

**Proposed Model for the
Country Code Top Level Domain for Mauritius (.MU)
(following public consultation held in September 2011)**

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I. Purpose

On 1 September 2011, the Ministry of Information and Communication Technology launched a Public Consultation on the re-delegation of the country code Top Level Domain (ccTLD) of Mauritius (i.e. **.MU**) for a six weeks period. Two responses were received, namely from the present **.MU** administrator and from the Internet Management Committee. On the basis of the comments received on the Public Consultation document, an updated **.MU** administration model is, hereby, proposed.

The Ministry is, now, inviting the local Internet community to submit, their views and comments on the revised model **at latest by 1600 hrs on Monday 9 April 2012** to mictadmin@mail.gov.mu.

A consultation workshop will be held on 12 April 2012 with a view to finalizing the model for the re-delegation of the **.MU**.

II. Vision and Scope of the .MU TLD

A country code Top Level Domain (ccTLD) needs to be administered from within a country for the following three main reasons:

- (a) it provides the country with an identity in cyberspace;
- (b) registration, renewal, suspension of domain names, and the disputes that may arise under the ccTLD, will be governed by the local laws; and
- (c) operating the ccTLD 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 Mauritian Internet Community to be involved in the management of the country's Top Level Domain name **.MU** in view of the national and international dimension, 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 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 agency. The overall objective is that the ccTLD **.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.

III. Present Administration and Allocation of Internet Domain Names under .MU

Initially **.MU** was administered by Internet Direct, Ltd., a company managed by Mr Yann Kwok. Internet Direct, Ltd. has held the role of trustee of the **.MU** ccTLD since 1995, when it was granted to him by the Internet Assigned Numbers Authority (IANA). As of today, the **.MU** domain is currently administrated by the Mauritius ccTLD Network Information Center (<http://www.nic.mu>). As per IANA records available online and the www.ip2location.com website verified on 26 March 2012, the primary and secondary technical infrastructure for the **.MU** ccTLD administration are presently not in Mauritius. Instead these servers are distributed as follows:

Host Name	IP Address(es)	Location
ns3.iafrica.com	196.7.0.137	 SOUTH AFRICA, WESTERN CAPE, CAPE TOWN
udns1.tld.mu	204.61.216.10	 UNITED STATES, NEW YORK, NEW YORK
mu1.dyntld.net	208.78.70.79	 UNITED STATES, NEW HAMPSHIRE, MANCHESTER
mu2.dyntld.net	204.13.250.79	 UNITED STATES, NEW HAMPSHIRE, MANCHESTER
mu3.dyntld.net	208.78.71.79	 UNITED STATES, NEW HAMPSHIRE, MANCHESTER
mu4.dyntld.net	204.13.251.79	 UNITED STATES, NEW HAMPSHIRE, MANCHESTER
mu.cctld.authdns.ripe.net	193.0.9.98 2001:67c:e0:0:0:0:0:98	 NETHERLANDS, NOORD-HOLLAND, AMSTERDAM

IV. Re-delegation Process

Country-code Top-Level Domains (ccTLDs) are two-letter top-level domains that are derived from the ISO 3166-1 standard. The IANA is responsible for receiving requests relating to the delegation and re-delegation of a sponsoring organisation for these domains. The sponsoring organisation is entrusted with operating the domains in the public interest for the community the domain is designated to serve. IANA evaluates requests against both technical and public interest criteria, and provides the results of its investigation to the ICANN Board of Directors who ultimately decide whether to approve requests. IANA is also responsible for implementation of requests that have been approved by the ICANN Board.

The re-delegation process is well documented by ICANN (<http://www.iana.org/domains/root/delegation-guide/>), 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.

The **.MU** ccTLD redelegation will imply both a change in the sponsoring organisation and the transfer of the **.MU** ccTLD Registry to Mauritius.

V. Request for Re-delegation for .MU Administration

The current problem pertaining to the **.MU** administration which warrants the above re-delegation process is that

- (i) on the one hand, the current **.MU** ccTLD policy, technical and commercial functions are run by the same private entity; and
- (ii) on the other hand, sections 12 & 13 of the ICT Act 2001 as amended, provide for the Internet Management Committee whose members are nominated by the Minister to administer the **.MU** ccTLD.

