Consultation Document Ref. 2007/2

The administration of .mu country code Top Level Domain (.mu ccTLD)

03 March 2007

Public consultation
for the .MU ccTLD (.MU NIC)

March 2nd, 2007

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I. Purpose

In line with the provisions of the ICT Act 2001, the Government of Mauritius through the Information and Communication Technologies Authority of Mauritius, wishes to formalise the administration of the country code Top Level Domain of Mauritius (.MU ccTLD) and come up with a new .MU administration framework which will ensure full transparency and greater accountability towards the Internet community of Mauritius, and the rest of the Internet community.

This Consultation Paper describes the goals and associated issues of transitioning from the existing .MU administration, presently managed by a small group of individuals, to a more formally defined structure based on a local multi-stakeholder representation including Government, private sector, academia and NGOs. In this respect, the ICT Authority is inviting comments from the public for the definition of new arrangements to be put in place to ensure a smooth transition.

Before undertaking any future actions, it is necessary to gauge public views on whether these new arrangements are warranted. If such is the case, the views and suggestions of the public are also required to work out the best way forward based on a consensual approach.

As a first step within the proposed accountability framework, the ICT Authority is seeking inputs from the public as part of an inclusive process. Based on these inputs, the new .MU administration framework will primarily aim at catering for the needs of both the local Internet community as well as the global Internet community.

Vision and scope of the .MU TLD

Since domain names in the ccTLDs have become very popular in recent years, their management is now an important policy issue that can be integral to the development of e-services, and consequently, should be considered as part of the overall e-strategy being developed by Government.

A ccTLD needs to be administered from within a country for several reasons:

1. it provides the country with an identity in cyberspace
2. registration, renewal, suspension of domain names, and the disputes that may arise under the ccTLD, will be governed by the local laws.
3. Operating the TLD from within the country is the only reliable way to acquire sufficient experience with ccTLD administration, before any form of outsourcing can be considered.

It is, therefore, necessary for the appropriate representatives of the Mauritian Internet Community to be involved in the management of the country's top-level domain name

.mu in view of its impact at the national and international levels, the more so that the Internet is now firmly established as a strategic channel for the conduct of business, and increasingly so for e-government.

With the proposed new arrangements described in this Consultation paper, the .MU TLD will seek to provide Mauritians with a digital identity (in the context of the Cyber Island) that is managed by a trusted authority. The overall objective is that the country code top level domain .MU should be the obvious choice for all Internet users residing in Mauritius. Furthermore, it is important that the new framework for the administration of the .MU TLD safeguards the interests of the users. In this respect, the process of domain name assignment under .MU should be quick, of high quality and affordable. This process will, in turn, imply that the allocation of Internet domain names under .MU is undertaken via a new, robust, reliable and secure registration system which will ensure a good and responsive customer service, in a competitive fashion [cf. 3 tier model].

II. Background

Recent global trends on Internet domain names.

In recent years, more and more countries have opted to manage themselves the Top Level Domain associated with their country code themselves. In most cases, a formal appointment process is established, and a mandated organization (known as the registry) operates the TLD on a technical and administrative basis, usually on a cost-recovery or limited profitability model – this is the case with most larger registries, for instance DENIC (.DE), Nominet (.UK) or AFNIC (.FR).

Another model exists where institutions considered to be trustworthy or sufficiently neutral, such as universities or research centres, and with appropriate technical knowledge, handled administration of the TLD.

In other cases, third party companies have offered to manage, in exchange for direct or indirect financial compensation, the TLD of a country which did not have the resources (technical or other) or the interest to administrate the TLD themselves, as such was the case with .TV (Tuvalu) and .NU (Niue).

Finally, in some remaining cases, the administration of the TLD is entrusted to a single individual, as has been and still is the case for some ccTLDs. Note that this is not the case of .MU, which waas delegated from IANA to Internet Direct Ltd.

In the recent years, organisations such as ISOC[1] and NSRC[2] have promoted technical awareness for existing ccTLD administrators, as well as encouraging process of countries regaining control of their ccTLDs, by organising ccTLD workshops. Over 50 ccTLDs have participated as of February 2007.

See the appendix for a more detailed discussion of the administrative and technical aspects of DNS and domain delegation.

III. Present administration and allocation of Internet domain names under .mu

Historical background

Until recently, .MU was administrated by Internet Direct, Ltd., a company managed by Mr. Yann Kwok. Internet Direct, Ltd. has held the role of trustee of the .MU TLD (Top Level Domain) since 1995, after, it is presumed, it was granted to him by IANA.

Set up

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)[3]. It is understood that the CoCCA is incorporated in the Christmas Island. The relation between Mauritius NIC and the former Internet Direct Limited, as well as the relation between Mauritius NIC and CoCCA is explained as follows Mr. Miller as:

"The MU NIC purchase hosting and software development services from CoCCA and also participates in the COCCA CRS and helps fund of the independent Ombudsman's office (http://www.ombudsman.tl). The arrangement introduces economies of scale, and reduces the costs of operating the .MU registry and simplifies connection to the .MU ccTLD register."

