework*
 - Present .mu framework model
 - Implications of redelegation
 - Status of discussions with .mu administrator
 - Action Plan

Objective

- Assess the level of satisfaction of the local Internet community with regard to the present .mu ccTLD administration.
- Describe the goals and associated issues of transitioning from the existing .mu administration, to a more formally defined structure based on a local multi-stakeholder representation.
- Compile public views on the new .mu framework proposed.

Basis for request for the new .mu framework

■ Identity of a country in cyberspace

- Management of its ccTLD is now an important policy issue. In Mauritius, it is considered as part of the overall e-strategy being developed by Government.
- A ccTLD needs to be administered from within a country as it provides the country with an identity in cyberspace registration, renewal, suspension of domain names, and the disputes that may arise under the ccTLD, will be governed by the local laws.
- The overall objective is that the country code top level domain .mu should become the obvious choice for all Internet users residing in Mauritius.

Basis for request for the new .mu framework

■ Legal basis

- Under section 18 (1) (y) of the ICT Act 2001, the ICT Authority has the mandate to *“authorise or regulate the registration, administration and management of domain names for Mauritius”*.
- Under the same Act, sections 12 & 13 make provision for the setting up and for the functions of the Internet Management Committee (IMC) to assist the Authority in the task of administering the .mu ccTLD.

Basis for request for the new .mu framework

■ International best practice

- Under the principles and guidelines for the delegation and administration of country code top level domains developed by the GAC of the ICANN:
 - Ultimate public policy authority over the relevant ccTLD rests with the relevant government or public authority; how this authority is exercised is determined by applicable law.
 - Every country should be able to ask for its appropriate country code to be represented as a ccTLD in the DNS and to designate the Registry for the ccTLD concerned.
 - The relevant government or public authority is strongly encouraged to ensure that the ccTLD is being administered in the public interest, within the framework of its national public policy and relevant laws and regulations.
 - The relevant government or public authority should be able to ensure that domain name registration in the ccTLD by Registrars benefits from effective and fair conditions of competition, at appropriate levels and scale of activity.

Basis for request for the new .mu framework

■ Accountability framework

- As a first step towards the setting up of an accountability framework, the ICT Authority will take on board the inputs from the public as part of an inclusive process.
- Based on these inputs, the new .mu administration framework will operate via a multi-stakeholder structure.
- It will primarily aim at catering for the needs of both the local Internet community and the global Internet community.

Need for redelegation

- The transition process from the present .mu framework to the new one is known as redelegation.
- Redelegation involves the transfer of the technical and administrative responsibilities for the operation of the ccTLD from one entity to another.
- Implications at different levels: policy, technical and operational levels.
- To understand these implications, an understanding of the DNS and the functions therein is necessary.

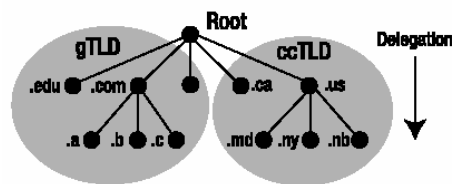
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Domain Name System

- The Domain Name System uses a tree (or hierarchical) name structure.
- At the top of the tree is the root node followed by the *Top-Level Domains* (TLDs), then the *Second-Level Domains* (SLD) and any number of lower levels, each separated with a dot.
- TLDs are split into two types:
 - 1. *Generic Top-Level Domains (gTLD)*: For example, .com, .edu, .net, .org, .mil, etc.
 - 2. *Country Code Top-Level Domains (ccTLD)*: For example, .us, .ca, .mu, .uk, etc.
- Country Code TLDs use a standard two-letter sequence defined by ISO 3166.



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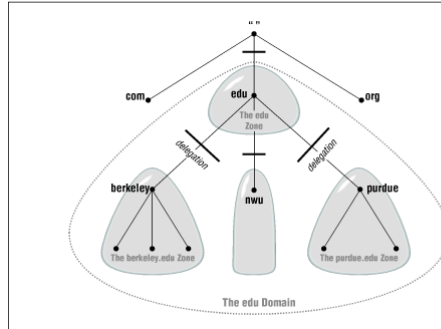
- The authority for the root domain lies with the Internet Corporation for Assigned Numbers and Names (ICANN—www.icann.org/).
- Since 1998, ICANN, a nonprofit organisation, has assumed this responsibility from the United States Department of Commerce.
- To facilitate this competition, it created the concept of *accredited registrars*, organisations to which ICANN delegated limited responsibilities for the sale and administration of parts of the domain name hierarchy.
- The gTLDs are *authoritatively* administered by ICANN and *delegated* to a series of accredited registries and registrars.
- The ccTLDs are usually delegated by ICANN to the individual countries for administration.

Domain Authority

- The concepts of *authority* and *delegation* lie at the core of the Domain Name System.
- Each node within the domain name hierarchy is assigned to an *authority*—an organisation or person responsible for the management and operation of that node.
- The *authority* for a particular node can in turn *delegate* authority for lower levels of that node.
- In the case of ccTLDs, countries define their own rules for delegation (this is policy):
 - Countries like the US and Canada have decided that they will administer both at the national level and delegate to each state (US) or province (Canada) using a two-character state/province code.
 - Other countries like Brazil have opted for functional segmentation in their delegation models. Thus example.com.br is the domain name of example registered as a company from the Brazilian registration authority.
 - Some countries like France and Denmark have opted for an open policy or a flat design. A flat design allows any name directly under the top-level country-code domain.