The present management and administration arrangements are in breach of ccTLD international best practices.

Previously, in an attempt to find a solution to the above problem, a Memorandum of Understanding (MOU) was signed in April 2009 between the Government of Mauritius and Internet Direct Ltd (IDL) for the re-delegation of the **.MU** by way of creation of a new entity to administer the **.MU** domain. As the new entity could not be set up within the time frame of 120 days set out in the MOU, an Addendum to the MoU, to extend its validity by a period of six months, was signed between the two parties in September 2009. A second Addendum to the MOU was signed in May 2010 to extend its validity by a further period of six months. Thereafter, this course of action has been abandoned.

A public consultation process was initiated on 01 September 2011 with a view to finding the best solution for the **.MU** ccTLD administration, while giving an opportunity for representatives of the local Internet Community of Mauritius to have a say in the matter. This consultation process is being pursued to finalise the way forward.

VI. Proposed Model for the Administration and Allocation of Internet Domain Names under **.MU**

Various models have been developed for administering the ccTLDs. At one end of the spectrum are the registries for ccTLDs that are part of the public sector, and where the regulations on administration and self-assignment of domain names are regulated by law, e.g. in Finland. The Finnish Communications Regulatory Authority (FICORA) is responsible for administering and assigning domain names under the ccTLD **.fi** in accordance with the legislation on domain names in Finland.

At the other end of the spectrum, are the registries in the private sector, where the administration of the national ccTLD is exclusively governed by the registry itself and private law contracts with the registrars and domain registrants. One example of this is England, where the administration and assignment of domain names

under the ccTLD **.uk** are carried out by Nominet, which is a private non-commercial organisation. Nominet's organisation and operation is subject to English law. **.uk** domains are administered and assigned in accordance with private regulations on **.uk**, which were established by Nominet through consultation with the local Internet community.

Taking into account the fact that our existing national laws is to some extent similar to the Finnish model and the **.MU** domain administration is presently run by a private company which is not representative of the local Internet community, it is proposed to come up with a solution which is placed between these two extremes in order to ensure a speedy and successful redelegation process. The administration model for the Norwegian ccTLDs is such a case.

Pursuant to Act no. 83 of 4 July 2003 relating to electronic communication (Electronic Communications Act) Section 7-1, Norwegian authorities have overall responsibility for the administration of numbers, names and addresses for electronic communication, including domain names. The Authority also has a regulatory role in accordance with Section 10-1 of the Electronic Communications Act. Under the provisions of the Electronic Communications Act, Norwegian authorities have set official legal framework conditions for the administration of the Norwegian ccTLDs (**.no**) in the Domain Regulation. The Norwegian administration model combines the governing of legislation and regulations with private regulations set by Norid. Norid operates as a non-commercial organisation in the private sector, but is owned by the state.

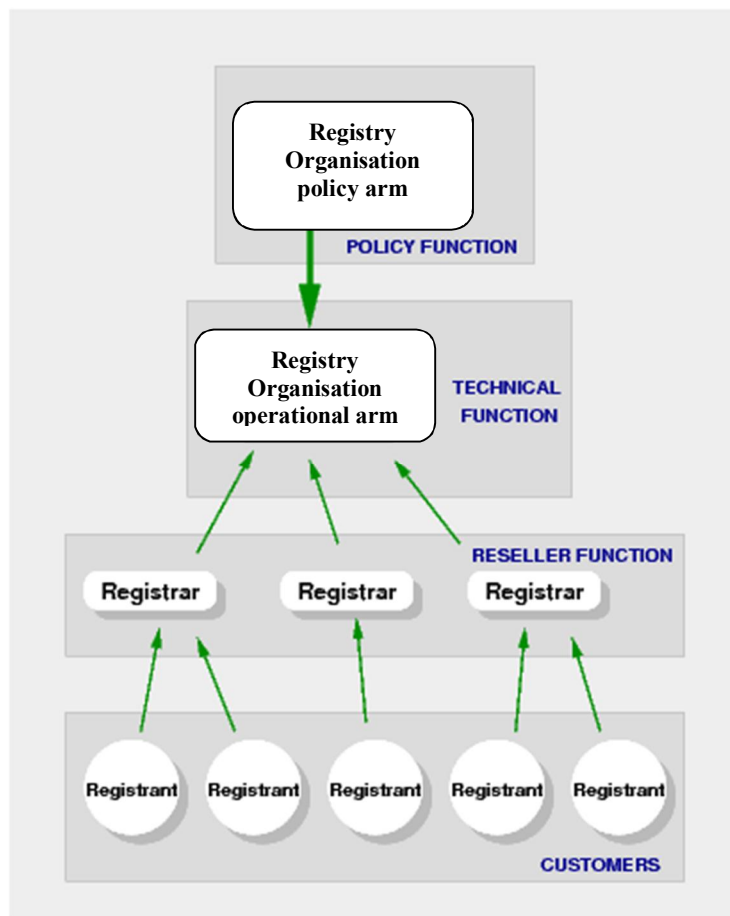
Until now, the Norwegian administration model has safeguarded the stability and predictability of the administration of **.no**. The Domain Regulation stipulates the framework conditions and the overarching guidelines for the utilisation of resources of the Norwegian ccTLDs. Within the framework of the Domain Regulation, the Norwegian administration model enables rapid adaptation of the regulations on **.no** in line with the development of the Internet and the changing needs of Norwegian