Mr. Miller describes CoCCA as follows:

"CoCCA is a member owned not for profit company which provides a variety of "member services". Member services include joint accreditation Dispute/Complaint resolution,

1 Internet SOCiety - http://www.isoc.org/
2 Network Startup Resource Center - http://www.nsrc.org/
3 http://www.cocca.cx/

Ombudsman services, hosting, merchant processing and software development. CoCCA has both private operators and national governments as members."

The CoCCA NOC is located at http://www.globalswitch.com/locations/sydney.en.html with backup in Seattle, USA.

At the date of publication of this document, no other contact information other than that listed at http://www.nic.mu/contact.jsp is available for the .MU ccTLD. A WHOIS service does exist, but it does not seem to provide information other than registrar and creation/expiration dates for the domains (i.e.: registrant information is not available, though this may be for privacy reasons)

After the transition to CoCCA was carried out, Hyperion / Internet Direct Ltd. apparently evolved into one of several registrars (Hyperion.MU), albeit one with the largest number of registrations.

It is to be noted that CoCCA itself does not manage the primary DNS servers for .MU or any other TLD, and CoCCA does not run any registry or manage any TLD's root servers.

Historical time line

As it is understood, the following time line describes the transition of .MU management:

1995 management of .MU entrusted to Mr. Yann Kwok by IANA / Jon Postel

? creation of Interned Direct, Ltd / Hyperion, owner by Mr. Kwok, and functioning as registry / registrar for .MU

2006 transition of Registry function to CoCCA, conversion of Internet Direct's registrar function and associated registered domain to "Register.MU", owned by Mr. Yann Kwok.

Existing policies and agreement for the current .MU

Current Guiding principles for Domain Name Registration for .mu Domain Names
There are, as of today, no known guiding principles for Domain Name Registration for .MU domain names. However, an Acceptable Use Policy and Registration Agreement

are available, describing under which terms the registration of a .MU domain name is granted, and which restrictions apply[4]

Dispute Resolution for .mu Domain Names

CoCCA states the following regarding their dispute resolution policy:

"A considered DRS is in place - based on the .uk and .nz was developed with the assistance of the Office of the Domain Name Commissioner (NZ) and the Herb Way (the ICANN adjunct ombudsman).[5] The DRS utilizes the services of a panel of WIPO experts to arbitrate disputes."

See the Appendix for a further presentation of the experts cited above.

IV. Summary of discussions between ICT Authority and Internet Direct, Ltd.

Since March 2004, the **.mu** file was handled by the ICT Authority in line with the provisions of section 18 (1) (*y)* of the Information and Communication Technologies Act 2001. Since then, the ICT Authority has opened up a communication line with Internet Direct, Ltd. in order to negotiate **.mu** re-delegation through amicable settlement as recommended by ICANN.

An agreement could not be reached at the time, due to differences of views on the matter. In 2005, Internet Direct, Ltd. informed the authority of their intent to migrate the existing registry to a shared registry system.

In 2006, the Authority was informed that the .mu administration had effectively migrated to the new registry system (CoCCA), which is currently located outside Mauritius.

Resulting action plan

An Action Plan with the following milestones has been implemented to tackle the .mu project:

4 http://cocca.nic.mu/mu/mu_aup.pdf and http://cocca.nic.mu/mu/mu_registration.pdf

5 http://cocca.cx/modules/smartsection/item.php?itemid=44 and http://cocca.cx/modules/smartsection/item.php?itemid=45

i. Enlistment of the services, by the ICT Authority, of an international consultant, duly recognised by the ICANN.
ii. Setting up of .mu technical infrastructure at an identified location in Mauritius.
iii. Public notification in national and international press regarding the need for Mauritius to file a .mu re-delegation request with ICANN.
iv. Filing the .mu re-delegation case with ICANN and updating of the DNS 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 Mr. Yann Kwok. The public consultation process also fits within this phase.

Following the reopening of the line of communication in 2005 between the Authority and Mr Kwok, a proposal for a Heads of Agreement was put forward by Mr. Kwok / Internet Direct. This proposal is being seriously considered, as it is much closer to the goals of the Authority with regards to the future plans for the .MU registry.

