

**Ministry of Transport & Communications
Posts & Telecommunications Department (PTD)**

**Request for Quotation for the Setup, Development,
Implementation and Operation
of a “.mm” ccTLD Registry for the Republic of the Union of
Myanmar**

**Nay Pyi Taw Myanmar
2019**

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Introduction

Purpose and Principles of the .mm TLD

ISO 3166-1 designates the “.mm” ccTLD to the Republic of the Union of Myanmar and in accordance with Chapter 7 of the Law, the Posts and Telecommunications Department PTD (Department) is responsible for the development of rules and regulations for the “.mm” ccTLD and for the management of the “.mm” ccTLD.

The Department initiated in 2018 with its public consultation on “Electronic Addressing Plan” the rule making process also for the “.mm” ccTLD and is in the process, after having received and duly considered industry feedback to the first public consultation, to issue its pre-final decision on the rules and regulation for the “.mm” ccTLD within a second and final round of public consultation. The second consultation draft is attached to this RFQ for reference. Here, the Department describes that it can delegate the operation of the “.mm” ccTLD to a third parties which operates the role of the registry of the “.mm” ccTLD and the role of registrars for the “.mm” ccTLD. The registry of the “.mm” ccTLD should not be at the same time be a registrar for the “.mm” ccTLD. The Department intends, as far as national laws allow, to follow international best practices with the setup and operation of the “.mm” ccTLD and linked its regulation closely to the rules and regulation of ICANN.

Within this RFQ, the Department is looking for an experienced industry partner to operate the role of the “.mm” ccTLD registry. The Department is hereby open to receive feedback from national candidates and from international candidates.

Applicants are expected to support

- Establishment of a central registry platform for registry operation of the “.mm” Third Level Domain in particular for the “.com.mm”, “.biz.mm”, “.pro.mm”, “.name.mm”, “.per.mm”, “.gov.mm” and “.edu.mm” Second Level Domain;
- Operation of the registry for the “.mm” TLD;
- Selection of registrars and development of operations guidelines and agreements between registry and registrars subject to approval by the

Department and development of the necessary IT infrastructure and applications for the cooperation.

- Establishment of dispute resolution procedures and processes in the area of the “.mm” TLD.
- Policy development on the further development of the “.mm” TLD.

1. Registry Services

Provide name and full description of all the Registry Services to be provided. Descriptions should include both technical and business components of each proposed service, and address any potential security or stability concerns. The following registry services are customary services offered by a registry operator:

- A. Receipt of data from registrars concerning registration of domain names and name servers.
- B. Dissemination of “.mm” TLD zone files.
- C. Dissemination of contact or other information concerning domain name registrations (Whois service).
- D. Internationalized Domain Names, when offered.
- E. DNS Security Extensions (DNSSEC).

The applicant must describe whether any of these registry services are intended to be offered in a manner unique to the “.mm” TLD.

Additional proposed registry services that are unique to the registry shall also be described.

2. Shared Registration System (SRS) Performance

Describe the plan for operation of a robust and reliable Shared Registration System. SRS is a critical registry function for enabling multiple registrars to provide domain name registration services in the “.mm” TLD.

3. Extensible Provisioning Protocol (EPP)

Provide a detailed description of the interface with registrars, including how the applicant will comply with Extensible Provisioning Protocol in the relevant

RFCs, including but not limited to: RFCs 3735, and 5730-5734. Provide the EPP templates and schemas that will be used.

4. Whois

Describe how the applicant will comply with ICANN's Registry Publicly Available Registration Data (Whois) specifications for data objects, bulk access, and lookups as defined in Specifications 4 and 6 to the registry agreement. Describe how the Applicant's Registry Publicly Available Registration Data (Whois) service will comply with RFC 3912.

5. Registration Life Cycle

Provide a detailed description of the proposed registration lifecycle for domain names in the proposed “.mm” TLD. The description must explain the various registration states as well as the criteria and procedures that are used to change state. It must describe the typical registration lifecycle of create/update/delete and all intervening steps such as pending, locked, expired, and transferred that may apply. Any time elements that are involved - for instance details of add-grace or redemption grace periods, or notice periods for renewals or transfers - must also be clearly explained.