domain registrants. The Norwegian Domain Regulation is given at Annex I for Reference.

VII. Proposed Operational Framework

The **.MU** governance framework will be a 3-tier infrastructure model (Registry/Registrar/Registrant) where:

- (a) **.MU** administration will be governed by the policy arm of the Registry Organisation.
- (b) Registry operational function is located in Mauritius.
- (c) Registry function is clearly separated from the registrar functions.
- (d) Registrar function is completely opened up to ensure competition in fees proposed for **.MU** registration



Once constituted, the Registry shall define the **.MU** domain name policy and lay down rules for the assignment of domain names under **.MU**. The assignment rules shall be publicly available and, as a minimum, be designed in such a way that they:

1. ensure cost effectiveness,
2. ensure high technical quality,
3. are non-discriminatory,
4. are transparent,
5. promote predictability,
6. promote the interests of Internet users, individually and collectively, and
7. promote national interests and take into account the international development in the Internet area.

VIII. Proposed Action Plan

1. The Proposed Action Plan to achieve the re-delegation process will involve the following:
 - (a) Set up the appropriate institutional and legislative framework.
 - (i) Disband present Internet Management Committee
 - (ii) Make appropriate amendments to legislation(s) to, inter alia:
 - Delete sections 12 & 13 of the ICT Act
 - Amend section 18 (1) (y) of the Act to provide sanctity to the new company to decide on how to regulate domain names; authorise the accreditation of registrars/resellers by the non- profit private company limited by guarantee to be created.
 - (iii) Make new regulations (salient features at Annex II) that will provide for the following:
 - the manner in which the Registry shall operate as a non-profit private company limited by guarantee;
 - opening up of Registrar functions;
 - accreditation of Registrars by the company;
 - Dispute Resolution Committee (DRC) to be set up by company; and
 - Decisions of the DRC can be referred to the ICT Appeal Tribunal.

- (iv) Establish the Registry Organisation as a non- profit private company limited by guarantee in accordance with the Companies Act 2001 of Mauritius (Proposed Registry Organisation set up described at Annex III).
- 2. On completion of the above process at (1), public notification will be given in both national and international press regarding the need for Mauritius to file a **.MU** redelegation request with ICANN.
- 3. Filing of the **.MU** re-delegation case with ICANN and updating of root servers to reflect location of **.MU** Registry when required.

Regulation on domain names under Norwegian country code top-level domains (The Domain Regulation)

Unofficial translation from Norwegian for information only. Legal authenticity remains with the original Norwegian version

This Regulation enters into force October 1, 2003.

Laid down by Royal Decree pursuant to Sections 7-1 and 10-1, second paragraph, of Act No. 83 of 4 July 2003 on electronic communications (Electronic Communications Act). Submitted by the Ministry of Transport and Communications.

Section 1 Purpose

The purpose of this Regulation is to lay down a public law framework for entities which assign domain names under Norwegian country code top-level domains.