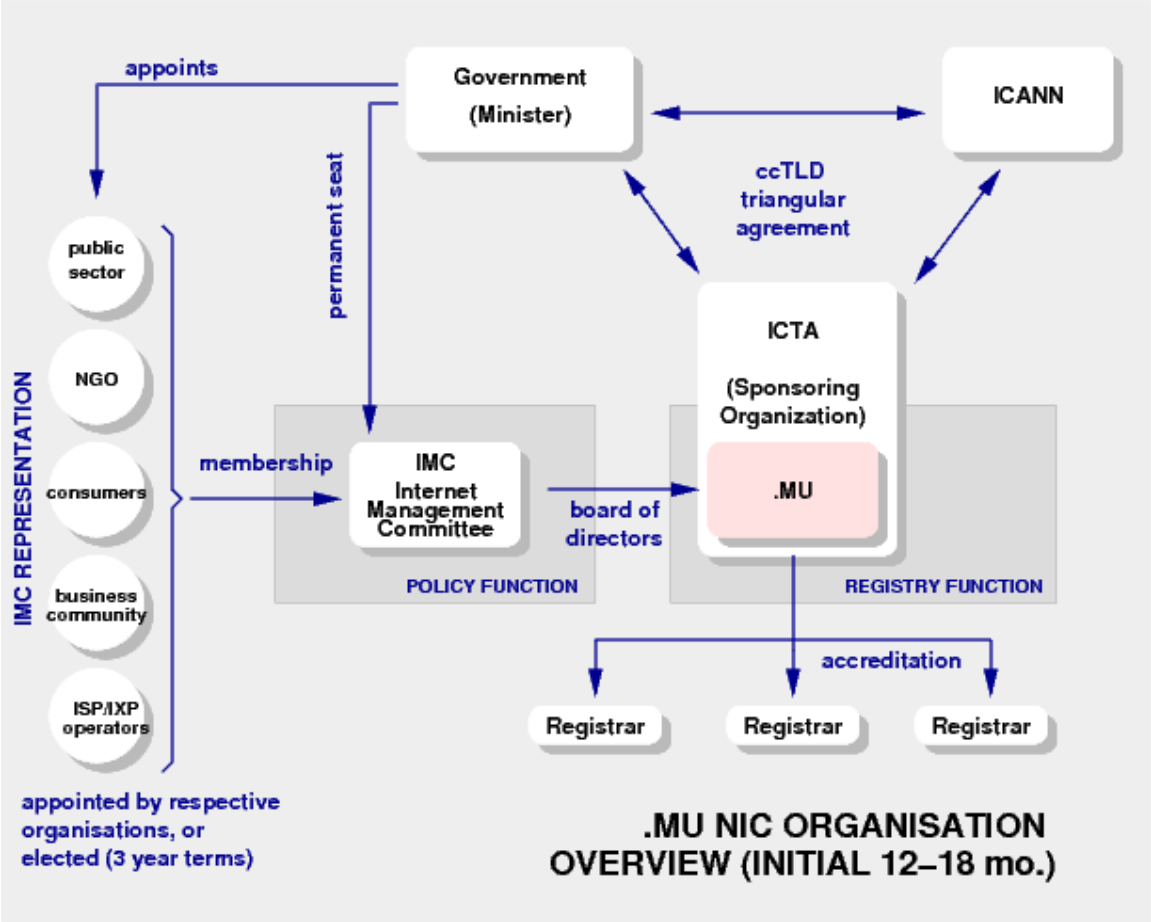
V. Proposed model for the administration and allocation of Internet domain names under .MU

