Internet New Zealand (Inc)

Submission to NTIA

on

IANA Functions Notice of Inquiry

31 March 2011
Public Version (there is no confidential version)

For further information, please contact:

Jay Daley	.nz Registry Services	jay@nzrs.net.nz
Keith Davidson	InternetNZ	keith@internetnz.net.nz
Debbie Monahan	Domain Name Commission Ltd	dnc@dnc.org.nz

Table of Contents

1 Introduction

1.1 This submission is from InternetNZ (Internet New Zealand Inc).

1.2 InternetNZ is a membership-based, non-partisan, not-for-profit charitable organisation responsible for the administration of the .nz top level domain.

1.3 Our mission is to protect and promote the Internet for New Zealand; we advocate the ongoing development of an open and uncaptureable Internet, available to all New Zealanders.

1.4 InternetNZ has two wholly-owned charitable subsidiaries to whom management, operation and regulation of the .nz top level domain are delegated. These are:

    1.1.1 .nz Registry Services, the Registry
    1.1.2 Domain Name Commission Limited, the Regulator

2 Interdependency of IANA functions

2.1 The NOI asks, "*The IANA functions have been viewed historically as a set of interdependent technical functions and accordingly performed together by a single entity. In light of technology changes and market developments, should the IANA functions continue to be treated as interdependent? For example, does the coordination of the assignment of technical protocol parameters need to be done by the same entity that administers certain responsibilities associated with root zone management? Please provide specific information to support why or why not, taking into account security and stability issues.*"

2.2 Each of the IANA functions can be seen as a separate registry function. Each has its own well understood process by which an external body requests changes in the registry data, with different bodies for different registries.

2.3 We see no reason for the various IANA registries to be provided by the same operator. There is no interdependence for registry customers on those functions, nor is there any underlying technical reason, nor is there any reason of security or stability of the Internet.

2.4 Further, it is likely that many of the minor registries that would notably benefit from being provided by a different operator from the root zone and IP address registries and so receive attention and development as individual registries from an operator with a specific skill in that area. This benefit would likely include the normal functionality of a modern registry such as an online management interface, secure communications, a request tracking system and other customer facing services.

2.5 It would remain appropriate for one operator to be contracted as the registry of last resort, for all of the registries for which no suitable specialist operator can be found. The same rule would then apply to any new registries that are developed by the IETF.

3   Relationship to policy development entities

3.1   The NOI asks, "*The performance of the IANA functions often relies upon the policies and procedures developed by a variety of entities within the Internet technical community such as the IETF, the RIRs and ccTLD operators. Should the IANA functions contract include references to these entities, the policies they develop and instructions that the contractor follow the policies? Please provide specific information as to why or why not. If yes, please provide language you believe accurately captures these relationships.*"

3.2   It is our recommendation that the IANA functions contract(s) should clearly state for each registry, the entity that determines the policy for that registry, and have a clear instruction that the operator must follow the policy set out by that entity and not create any policy of its own.

3.3   Experience within the .nz TLD has shown that functional separation of the registry from the policy development entity, with neither in a position of control over the other, provides significant and necessary safeguards for the customers. These include:

   3.3.1   All registry decisions are directly traceable to a publicly available policy document. Any gap in this audit trail is a breach of the contract under which the registry operates and would be expected to lead to contractual sanctions.
   3.3.2   The registry can refuse to carry out any request that does not conform to the publicly available policy, without any threat of action against it or any individual as the registry is not contracted to any policy development entity.
   3.3.3   Both the registry and the policy development entity are fully developed functions, without the priorities of one limiting the investment and development of the other.

3.4   Without such structural separation, the following issues have been encountered as an unfortunate feature of the current IANA functions contract, for which further evidence is provided in the section on ccTLDs:

   3.4.1   Unauditable registry changes.
   3.4.2   Inadequately documented policies.
   3.4.3   Imbalance in resources and priorities leading to underdevelopment of the registry function.

3.5   It is therefore also our recommendation that the operator of the IANA functions contract(s) should be structurally separate from any policy development entity that sets the policy for whichever registries it operates. Further the operator of the IANA functions contract(s) should have no policy development function of its own so as to ensure there is never any conflict of interest.