Section 2 Definitions

In this Regulation the following definitions apply:

1. **country code top-level domain**: the highest domain in the hierarchy of the global domain name system in accordance with the 2-letter codes under the ISO 3166-1 standard,
2. **registry**: any entity which by agreement with the international administrator of top-level domains is entitled to assign domain names under Norwegian country code top-level domains,
3. **registrar**: an entity which has entered into an agreement with a registry concerning the right to submit applications and notifications of amendments to the registry on behalf of applicants for/holders of domain names under Norwegian country code top-level domains,
4. **Domain Dispute Resolution Board**: an alternative dispute resolution board for domain names under Norwegian country code top-level domains,
5. **registration data**: data about the applicant and the applicant's entity which is required in connection with applications and amendment notifications.

Section 3 Rules on the assignment of domain names

Each Norwegian country code top-level domain shall be administered by a single registry which shall lay down rules for the assignment of domain names (domain name policy) for the respective country code top-level domain. The registry shall not exercise public administrative authority, and assignments shall take place in accordance with private law rules.

The assignment rules shall be publicly available and, as a minimum, be designed in such a way that they:

- ensure cost effectiveness,
- ensure high technical quality,
- are non-discriminatory,
- are transparent,
- promote predictability,
- promote the interests of Internet users, individually and collectively, and
- promote national interests and take into account the international

development in the Internet area.

Before the adoption or any significant amendment of the assignment rules opinions shall be sought from the users' representatives and the authorities. The Norwegian Post and Telecommunications Authority shall be informed of all amendments.

Section 4 Personal statement

The registry shall require applicants for registration of domain names under Norwegian country code top-level domains to submit a personal statement containing the applicant's confirmation that the registration and/or use of the domain name to be registered:

- are not contrary to the assignment rules (cf. Section 3),
- are not contrary to Norwegian law,
- do not conflict with the rights of third parties,
- do not give the unjustified impression that it concerns public administration or the exercise of authority.

The registry shall ensure that in the personal declaration the applicant agrees that

- disputes shall be able to be heard by a domain Dispute Resolution Board, and that
- the registry shall be able to withdraw a domain name which has been assigned when it is clear that the assignment is contrary to the first paragraph.

The contract between the registry and the applicant shall include provisions which restrict the registry's use of registration data in connection with the registration and maintenance of domain names.

Section 5 Registrars

The registry shall delegate parts of the registration process, including forwarding applications and notifications of amendments on behalf of applicants for and holders of domain names, to registrars, and shall promote competition between these by giving the same terms and conditions to all registrars.

Section 6 Back-up copies

The registry shall ensure that there are necessary back-up copies of all registration data. The back-up copies shall be handled in a secure way so that users do not suffer unnecessary harm.

Section 7 Procedures for the Domain Dispute Resolution Board

The registry is obliged to establish a domain dispute resolution board. If there are several registries, they shall set up a joint dispute resolution board.

The Domain Dispute Resolution Board shall be given authority to hear complaints:

- from applicants against the registry's decisions,
- from domain name holders towards the registry's decisions,
- from registries that names have been registered in conflict with the personal declaration (cf. Section 4, first paragraph),
- from third parties (cf. Section 4, first paragraph, letter c),
- from public bodies (cf. Section 4, first paragraph, letter d), and

- from the Norwegian Post and Telecommunications Authority that domain names have been registered in conflict with this Regulation.

The Domain Dispute Resolution Board shall have the opportunity to reject a complaint in accordance with rules that are further specified.

The registry is obliged to comply immediately with the Domain Dispute Resolution Board's decisions.

The registry shall ensure that the domain name cannot be transferred if mediation has been requested or while the case is pending with the domain Domain Dispute Resolution Board.

The registry may finance the domain Domain Dispute Resolution Board through an increase in the registration fee along with user fees paid by the appellant/complainant.

The registry shall issue procedures for the Domain Dispute Resolution Board in accordance with the principles in this Regulation.

The registry shall seek opinions from the users' representatives and the authorities before the adoption or any significant amendment of the procedures and before the members of the board are appointed. The Post and Telecommunications Authority shall be informed of all amendments.

The Domain Dispute Resolution Board's decisions shall be public with the exception of information relating to technical devices and procedures, as well as operational or business matters which for competition reasons it is important to keep secret in the interests of the person whom the information concerns.