Proposed Institutional Arrangements

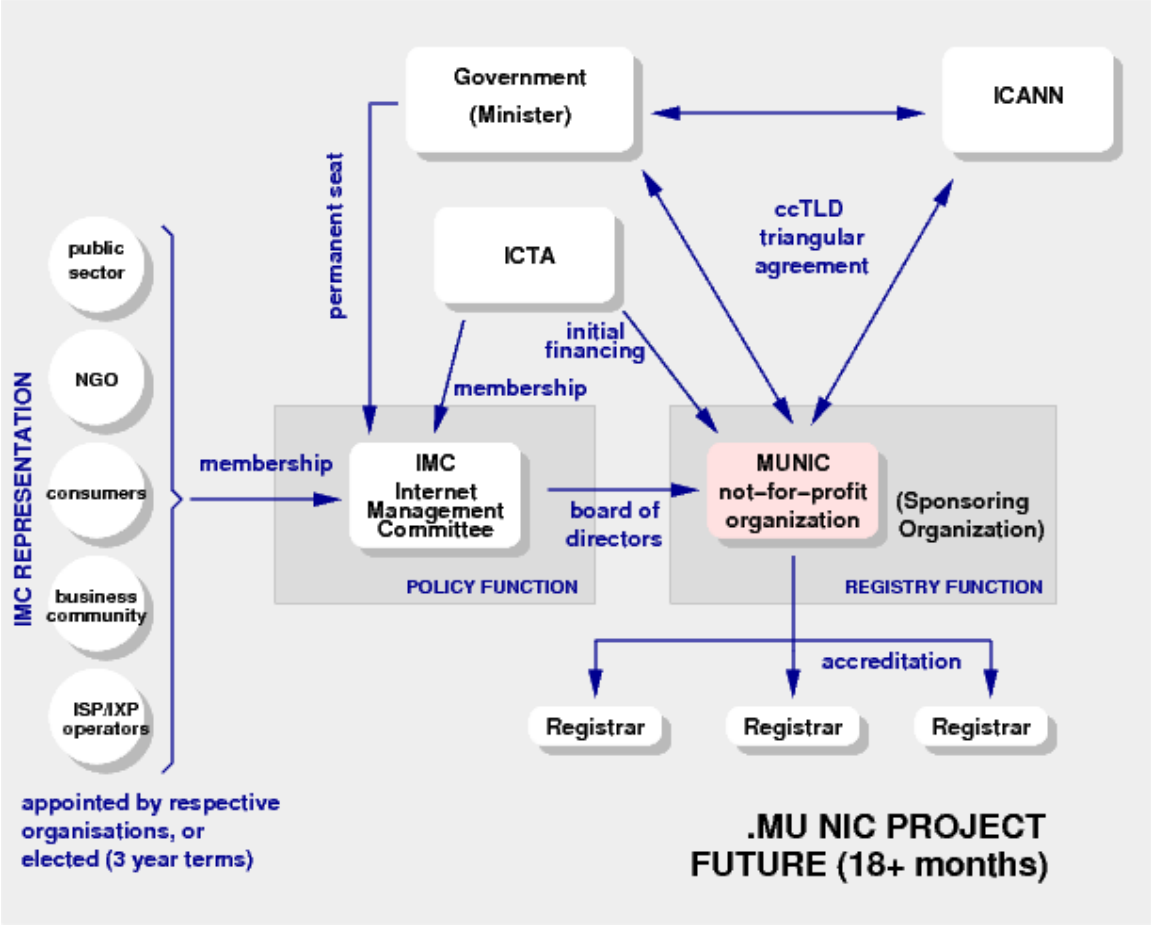
It is proposed that that the future policy-making and administrative body in the .mu administration and assignment of Internet domain names under .mu should have a wide representation from different sectors of Mauritian Internet community. For this purpose, it is planned, in the suggested model, to assign the IMC (Internet Management Committee, as constituted by the ACT of 2001) with policy functions for the new .mu registry to be put in place.

The role of the IMC will be one of policy making and direction setting for the new registry. The composition of the IMC is set to transition from its current model (appointment of its members by the Minister of Technology and Telecommunications) to an elective one, where members are voted in by the members and representatives of the local Internet community.

The administrative and technical responsibilities of the registry itself will be carried out by the ICTA during the transitional phase, and at a later state by a not-for-profit organization, overseen by the IMC.



The goal of the new registry function will be to implement the administrative and technical functions, on the Mauritian territory, guided by the policy recommendations of the IMC. A three tier registry model is established, with accredited registrars performing registration services on behalf of business, organisations and individuals.



VI. Proposed Domain Name Registration guidelines for .mu Domain Names

The are the guiding principles for the future .mu charter.

The policy itself is composed of a number of policy documents that are collectively known as the charter. The policy documents define the rules of operation of the registry, the rules of registration, the processes by which the various entities (Registrants and Registrars) will interact with each other, and the assigned rights and obligations of each party within the scope of the registry.

It is proposed that that appropriate registration policies should be drawn up to strike a balance between encouraging the development of e-business in Mauritius and guarding against overexploitation, among which cybersquatting and domain hoarding. A number

of guiding principles have been identified as of critical importance for the registration of domain names ending with .mu. They are:

(a) the ccTLD ".mu" is a public resource and as such should be administered in a way that would maximise the benefits to the local community;
(b) the structure of .mu domain names (e.g. the character set allowed for a domain name, the maximum number of characters in a domain name, etc.) should adhere to international standards so that domain names ending with .mu can be used globally (including such standards as IDN[6])
(c) registration of .mu domain names should be on a need basis and the domain names are not for trading;
(d) the application procedures should be simple to allow efficient processing;
(e) domain names applicants should be committed to avoid infringing upon the intellectual property rights of a third party; and
(f) domain name registrants are responsible for any legal liabilities arising from the use of .mu domain names and should comply with the prevailing dispute resolution policy adopted by the responsible authority.

In the light of the above guiding principles, some broad registration and dispute resolution guidelines have been formulated to serve as a reference for the new policy-making and administrative body responsible for the administration of .mu domain names in drawing up the detailed registration policies for .mu domain names. These guidelines are set out below for public comment.

Registration rules for .mu domain names

(a) Reserved terms

It is proposed that the IMC, as part of the policy process, establish a list of localities, places and names of historic or geographical significance, and possibly generic terms ("museum", "travel", ...) which would be off-limits to registration. Trademarks and brand names fall under the (e) and (f) points and are handled via dispute resolution.

In order to protect Internet domain names from indecency, words which are obscene, scandalous, indecent, and contrary to law or morality may be added to the list of reserved terms, as off-limits for registration.