6. Abuse Prevention and Mitigation

Applicants should describe the proposed policies and procedures to minimize abusive registrations and other activities that have a negative impact on Internet users. Answers should include:

- Safeguards the applicant will implement at the time of registration, policies to reduce opportunities for abusive behaviors using registered domain names in the “.mm” TLD, and policies for handling complaints regarding abuse. Each registry operator will be required to establish and publish on its website a single abuse point of contact responsible for addressing matters requiring expedited attention and providing a timely response to abuse complaints concerning all names registered in the “.mm” TLD through all registrars of record, including those involving a reseller.

- A description of rapid takedown or suspension systems that will be implemented.
- Proposed measures for management and removal of orphan glue records for names removed from the zone.

7. Rights Protection Mechanisms

Applicants should describe how their proposal will comply with policies and practices that minimize abusive registrations and other activities that affect the legal rights of others. Describe how the registry operator will implement safeguards against allowing unqualified registrations, and reduce opportunities for behaviors such as phishing or pharming. At a minimum, the registry operator must offer either a Sunrise period or a Trademark Claims service, and implement decisions rendered. Answers may also include additional measures such as abusive use policies, takedown procedures, registrant pre-verification, or authentication procedures, or other covenants.

8. Security Policy

Provide the security policy and procedures for the proposed registry, including:

- System (data, server, application / services) and network access control, ensuring systems are maintained in a secure fashion, including details of how they are monitored, logged and backed up;
- Resources to secure integrity of updates between registry systems and nameservers, and between nameservers, if any;
- Independent assessment report to demonstrate security capabilities (if any), and provision for periodic independent assessment reports to test security capabilities;
- Provisioning and other measures that mitigate risks posed by denial of service attacks;
- Computer and network incident response policies, plans, and processes;
- Plans to minimize the risk of unauthorized access to its systems or tampering with registry data;
- Intrusion detection mechanisms;
- Details for auditing capability on all network access;

- Physical security approach;
- Identification of department or group responsible for the registry's security organization;
- Background checks conducted on security personnel; and
- A threat analysis for the proposed registry, the defenses that will be deployed against those threats, and provision for periodic threat analysis updates

9. Technical Overview of Proposed Registry

Provide a technical overview of the proposed registry. The technical plan must be adequately resourced, with appropriate expertise and allocation of costs. The applicant will provide financial descriptions of resources in the next section and those resources must be reasonably related to these technical requirements.

The overview should include information on the estimated scale of the registry's technical operation, for example, estimates for the number of registration transactions and DNS queries per month should be provided for the first two years of operation.

In addition, the overview should account for geographic dispersion of incoming network traffic such as DNS, Whois, and registrar transactions. If the registry serves a highly localized registrant base, then traffic might be expected to come mainly from one area.

10. Architecture & Software

Provide documentation for the system and network architecture that will support registry operations for the proposed scale of the registry. System and network architecture documentation must clearly demonstrate the applicant's ability to operate, manage, and monitor registry systems. Documentation may include multiple diagrams or other components sufficient to describe:

- Network and associated systems necessary to support registry operations, including, but not limited to:
 - Anticipated TCP/IP addressing scheme;
 - Hardware (CPU and RAM, Disk space, networking components, virtual machines);

- Operating system and versions;
- Software and applications (with version information) necessary to support registry operations, management, and monitoring; including but not to
 - access and access rights to source code and the rights to modify the software for customization requirements;
 - production and testing computing environments for running the software securely and with high availability, which may be via hardware for locating in data centers or via public cloud services in Myanmar;
 - security software and services for securing the registry data including appropriate encryption of sensitive information, logging of all transactions that query or make changes to the registry data, and analysis of logs to detect inappropriate activity;
 - 24/7 operations and monitoring services for maintaining the operations of the registration service, including where these operations and monitoring services will be located;
 - training services for operating and maintaining the registration service.
- General overview of capacity planning, including bandwidth allocation plans.
- List of providers / carriers.

11. Database Capabilities

Provide details of database capabilities including:

- database software, storage capacity (both in raw terms [e.g., MB, GB] and in number of registrations / registration transactions), maximum transaction throughput (in total and by type of transaction), scalability, procedures for object creation, editing, and deletion, high availability, change notifications; and
- registrar transfer procedures, grace period implementation, reporting capabilities.