The Domain Dispute Resolution Board shall hear disputes related to domain names that are registered after this Regulation has entered into force.

Section 8 Time limit for complaints

Complaints under Section 7, second paragraph, letters a and b, must be submitted within a month after the applicant or domain name holder was notified of the registry's decision. Other complaints under Section 7, second paragraph, must be submitted no later than 3 years after the registration of the domain name.

Section 9 Supervision and control

The Norwegian Post and Telecommunications Authority shall monitor compliance with the provisions of this Regulation (cf. Section 10-1 of the Electronic Communications Act).

If a registry fails to fulfil the requirements in this Regulation, the Norwegian Post and Telecommunications Authority may order the unlawful activity to cease, or the entity to be terminated, within a set time limit (cf. Section 10-6 of the Electronic Communications Act).

Section 10 Liquidation

In the event of the liquidation of its operations, the registry shall make arrangements to allow the registration activities to continue as before if possible. The registry shall ensure that all registration data is transferred to a new registry which fulfils the Regulation's requirements. If at the time of liquidation there is no entity that fulfils the Regulation's requirements, the Norwegian Post and Telecommunications Authority itself shall take over the registry's tasks until a new registry has been established.

The Norwegian Post and Telecommunications Authority may itself decide whether the registration activities in the interim period shall be conducted in accordance with the liquidated registry's assignment rules (cf. Section 3) and rules on dispute resolution bodies (cf. Section 7), or whether new rules shall be established. In the interim period the Norwegian Post and Telecommunications Authority shall be bound by this Regulation to the extent applicable.

Section 11 Dispensation

The Norwegian Post and Telecommunications Authority may grant exemptions from provisions in this Regulation when special reasons justify it.

Section 12 Sanctions

The Norwegian Post and Telecommunications Authority may impose coercive fines in accordance with Section 10-7 of the Electronic Communications Act.

Breaches of the Regulation may be punished in accordance with to Section 12-4 of the Electronic Communications Act.

Section 13 Entry into force

This Regulation shall enter into force October 1, 2003.

Salient features of the proposed Regulations for .MU administration

A description of the proposed provisions of the Regulations is as follows:

1. Creation of Registry

It is proposed that

- a. Each Mauritian country code top-level domain is administered by a single Registry which will be responsible for the policy making function as well as the operational function for domains under **.MU** ccTLD.
- b. The Registry is established as a non- profit private company limited by guarantee in accordance with the Companies Act 2001 of Mauritius) and the Registry is composed of three classes of directors, those from the public sector, the private sector and the representatives of consumers.

2. Policy making function of the Registry

It is proposed that

- a. The assignment rules for the **.MU** charter are made public and are designed in such a way that they:
 - i. ensure cost effectiveness,
 - ii. ensure high technical quality,
 - iii. are non-discriminatory,
 - iv. are transparent,
 - v. promote predictability,
 - vi. promote the interests of Internet users, individually and collectively, and
 - vii. promote national interests and take into account the international development in the Internet area.

3. Operational function of the Registry

It is proposed that

- a. The Registry selects a technical service provider for a state-of-the-art domain management system for the **.MU** zone through an international bidding process to ensure cost effective services.
- b. Registry facilities/services provided by the technical service provider for domain management system for the **.MU** zone is operated in a minimum of two geographic locations, allowing for redundancy and fault tolerance.
 - i. The primary registry facility will be a live facility, that is, it will be the normal full-time registry.
 - ii. The secondary registry facility will be located at the Government Online Center located at the Cyber Tower I in Ebène Cybercity:
 - 1) to act both a functional and standby facility,
 - 2) activated for primary registry services where the primary facility operations are stopped due to natural disaster or any other similar events, and
 - 3) continuously synchronized with the primary one.

4. Registrars

It is proposed that

- (a) The Registry delegates parts of the registration process, including forwarding applications and notifications of amendments on behalf of applicants for and holders of domain names, to registrars, and
- (b) The Registry promotes competition between the Registrars by giving the same terms and conditions.
- (c) The Registrars are duly accredited by the non- profit private company before commencement of their activities in order to enforce consumer protection measures as and when required.