6 Internationalized Domain Names, i.e.: domain names in various national character sets.

Apart from the above, consideration may be given to reserving also the following:

(i) reserve certain SLDs for administrative purposes (nic.mu, gov.mu, edu.mu) and delegate / give access to the relevant organizations (appointments), for instances for public authorities and online government administrations.
(ii) grandfather SLDs which have been used by large customers (intnet.mu, which is just another domain)
(iii) reserver other gTLD names under .MU (.com.mu, .net.mu), as well as 2-letter codes, thus avoiding potential confusion with existing TLDs (ISO3166-1 codes).
(iv) otherwise let anyone register directly under .MU unless they conflict with the restricted list

The above proposal implies a “flat” ccTLD structure, where except for a few reserved terms (public administration, government and official use), the entire .MU name space is available for registration to individuals and organisations, private and public alike.

(b) "First come, first served" principle

Most domain name registrars worldwide adopt the "first come, first served" principle in their registration process. The domain name registrar will check that the requested domain name has not been previously registered, but it will *not* determine whether the requested name infringes upon the right of a third party, for example, the rights pertaining to registered and unregistered trademarks.

It is proposed that domain names should be registered on a "first come, first served" basis and that the registrar should not assume the responsibility for checking whether a domain name being applied for may infringe the rights of a third party.

(c) Multiple domain names per registrant organisation

It is proposed that each organisation or individual should be allowed to register more than one domain name under .mu to enable local companies to use different .mu domain names for their products and services. While not explicitly mentioned, a company or individual is entitled to reserve as many domain names as they see fit, though abuse of this right (for the explicit purpose of domain hoarding, cybersquatting or other similar practice) may incur suspension of the domain names (though the process would likely not be initiated by the Registry itself).

(d) Acceptable use policy and correctness of registration information

To reaffirm the principle that the domain name applicant bears all legal liabilities arising from the use of a particular .mu domain name, it is proposed that the applicant should be

asked to declare when making an application that to its best knowledge, the domain name applied for does not infringe upon the intellectual property rights of a third party, and that all contact information provided is correct, at the risk of seeing the domain suspended otherwise.

(e) Transferability of domain name registration

It is proposed that the transfer of domain names on valid grounds (e.g. the ownership or distribution right of a company, its products or services has been transferred) should be allowed, and facilitated by the Registry as a part of its standard administrative procedure, at a minimal cost.

(f) Local presence requirements - registrants

As the cyberspace has no geographical boundaries, consideration may be given to opening up the registration of domain names under .mu to interested parties outside Mauritius. Such a policy would attract more domain name registrations under .mu. On the other hand, ".mu" is a public resource of Mauritius. It also denotes a geographical association. It is, therefore, proposed that initially (sunrise period) only companies and organisations registered or incorporated in Mauritius should be allowed to register domain names ending with .mu. The IMC should review this restriction in the light of development of the Internet both globally and in Mauritius. Alternatively, a presence requirement for the Administrative contact could be required, such as is the case for .FR, while allowing Registrants and Technical contacts to be abroad (for instance, a foreign company registering a .mu domain name via a partner company in .mu).

(g) Local presence requirements – registrars

Consideration may be given to the limitation – or not – of Registrars which may register domains under .mu (accreditation) to those which are incorporated in .mu. In practice, several commercial companies easily avoid this restriction (for example, Speednames / ASCIO) by incorporating in many countries, and establishing administrative contacts in the form of individuals residing in each country).

(h) Domain names for individuals

It is proposed that no differentiation be made between individual residents of Mauritius and companies or other non-physical entities. Individuals should be allowed to register domain names in the same name space as these entities.

(i) Renewal of domain names

.mu domain names are a public resource of Mauritius. We should ensure that they are used to the greatest benefit for the local community and are used by those with a genuine purpose. Domain names which are no longer required for their original purpose should be made available for registration by others. It is proposed that all .mu domain names should be subject to renewal and that renewal fees should be charged to cover the administrative cost involved and to enable the Registry to operate on a self-financing basis, at a low cost affordable by most individuals (for instance, 6-12 USD Registry price).

(j) Domain re delegation

A domain name may at any time, upon request of the the Registrant, be transferred (technically and administratively relocated) to another Registrant of their choice, as long as the Registrar is accredited to the .mu Registry.

(k) Right to privacy

The information disclosed by Registrants when registering a domain is stored in an electronic database, which will be made available for consultation to third-parties who wish to know which person or organisation has registered a given domain. The degree to which this information is made available, and how much of it, is the object of a privacy policy, which clearly establishes the level of confidentiality that the Registrant can expect. In some ccTLDs, this information is not directly available to end-users, and in some cases the registration information will not be available at all. In other cases, the Registry might decide to sell the WHOIS data to commercial companies, for the purposes of advertising or similar (though this is usually discouraged).