12. Geographic Diversity

Provide a description of plans for geographic diversity of operation centers. This should include the intended physical locations of systems, primary and back-up operation centers should be in Myanmar and one of in Singapore, Thailand, Vietnam or Japan. This may include cross country data synchronization and failover plan.

13. DNS Service Compliance

Describe the configuration and operation of nameservers, including how the applicant will comply with RFCs. All name servers used for the “.mm” TLD must be operated in compliance with the DNS protocol specifications defined in the relevant RFCs, including but not limited to: 1034, 1035, 1982, 2181, 2182, 2671, 3226, 3596, 3597, 3901, 4343, and 4472.

14. Data Backup Policies & Procedures

Provide details of frequency and procedures for backup of data, hardware, and systems used for backup data format, data backup features, backup testing procedures, procedures for retrieval of data/rebuild of database, storage controls and procedures.

15. Registry Continuity

Describe the SLA for the provided system and services offered. Provide your business continuity proposal. How the applicant will comply with registry continuity obligations as described in the Registry Interoperability, Continuity and Performance Specification (Specification 6), attached to the draft Registry Agreement. This includes conducting registry operations using diverse, redundant servers to ensure continued operation of critical functions in the case of technical failure.

16. Monitoring and Fault Escalation Processes

Provide a description of the proposed (or actual) arrangements for monitoring critical registry systems (including SRS, database systems, DNS servers, Whois service, network connectivity, routers and firewalls). This description should

explain how these systems are monitored and the mechanisms that will be used for fault escalation and reporting, and should provide details of the proposed support arrangements for these registry systems.

17. DNSSEC

Describe the policies and procedures the proposed registry will follow, for example, for signing the zone file, for verifying and accepting DS records from child domains, and for generating, exchanging, and storing keying material. Describe how the DNSSEC implementation will comply with relevant RFCs, including but not limited to: RFCs 4033, 4034, 4035, 5910, 4509, 4641, and 5155 (the latter will only be required if Hashed Authenticated Denial of Existence will be offered).

18. IDNs

State whether the proposed registry will support the registration of IDN labels in the “.mm” TLD, and if so, how. For example, explain which characters will be supported, and provide the associated IDN Tables with variant characters identified, along with a corresponding registration policy. This includes public interfaces to the databases such as Whois and EPP. Describe resourcing plans (including number and description of personnel roles allocated to this area). Describe how the IDN implementation will comply with RFCs 5890, 5891, 5892, and 5893.

19. Policy Advisory Services

State capabilities and experiences in policy development in the framework of establishment and operation of the “.mm” ccTLD registry and the future development of the entire “.mm” ccTLD registration systems.

20. Schedule

Provide schedule for the project including system implementation, testing, data migration and launch phase.

21. General Experience & Company Overview

Each applicant must provide the following with their proposals:

1. Background information, including:
 - a. A description of its primary business;
 - b. Names of the applicant's directors and key personnel responsible for providing the technology, products and /or services under its proposal;
 - c. Details about the applicant's ownership structure including names of directors, any subsidiaries and jurisdiction of incorporation; and
 - d. Experience and performance history in supporting or providing similar services to similar or related projects in the domain name space;
2. Information on the applicant's products, technology and/or services;
3. Proposed indicative timeframe for supplying technology, products and /
4. or services;
5. Resumes of key personnel involved in supplying technology, products and / or services;
6. Contact officer with phone and email addresses;
7. Applicant's principal place of business address;
8. References from the applicant's customers; and
9. Declaration of any current or potential conflicts of interest, including where the applicant itself or any related entity is directly or indirectly involved in any trade, business or undertaking of ".mm" ccTLD related Domain Names.

22. Conformity with ICANN's Rules and Regulation and the Draft Electronic Addressing Plan

Applicants shall declare conformity to the provision of the Draft Electronic Addressing Plan and the rules and regulation of ICANN by declaring its conformity to the provisions of the ICANN/Registry agreement for TLDs. For both, the Department provides the attached MS Excel files where the provisions of the draft Electronic Addressing Plan and the provisions of ICANN/Registry TLD agreement are provided. The Department declared, what it sees applicable

and relevant for the cooperation between the Department and the Registry and what it sees less or not relevant. The applicant shall declare for the provisions of the Electronic Addressing Plan if it is