4   Concerns of ccTLDs

4.1 The NOI asks, "*Cognizant of concerns previously raised by some governments and ccTLD operators and the need to ensure the stability of and security of the DNS, are there changes that could be made to how root zone management requests for ccTLDs are processed? Please provide specific information as to why or why not. If yes, please provide specific suggestions.*"

4.2 The ccNSO Delegations and Redelegations Working Group, of which one of the authors of this submission was the chair, identified that a high number of ccTLD delegations and redelegations, carried out over many years, were made outside of the policy that existed at that time.

4.3 This failure to implement the policy was only possible because ICANN is both the IANA functions contract operator and responsible for policy development, and switched from developing policy to making operational decisions.

4.4 With structural separation of the IANA root zone function operator from ICANN, such a switch will not be possible as ICANN will only have policy as a mechanism by which it can influence the IANA root zone function operator.

4.5 We would also recommend that a service level agreement (SLA) be established between the IANA root zone function operator in which:

　　4.5.1 ICANN sets performance targets in which it expects root zone operations to be carried out by the operator, security expectations, external review requirements and so on.

　　4.5.2 The IANA root zone function operator sets requirements of ICANN for policy development including that all policy be clear, consistent, timely, fair and accountable.

4.6 These measures taken together will ensure from the registry side that ccTLDs receive the level of service expected.

4.7 We note that within the ccNSO a working group has been formed to provide a Framework of Interpretation for the delegation and redelegation of ccTLDs that will help significantly to make the process more transparent. With this process underway we see no need at this juncture for the NTIA to consider an alternate policy development entity to ICANN to address the shortcomings in the treatment of ccTLDs.

5 Performance metrics

5.1 The NOI asks, "*Broad performance metrics and reporting are currently required under the contract. Are the current metrics and reporting requirements sufficient? Please provide specific information as to why or why not. If not, what specific changes should be made?*"

5.2 Functions as critical for the operation of the global Internet as the IANA functions should be subject to a comprehensive and detailed set of performance metrics. These are best set by the relevant policy development entity on a registry by registry basis. The contract should make it a requirement that the IANA functions operator recognises and achieves such performance metrics.

5.3   The performance metrics set in the IANA functions contract should be designed to ensure the integrity of the process and outcomes. Such metrics might include:

    5.3.1   Publishing a clear audit trail for each registry change that identifies the relevant policy under which the change was made.

    5.3.2   Publishing a clear audit trail for each rejected change that identifies the relevant policy under which the change was rejected.

    5.3.3   A desired customer satisfaction score.

6   Process improvements

6.1   The NOI asks, "*Can process improvements or performance enhancements be made to the IANA functions contract to better reflect the needs of users of the IANA functions to improve the overall customer experience? Should mechanisms be employed to provide formalized user input and/or feedback, outreach and coordination with the users of the IANA functions? Is additional information related to the performance and administration of the IANA functions needed in the interest of more transparency? Please provide specific information as to why or why not. If yes, please provide specific suggestions.*"

6.2   There is scope for many process improvements to be made. A minimum set of process improvements are:

    6.2.1   A secure communications system for registry to customer communications.

    6.2.2   An automatable provisioning protocol allowing customers to develop systems to manage their interactions with the registry.

    6.2.3   An online database of change requests and subsequent actions whereby each customer can see a record of their historic requests and maintain visibility into the progress of their current requests.

    6.2.4   A test system, which the customers can use to check that they meet any requirements of the registry that will be subject to automated checks.

    6.2.5   A secure notification system for the registry to notify customers of any registry system outages, planned maintenance, new developments etc.

    6.2.6   An annual or biennial survey of all customers to determine customer satisfaction ratings, satisfaction-importance gaps on specific service areas, areas for improvement and so on.

7   Additional security considerations

7.1   The NOI asks, "*Should additional security considerations and/or enhancements be factored into requirements for the performance of the IANA functions? Please provide specific information as to why or why not. If additional security considerations should be included, please provide specific suggestions.*"

7.2   The major security consideration is covered in the section above, which is a requirement for a secure communications system, as email authentication is inadequate.

7.3   In addition, the following should be included in the IANA functions contract:

7.3.1   A requirement for regular external reviews of process and security using a number of methods including document audit, penetration testing and international standards benchmarking. The results of these reviews to be made public within a specified timeframe to allow for any corrective measures to be taken.

7.3.2   A published disaster recovery plan for the operator that is regularly consulted upon.

7.3.3   A documented urgency process for customers to follow if they are experiencing an emergency, which includes private emergency contact numbers for the operator to be contacted on.

With many thanks for your consideration,

Yours sincerely,

InternetNZ