(l) Registrar accreditation

Before a Registrar can be allowed to register domains in the .mu domain, they will need to submit to an accreditation process, which will involve:

- Payment of an initial "security" fee (deposit) – this is necessary since registrars will have the possibility of creating new domain registrations within the .mu domain database, and thus be charged for as many domains as they register. The goal of this deposit is to secure that, should the registrar fail to pay outstanding domain registration requests, the deposit can be used as a compensation. The status of unpaid domains by failure of a registrar is not defined (this should be clarified, for example by giving the Registrant the possibility of choosing a new registrar).

- Technical aptitude: the registrar will at the very least sign a document through which they declare that they are technically proficient in the areas of Internet protocols, and DNS in particular, so as to carry out efficiently the function of DNS registrar on behalf of Registrants, while having direct access to the Registry.

- A technical training / briefing may be required (half to full day) for technical contact of the applying registrar.

Proposed Dispute Resolution for .mu Domain Names

Dispute resolution guidelines

(a) IMC and ICTA to maintain a neutral role

It is a common practice at the international level that that network information centres, and the policy setting bodies that advise or govern them, are not involved directly in the handling of disputes arising from the registration or use of domain names. This arrangement maintains the policy-making and administrative body's position as a neutral organisation when a dispute arises. It is therefore, proposed that neither the IMC or ICTA (and in the future, the organisation handling the technical, administrative and operational function of running the registry) is not directly involved in the process of dispute resolution.

(b) Dispute resolution mechanism

To facilitate early resolution of domain name disputes, it is proposed to proceed in the following fashion:

The dispute resolution procedure will be invoked if the claimant is able to produce the following evidence to the Registry or the concerned Registrar:

(i) the registered domain name is identical or confusingly similar to a trademark or service mark to which the claimant has rights;

(ii) the registrant has no rights or legitimate interests in respect of the domain name; and

(iii) the registered domain name is being used in bad faith.

The dispute is then handled through process similar to that of the ICANN drafted UDRP (Universal Dispute Resolution Policy), which has since been adopted in various forms by several ccTLD registries. In this case:

(iv) The dispute will be handled by an independent arbitration panel provided by the dispute resolution service provider. The registration authority and the registrar will not be involved in the arbitration process.

Alternatively, the matter could be referred to the ICT Appeal Tribunal[7]

The arbitration panel will inform the disputed parties once a decision has been made. In the event that the registrant loses, an appeal against the decision may be made to the courts in Mauritius within a specified period. If no appeal is made within the stipulated period, the domain name of the registrant will be deleted from the domain name database.

The domain name registrar receiving complaints against domain name will take no action until it receives instructions from the registrant or an order of a court or a dispute resolution service provider handling the concerned dispute. This balances the registrant's needs and the claimant's intellectual property rights.

Parties involved in domain name disputes may go to the court to resolve their dispute before the alternative dispute resolution procedure commences or to contest the result of the dispute resolution.

VII. Re delegation

The process of re delegation (see http://gac.icann.org/web/home/ccTLD_Principles.rtf) involves the transferring of the technical and administrative responsibilities for the operation of the ccTLD from one entity to another. Re delegation in the sense of a ccTLD is different from that of a second level domain (example.com) in that in the case of a ccTLD, it is generally understood that the re delegation process is not simply a change of name servers (an operation which is a technical triviality), but a change of the sponsoring organization, which could, still in the example of the second level domain, be assimilated with a change of "ownership" for said domain.

The re delegation process is well documented by ICANN, including the necessary procedures and agreements to be entered (though not all agreements are compulsory). Furthermore, for each re delegation performed, ICANN has published a report of each case, providing with a large number of best practices and precedents which can be referred to.

7 http://www.gov.mu/portal/goc/assemblysite/file/2005/bill2.pdf

VIII. Consultation Procedure

In this consultation paper the ICT Authority would like to invite views and comments from the public on the issues raised in this consultation paper. In order to facilitate this consultation process, questions have been asked for the public's careful consideration. Notwithstanding this, members of the public are not confined to these questions and are encouraged to raise any issues pertinent to them. Members of the public are welcome to submit their comments on this consultation paper to webmaster@imail.icta.mu within one month from the launching date of this consultation process, that is from the 2nd of March 2007 through to the end of March 2007. The comments will be most useful if they are substantiated with rationale, examples and alternative proposals. Kindly also include full contact particulars such as full name, designation and organisation name (if relevant), postal address, e-mail address and contact numbers. The comments will then be compiled as well as the way forward on this issue will be posted on the ICT Authority's website, www.icta.mu.

IX. Questions to be considered in the public consultation process

1. Level of awareness of the current situation

Comment on the perceived or factual awareness of the current situation of the .MU TLD, including pricing model, availability (as compared to .NET/.ORG/.COM).

2. Interest in an accountable, community-backed .MU

What level of interest exists in the .MU in the current form ?

In a more accountable form, backed by a public initiative, with an ultimately not-for-profit scope?

3. Transition support

Is the scope outlined in sections II and III enough to support transition to a new Registry ?