Name Servers and Zones

- Programs that store information about the domain name space are called *name servers*.
- Name servers have complete information about some part of the domain. Domains are broken into smaller, more manageable units by delegation. These units are called zones
- The name server is then said to have *authority* for that zone.
- Since a zone is bounded by delegation, it will never include delegated data. That's why name servers load zones instead of domains .
- Otherwise if a root name server loaded the root domain instead of the root zone: it would be loading the entire name space!
- In fact, the DNS it is a distributed database system that scales well and doesn't bog down as the database grows.



*The edu domain is divided into many zones, including the berkeley.edu zone, the purdue.edu zone and the nwu.edu zone.
(Ref: O'reilly DNS & BIND)*

Operational framework

- 3 entities involved in Internet domain name registration within this model:
 - **Registry:** authoritative repository, responsible for all functional information required to resolve names registered in its TLDs.
 - **Registrar:** interface between registry and registrant, may provide extra services to the latter one.
 - **Registrant:** final client, the one who wishes to register the domain name.
- While there can be several registrars that provide domain registration and related services for a same given TLD, there's necessarily only ONE authoritative repository responsible for this TLD.

Registry

- An entity which maintains a set of data, used to publish one or more zones.
- The Registry's customers are Registrars.
 - few customers, low support overhead, high efficiency
- The Registry acts according to some delegated Authority:
 - – from ICANN
 - – from a Government
 - – from some community of interest
 - – from the operator of the parent zone
- The Registry's Administrative Point of Contact, POC's role is to make simple, publishable rules that the applicants and registrars can follow unambiguously.
- The Technical POC's role is to maintain the contents of the zone and to make the system work..

Registrar

- An intermediary between registrants and Registries.
- Provides customer care, retail services.
- May share the cost of customer care with other revenue generating activities (web hosting, internet access).
- Customers of Registrars are Registrants.
- Suppliers of Registrars are Registries.

Registrant

- Someone who wants a domain name.
- Suppliers of Registrants are Registrars.
- Registrants can move domains between Registrars, if they want.

Present .mu model

- Until recently, .mu ccTLD was administrated by Internet Direct, Ltd., a company managed by Mr. Yann Kwok. Mr. Kwok holds the role of trustee of the .mu TLD since 1995.
- As of today, the .mu domain is currently administrated by the Mauritius Network Information Center, which itself is a member of the CoCCA (Council of Country Code Administrators). CoCCA is incorporated in the Christmas Island.
- CoCCA services and servers reside in Sydney, AU, with backup in Seattle. CoCCA itself does run a registry or operate name servers for ccTLDs.
- The nameservers for .MU itself are located in various places around the globe, as is recommended in DNS best practices.
- Until recently, Internet Direct, Ltd / Hyperion, owned by Mr. Kwok was functioning as registry / registrar for .mu.
- Transition of Registry function to CoCCA occurred in 2006 and conversion of Internet Direct's registrar function and associated registered domain to "Register.MU", owned by Mr. Yann Kwok was also noted.

Implications of redelegation

- In our transition model, the purpose of communicating with the present .mu administrator is to ensure the successful handing over and physical transfer of the **.mu zone file** from the present .mu Registry located in Christmas island to Mauritius.
- This is the most important aspect of the redelegation process so that this transition becomes transparent to the existing registrants under .mu.
- It is also an aspect to which the ICANN pays special attention as stability of the Internet will be preserved in the above scenario.

Status of discussions between ICT Authority and present .mu administrator

- Since March 2004, the .mu file was handled by the ICT Authority.
- Since then, the ICT Authority has opened up a communication line with Mr. Yann Kwok in order to negotiate the .mu re-delegation through amicable settlement as recommended by ICANN.
- No agreement could not be reached at this time between Mr. Yann Kwok, the IMC and the ICT Authority.
- In March 2005, Mr. Yann Kwok came forward with a new .mu administration model (with CoCCA).
- The ICT Authority was subsequently informed that the above model was implemented in 2006.
- A Heads of Agreement to ensure a smooth redelegation is presently under discussion between the parties.

Action Plan

An Action Plan with the following milestones is now being implemented to tackle the .mu project:

- Enlistment of the services, by the ICT Authority, of an international independent consultant.
- Setting up of .mu technical infrastructure at an identified location, within Mauritius.
- Public notification in national and international press regarding the need for Mauritius to file a .mu re-delegation request with ICANN and requesting all existing .mu registrants to re-register with the new .mu administration.
- Filing the .mu re-delegation case with ICANN and updating of the Internet root servers to reflect the new location of .mu administration in Mauritius. It is expected that the whole re-delegation process will take some six to eight months.

As at date, with the enlistment of the services of .mu consultant by the Authority in October 2006, item (i) of the Action Plan is under implementation where a line of communication has again been opened up with the present .mu administrator. This Public Consultation process also fits within this phase.