5. Procedures for the Domain Dispute Resolution

It is proposed that

(1) The non- profit private company limited by guarantee establishes a Domain Dispute Resolution Committee which will consist of-

- (a) a Chairperson who shall be a barrister of not less than 10 years standing and possessing the relevant qualifications in Alternative Dispute Resolution; and
- (b) two other members having relevant qualifications and experience.

The Committee will -

(a) hear and arbitrate disputes related to domain names that are registered after the proposed regulations have entered into force, and

- (b) hear disputes from the various categories such as:
- (i) applicants against the company's decisions,
 - (ii) domain name holders towards the company's decisions,
 - (v) public bodies, and

(c) make recommendations to the company on the complaints and disputes heard;

(2) Any party aggrieved by the decision of the Domain Dispute Resolution Committee may appeal to the Information and Communication Technologies Appeal Tribunal as provided under section 39 of the Information and Communication Technologies Act 2001.

Proposed Registry Organisation set up

1. **OBJECTIVES AND ORGANISATION**

2. **STRUCTURE AND MEMBERSHIP**

- Policy function
- Operational function
- Commercial function

3. **TECHNICAL CONSIDERATIONS**

- Physical Plant
- Hardware architecture

4. **IMPLEMENTATION**

1. OBJECTIVES AND ORGANISATION

Initially, the Registry Organisation will have to take decisions quite quickly in several important areas:

1. Organising initial membership, including membership policies and rules
2. Organising whatever consultative and advisory bodies are required from among the membership
3. Developing and adopting a Registration policy and related codes of conduct
4. Putting in place the legal and contractual framework
5. Preparing and adopting an initial investment and operating budget
6. Ensuring initial start-up funding through capital investment which may be obtained from ICT Authority, and/or commercial financing
7. Establishing customer relationships particularly with Registrars
8. Appointing and recruiting initial officers and staff
9. Developing and implementing policies for the accreditation of Registrars and for Dispute Resolution
10. Tendering and approving technical specifications and systems
11. Either organising a private tender to contract out the Registry Database management functions or preparing specifications and organising private procurement for in-house operation of the Database.

Subsequently, on a routine, steady state basis, the functions of the policy-making body of the Registry organisation will be different and possibly more manageable. These would include:

- Annual budgeting and financial management
- Depending on the rate of growth and initial success of the Dot MU TLD, managing the rate of expansion in the organisation in all senses
- Management of relations with Registrars and other customer relations
- Management of membership-related activities
- Periodic revision and up-dating of Registration policy
- Legal matters, including possible ADR or court disputes

2. STRUCTURE AND MEMBERSHIP

Policy function

The policy making function should be accessible to all interested parties and be distinct from the operational function. The Policy function would include:

1. An appropriate consultative forum and
2. A decision making body that will also act as the Board of the Registry Organisation

The policy making body represents the core of the registry organisation. The Registry operator may either be integrated into the Registry Organisation itself or function as a separate entity to whom the policy making body will have delegated the management of the operational functions. In both cases, the Board of the Registry would have to be attentive to the views of the membership and other interested parties, while retaining the necessary power to arbitrate and decide as the need arises.

The membership of the policy making consultative forum could be constituted by several categories of persons with the necessary expertise representing the following:

1. Registrars
2. The DNS Root and IP Addressing
3. Commercial users
4. Private and non-commercial users
5. Public sector users

The Registry will only undertake those functions that pertain directly to the registration process, and other related services will not be bundled with the Registration service if it is possible for them to be carried out on a competitive basis. This general philosophy has resulted in a contemporary model for the organisation of a TLD Registry where the functions of the Registry and those of the Registrars are clearly separate and the Registrars function as competing entities.

Several ccTLD Registries have also adopted this model. It is proposed that the Dot MU Registry also follows this model both because it is known and understood in the market.

For legal reasons and in the interests of reliability and consumer protection, the Registry will accredit all Registrars in the Dot MU Registry.

Commercial function

Although the Registry is to function on a not-for-profit basis in the public interest, this is not to say that it can afford to ignore the commercial and market realities of the international DNS registration market. The Registry Organisation should be responsible for the general promotion, and publicity about the potential advantages and use of the Dot MU TLD. The Registry should also encourage public information about the availability of Dot MU names by publishing, inter alia, the names and contact information about all accredited Registrars.