4. Importance for a .MU identity

Is it of interest to promote the .MU TLD, and encourage (via a publicity campaign / awareness program) actors of the Internet community (users, ISPs, companies/trademark holders) to endorse the .MU ?

5. Who should run .MU ?

Comment on administration model as proposed (ICTA-sponsored), and eventual alternative models, including what form of organization the organization should have (NGO / government / private / ...)

6. In the case of a publicly administered .MU:

How should .MU be financed ? At a loss, cost recovery, or profit-oriented ?

7. Who should be allowed to register in .MU ?

Private persons ? Companies ? Both ?

Residence requirement: should anyone be allowed to register a .MU, or solely residents of Mauritius ?

8. How open should it be ?

First come first serve ? Trademark holders only ?

9. General comments on policy guidelines

Please provide any additional comments on the suggested policy guidelines outlined in section IV.

X. Appendix

Technical overview

The technical overview is included as a separate document, covering:

Information and data flows
Data model
Journalisation and auditing
Constraints on registration
Transfer of domains
SLD management
Overall design
Functions, software and protocols (API)
Software candidates
Operational aspects
Infrastructure

Historical background on Internet domain names and IP addresses at the global level

The Internet Assigned Numbers Authority (IANA) was established informally under the Information Sciences Institute (ISI) in the late 80s to manage Internet domain names, protocols and IP addressing systems. The IANA derived its authority under a contract from the US Government, which financed the original research network, ARPANET, from which the Internet has developed.

The need to internationalise the governing of the Internet led the US Government to recommend the establishment of the ICANN as a global entity independent of governments to manage the systems and protocols that allow the Internet to develop. In October 1998, the ICANN was formed as a non-profit making corporation that took over the responsibility for IP address allocation, protocol parameter management, domain

name system (DNS) management and root server system management currently undertaken by the IANA.

The Board of Directors of the ICANN (19 directors in total with the President and Chief Executive Officer of the ICANN as an *ex officio* director) is elected through an open and global election process so as to ensure its representation of the geographically diverse Internet user communities. Under the ICANN Bylaws, no government official may serve as a director in the ICANN Board. This notwithstanding, the ICANN has set up a Governmental Advisory Committee (GAC) to consider and advise on the activities of the ICANN as they relate to the concerns of governments, particularly on matters where there may be an interaction between ICANN's policies on the one hand and local laws and international agreements on the other.

In the area of IP address space allocation, ICANN is responsible for allocating blocks of IP addresses to all users via the five regional IP registries (i.e. the American Registry for Internet Numbers (ARIN) in North America, Réseaux IP Européens (RIPE) in Europe the Asia Pacific Network Information Centre (APNIC) in the Asia Pacific Region, Latin American and Caribbean Internet Address Registry (LACNIC) for Latin America and the Caribbean region and African Network Information Centre (AFRINIC) in the African region). National IP registries and local IP registries (which are generally ISPs) apply for a subset of the IP addresses allocated by the IANA to the regional IP registries, which in turn distribute this subset of IP addresses to smaller ISPs and the end-users.

To better understand the processes involved in the allocation of IP addresses on the Internet, and other administrative procedures of the Internet, consult "Guide to Administrative Procedures of the Internet Infrastructure"[8]

Internet domain names and Internet Protocol (IP) addresses

IP addresses are the numerical identifiers, unique across the Internet, by which machines can be identified and contacted. IP addresses are typically version 4 (IPv4), i.e.: 32 bit integers represented as 4 bytes separated by a dot (full stop), such as 192.93.0.4. Today IP version 6 (IPv6) is being deployed (128 bit addresses, for example: 2001:660:3005:1:1:2).

Internet domain names are the unique names by which the machines mentioned above can be referenced and contacted, without requiring one to remember the numerical identifier (IP address) of the machine.

This mapping system between Internet names and addresses is called the DNS, or Domain Name System. Internet names are commonly known as Domain Names.

8 http://www.faqs.org/rfc/rfc2901.txt

There are two recognized categories of top domain names: global Top Level Domains (gTLDs) such as .COM, .NET, .ORG, .EDU and Country Code Top Level Domains (ccTLD) such as .FR, .UK, .MU. The country codes used for ccTLDs are those of the ISO3166-1 alpha-2 list (2 letter country code ISO standard).

Normally, the administration of a ccTLD is entrusted to an organization (registry), the role of which is to manage the creation of Domain names for the TLD for which it is responsible. It also may define the policies under which a domain name may be created. Finally, it provides technical operation of the TLD.

For a general overview of the DNS system architecture and principles, refer to appendix section.

Description of the Domain Name System

The Domain Name System is defined by RFC 1034 [4] and RFC 1035 [5], with clarifications, extensions, and modifications given in RFC 1123 [6], RFC 1996 [7], RFC 2181 [8], among others. Also see RFC 434 [9] which updates RFCs 1034, 1035 and 2181.