- Conform;
- Partially conform; or
- Not conform

with the related provision. In case of partial and non-conformance, the applicant shall identify in the “Comment Applicant” column what part of the provision it does not conform to. In case of partial or non-conformance, the applicant can also state reasons for the partial/non-conformance and it might provide alternatives which would remedy the partial/non-conformance

In relation to the ICANN/Registry agreement, the applicant shall see the Department in the role of ICANN and gTLD/TLD replaced by ccTLD. Also here, the Department identified relevant items. The applicant shall state here

- Conform;
- Partly Conform;
- Partly applicable for ccTLD registries and conform with relevant parts;
- Partly applicable for ccTLD registries and not conform with relevant parts;
- Not applicable for ccTLD registries; or
- Not Conform.

Beside its conformance to the provided provisions, the applicant shall also state what provisions or what part of the provisions of the ICANN/Registry TLD agreement it does not see relevant for ccTLD. With this, the applicant can demonstrate the level of its experience and the result of the feedback will be used for the Department to draft the agreement between the Department and the appointed registry operator.

23. Alternative Operational Model

In view of the fact that the extent of the registry service required for SLR implementation is not yet finalized, applicants are required to clarify if their software can be licensed separately from a combined system/operations model as indicated above, and outline applicable terms and conditions for such licensing.

Such outline should include training and support mechanisms, if any, that the service providers offer to licensees.

24. Local Presence

The Department considers it to be of strategic importance to have the operation of the “.mm” registry infrastructure geographically located in Myanmar unless cloud-based services are proposed. Accordingly, registry service providers from outside Myanmar must explain how they propose to meet this local presence requirement.

25. Quotation

Provide quotation for the project including initial implementation, annual running operations and financial projection with USD. The quotation shall be suitably broken down and should separate services under paragraph 19 from the actual registry services.

26. Evaluation

The bidders will be short-listed based on the following criteria:

- Experience of the bidder:
- Number of national ccTLDs in operation:
- Proposal in relation to local presence:

Technical and Financial Proposal only from short-listed bidders will be evaluated on the following basis:

- Technical / Software solution + Operations
 - Ease and sustainability of integrating registrars into the registry service;
 - Ease of configuring registry technology and service to align with the policy framework of the Electronic Addressing Plan;
 - Sustainability of skills transfer to the registry and the Department;
 - Ability to meet specified registry technical and operational requirements;
 - System capabilities with respect to security, confidentiality, stability, integrity and availability.

- Flexibility, including the ability to make changes to software to customize for “.mm” ccTLD requirements and the degree of on-going innovation.
- Sustainability of registry system licensing or ownership framework, where applicable.
- Conformity to the Electronic Addressing Plan(Draft)
- Conformity to the ICANN/Registry Agreement
- Quotation
- Financial Proposal

27. Timeframe

A complete .mm domain name management system shall be delivered within 8 weeks after the contract signing.

28. Proposal Costs

The Department shall not be liable for the costs incurred by applicants in preparing and submitting their proposal. Such costs shall be borne by applicants.

29. Reserved Rights

The Department reserves the following rights in respect of this RFQ:

- Right not to proceed with the implementation of the “.mm” ccTLD registry;
- Right to delay the implementation of the the “.mm” ccTLD registry;
- Right to vary the scope of the the “.mm” ccTLD registry;
- Right to vary the envisaged approach to the provision of registry system and services;
- Right to re-advertise the RFQ for the “.mm” ccTLD registry;
- Right to expand or restrict service provider participation in any subsequent RFQ; and
- Right, at any time and for any reason, to require additional information from bidders.

30. Submission of Quotations

1. Quotations must only be submitted to the Department on 22.02.2019 by 13:00 PM (Myanmar Standard Time). Quotations must be submitted one original hard copy and two (2) hard copies of quotations and two (1) searchable softcopies (word or PDF format) must be included in sending quotations to:

Director General

The Republic of the Union of Myanmar

Ministry of Transport and Communications

Posts and Telecommunications Department

Building No. 2

Nay Pyi Taw, Myanmar

If something of error is found in softcopy, hard copy will be considered as the right one. It shall be responsibility of each bidder to ensure that its RFQ reaches Department no later than the aforementioned deadline. RFQ received after the deadline will not be accepted.

Applicants shall provide submissions in English language.