Operational Function

The Registry Organisation is the policy making body and the operator of the registry databases is a sub-contractor. The manager of the database operation or his/her representative should have non-voting observer status on the Registry

Board, the consultation forum and all other bodies within the policy making body or Registry Organisation.

In all other respects, the database management function will be a standard technical function, commercially self-sufficient on a cost-recovery basis taking full account of the not-for-profit public service functions of the Registry.

The Registry Databases

The operation of the Registry Databases is a distinct function. It can either be outsourced, in which case it would be a distinct legal entity or if it is organised as part of the Registry Organisation, it would have to be a self-contained and relatively independent part of the organisation. The structure of the Registry operator would depend on the policies required by the policy-making body.

The principal initial requirements are:

- Adequate storage and connectivity capacity to deal with a large volume of traffic 24x7. Scalability at short notice
- Corresponding investment and installation
- The highest possible level of automation and fast turn-around time for processing and controlling standard applications for names
- A very high degree of reliability and security in terms of up-time and accuracy of transactions
- Management of the start-up process to prevent short-term overload and achieve neutral and non-discriminatory treatment between competing Registrars
- Efficient linkage between the registration process, relations with Registrars and the customer service and billing process
- Transparent and up-to-date Whois data. (Access rules to be established by the Registry Organisation taking account of data protection requirements)
- Mirror sites to facilitate efficient access to Whois, database and name server information

- Appropriate global distribution of secondary name-servers, run by the Registry operator, and readily accessible from each part of the world.
- Daily escrow of the database with independent agent(s) in accordance with the requirements of ICANN
- Economic viability, taking account of the not-for-profit public service objectives of the Registry Organisation.
- Means to properly identify applicants, if so required by the policy-making body
- Means to verify applications so as to avoid cybersquatting.

3. TECHNICAL CONSIDERATIONS

The technical function of the Registry is to implement on a day-to-day basis the registration policies and services that have been identified for the market and the general public by the Board of the Registry organisation. As already indicated above, most of the current operation of the registry databases would be carried out within a distinct and self-contained registry operation, possibly working under contract to the Registry Organisation.

Physical Plant

All registry systems will be located within secure data centers, which conform to these minimum security standards:

- 24/7 on-site security personnel and security monitoring
- Surveillance cameras
- Controlled access to the data centre
- Use of identification systems

Hardware Architecture

- The registry system will use a distributed architecture that achieves the goals of scalability, reliability, and extensibility. The registry system can continue to function even if an entire server were to suffer catastrophic failure. The registry uses load balancers to assist in scalability and to prevent service outages. The registry's load balancing design allows the performance of hardware upgrades without any customer impact.
- Registry facilities/services will be operated in a minimum of two geographic locations, allowing for redundancy and fault tolerance. The primary registry facility will be a live facility, meaning that it will be the normal full-time registry. The secondary registry facility will be both a functional and standby facility, meaning that it will be activated for primary registry services if operational problems ever arise at the primary facility (due to natural disaster, etc.). The secondary facility will remain continuously synchronized with the primary.
- The registry operates several database servers to provide redundancy. The primary registry facility houses two database servers, one being the main database and the other being the secondary database. The standby registry facility will house one database server, which will be constantly synchronized with the primary registry. The database servers will be replicated but are not load balanced.

Server Specifications

Primary Site:

- Two (2) Web Servers (Load Balanced)
- Two (2) Registry Servers (Load Balanced)
- Two (2) WHOIS Servers (Load Balanced)

Secondary Site:

- One (1) Web Servers (Load Balanced)
- One (1) Registry Servers (Load Balanced)
- One (1) WHOIS Servers (Load Balanced)

4. IMPLEMENTATION

The implementation schedule will depend very much on how long it would take the Registry Organisation to complete the necessary procedural and legal steps. It is to be noted that legal and contractual considerations will also need to be defined for

- Contractual consideration: ICANN and registry
- Contractual consideration: registry and registrars
- Contractual consideration: registrar and registrant
- Dispute resolution

The Registry Organisation and database management structure will then require at least six months to be brought into existence and for the registration system to be tested and to go on line (taking into account both technical and human resource).