The concepts and functions described below are important in understanding the technical and administrative nature of the DNS:

Registry and registrar

A registry serves as the authoritative repository for all information REQUIRED to resolve domain names registered in the registry's top-level domain (TLD), or second-level domains (SLDs) if the reserved SLD mode is used (e.g., co.uk, ac.nz). The registry also maintains additional information such as the administration and technical contacts for the domain name, the billing contact, and the registrar who registered the domain name.

A registrar provides services to the registrant (the person who registered a domain name) and provides the information to the registry. The registrar provides domain information servers and contact and billing information) to the registry. The registrar MAY also provide additional value-added services to the registrant such as email, web hosting, etc. It is to note that the functions of an ISP are distinct from those of a Registrar, though some ISPs may offer registrar services as well.

The registrant is the individual end-user or moral person who is requesting the domain name.

Normally, the registry and registrar organizations are separate. There is one registry which SHOULD be administered as a national trust because it is a natural monopoly by definition, and multiple registrars provide competition in registering names with the registry. However, in some countries, the management of the ccTLD registry itself can be open to renegotiation in the form of a call for proposals from competing organisations.

Primary server

A primary server for a zone holds the original authoritative copy of the DNS records for that zone.

This copy is stored in a zone file. This is the location of the zone file where changes are made.

Secondary server

A secondary server for a zone also holds a complete copy of the records for that zone, which it obtains by transferring them from the primary server whenever a change is made there.

Primary and secondary servers are listed in the NS (name server) records for the zone, and are termed authoritative servers.

Registry Administrative Point of Contact (Admin POC)

The Registry's Administrative POC's role is to make simple, publishable rules that the applicants and registrars can follow unambiguously. It is a good idea to think of each situation as if it had to be automated. For example, given an application for example.mu, you want to be able to write a script which sends a query to some whois.registry-of -mu and see if the street address is the same as the registered company. The Administrative POC SHOULD be representing the local Internet community and be ensuring that the ccTLD is being run for the benefit of the country and its citizens.

Registry Technical Point of Contact (Tech POC)

The Technical POC's role is to maintain the contents of the zone and to make the system work. This person SHOULD be an expert in the functioning of DNS and Internet protocols in general, and have thorough understanding of the technical architecture of the Registry.

It is REQUIRED that the administrative contact (Admin POC) of the ccTLD be a person from, and currently residing in, the same country as the ccTLD. The technical contact (Tech POC) can be temporarily from outside the country, but it is expected that the technical contact SHALL transition to someone within the country. See RFC 1591 [12].

Fair and equitable rules and regulations are REQUIRED.

Everyone MUST be treated equally.

"This means that the same rules are applied to all requests, all requests must be processed in a non discriminatory fashion, and academic and commercial (and other) users are treated on an equal basis. No bias shall be shown regarding requests that MAY come from customers of some other business related to the manager -- e.g., no preferential service for customers of a particular data network provider (ISP)." See RFC 1591 [12].

Whois data

The maintenance and availability of registration information by the admin and tech POC via a "whois" server is , while not strictly required, strongly recommended, either in the form of a traditional whois server or of a web site making it possible to lookup whois information for a given domain, within the limits of any data privacy regulations that may apply.

CoCCA DRS panel experts

(as communicated by Mr. Miller of CoCCA):

Ombudsman

Herb Waye is currently the adjunct Ombudsman for the Internet Corporation for Assigned Names and Numbers (ICANN). He is a member of the Canadian Forum of Ombudsman and the International Association of Ombudsman, and has 27 years experience as a member of the Royal Canadian Mounted Police. Herb is currently enrolled at Royal Roads University, Victoria B.C., Canada - Master of Arts, Leadership and Training, Justice and Public Safety Leadership, (MALT).

Expert Panelists

Hon Sir Ian Barker was a Judge of the High Court of New Zealand from 1976 to 1997. He is a World Intellectual Property Organisation (WIPO) domain dispute panelist and is

a Past-President and Fellow of the Arbitrators' & Mediators' Institute of New Zealand (AMINZ), and a Fellow of the Chartered Institute of Arbitrators (UK)

Clive Elliott is an Auckland-based Barrister, who sits on two Law Society committees and is an officer of the New Zealand Committee of IPANZ. He is appointed to WIPO's panel of neutrals and has decided a number of international domain name disputes.

Hon Robert Fisher has 15 years experience as a High Court Judge and has been involved with various forms of dispute resolution since his retirement from that position in 2004. He is the Chair of the New Zealand Judicial Computer Committee, and an Associate of the Arbitrators and Mediators Institute of New Zealand.

Alan Limbury qualified as a barrister in England and practised for 32 years in major Sydney law firms before establishing a full-time international mediation and arbitration practice. In 1996/7 he was recognised by "Legal Profiles" as "the leading ADR practitioner in Sydney".

Dr Clive Trotman is a Fellow of the Arbitrators' and Mediators' Institute of New Zealand. He is also a WIPO panelist.