**Revised CWG Draft Proposal Section III.A.iii**

Proposed changes to root zone environment and relationship with Root Zone Maintainer

1. Recommendations related to the elimination of NTIA Authorization of changes to the Root Zone content and the associated WHOIS database.

Currently, changes to the Root Zone File, as well as changes to the Root Zone WHOIS Database, are transmitted to the NTIA for authorization. Such changes cannot be enacted without explicit positive authorization from the NTIA. Post-transition, no authorization for Root Zone change requests will be needed.

1. Changes will be required to the IANA Functions Operator and Root Zone Maintainer software to remove this requirement. In the very short term, if making the software changes cannot be completed before the transition and/or to avoid multiple coincident changes, the existing software could be used and IANA staff could authorize the changes (effectively playing the role of the NTIA).
2. Currently there is a Cooperative Agreement between the NTIA and the Root Zone Maintainer. The NTIA has said that there will be a parallel but separate transition to disengage the NTIA from the Root Zone Maintainer. The exact form of the latter transition is not currently known, nor what, if anything, will replace the current Cooperative Agreement and the parties involved in providing the services currently covered under the Cooperative Agreement.
   1. If that transition is not completed prior to the IANA Stewardship Transition, the Cooperative Agreement will likely have to be amended by the NTIA to allow Verisign, acting as the Root Zone Maintainer, to implement changes to the root zone requested by the IANA Functions Operator without requiring approval from the NTIA.
   2. If the Root Zone Maintainer transition is completed prior to, or in conjunction with, the IANA Stewardship Transition, the new arrangements must provide a clear and effective mechanism to ensure that PTI can have its change requests for the Root Zone implemented in a timely manner by the Root Zone Maintainer (possibly via an agreement between the Root Zone Maintainer and the IANA Functions Operator).
3. It should be determined if additional checks/balances/verifications are required post transition. The CWG-Stewardship recommends that a formal study be undertaken post transition to investigate whether there is a need to increase (and if so, how) the robustness of the operational arrangements for making changes to the Root Zone content to reduce or eliminate single points of failure.[[1]](#footnote-1) This study should include a risk analysis and cost/benefit analysis factoring in the history and possibility of such problems. Any new procedures/processes should be designed to minimize:
   1. The potential for accidental or malicious changes or omissions by the IANA Functions Operator or Root Zone Maintainer.
   2. The potential for out-of-policy changes by the IANA Functions Operator. The term “policy” is used in its most general sense, representing formal Policy adopted by ICANN as well as established standards, practices and processes.
   3. The potential for accidental or malicious errors in the communications path from the IANA Functions Operator to the Root Zone Maintainer.
   4. The potential for accidental outages or malicious actions related to the telecommunications infrastructure serving the IANA Functions Operator and the Root Zone Maintainer. Such outages or actions could be related to the infrastructure shared with ICANN.

Any changes to procedures or processes should be based on a cost/benefit and risk analysis factoring in the history and possibility of such problems. The review should involve all parties that may be affected or impacted by any changes to be implemented.

1. Changes to the Root Zone Management Architecture and Operation.

Per the NTIA IANA Functions Contract, NTIA approval was required for the implementation of all changes to the Root Zone environment such as DNSSEC as well as many classes of changes to IANA Functions Operator processes (including what may be published). The NTIA has contributed and opened avenues to resources (such as those from NIST – the National Institute of Standards and Technologies, a part of the U.S. Department of Commerce in efforts surrounding DNSSEC). Moreover as the Root Zone Administrator, they have been the entity to ultimately approve the changes going forward.

Post Transition:

* 1. The CWG-Stewardship recommends that a replacement of this approval function be provided for significant architectural and operational changes. Although it is clear that the DNS-related technical and operational communities have both the technology skills and appropriate incentives to make prudent and cautious changes, the critical nature of the root zone makes it necessary to formalize approval of major architectural and operational changes.
     1. Formal approval to proceed with a change shall be granted by the ICANN Board.
     2. The Board shall grant approval on the recommendation of a standing committee with a proposed membership of: One ICANN Board member (possibly as Chair), senior IANA Function Operator administrator or delegate, Chairs or delegates of the SSAC, RSSAC, ASO, IETF, a representative of the GNSO RySG, a representative of the ccNSO and a representative of the Root Zone Maintainer. The standing committee will select its chair. The RySG and ccNSO representatives will ensure appropriate communications with the CSC.
     3. The above aforementioned committee will not necessarily be the group that considers the details of the issue under consideration, but it will be responsible for ensuring that those involved in the decision include all relevant bodies and have access to necessary expertise.
     4. Issues may be brought to the committee’s attention by any of its members, by PTI staff or by the CSC.
     5. For architectural changes that impose potential risk to the security, stability, or resiliency of the root system (as identified by at least one committee member and agreed by a simple majority of members), there should be public consultation through the standard ICANN public comment process.
     6. To the extent allowed based on the need for security and contractually required confidentiality, the proceedings of the committee should be open and transparent.
     7. Since it is not possible to formally define “significant”, all parties should err on the side of prudence and raise issues for the consideration of the committee when there is any question of it being required. The committee may decide that it does not need to consider the issue.
     8. The committee should coordinate with the NTIA at the time of transition to transfer relevant information about any ongoing major architectural and operational changes so that any such ongoing activities are not delayed or lost due to the transition.
  2. The CWG-Stewardship further recommends that for changes internal to the IANA Functions Operator and for those related to reports and communications, no external approval shall be needed. Such decision should be made, where appropriate, in consultation with the community, or the approval committee described in the previous sub-section.
  3. The CWG-Stewardship recommends that post transition IANA Functions Operator budgets must support the operator’s capability to investigate, develop and deploy the type of Root Zone enhancements required to keep the Root Zone and its management evolving.

**Principles**

1. Transparency

To the extent allowed by external agreements and as necessitated by security and privacy issues, the IANA Functions Operator should operate in a transparent manner. Reports on the IANA Functions Operator operations should not be withheld unless there are explicit and defendable needs for confidentiality.

1. Control of Root Zone Management

Currently updating the Root Zone requires the active participation of three parties, the IANA Functions Operator, the Root Zone Maintainer and the NTIA. The IANA Functions Operator receives change requests from various sources, validates them, and sends them to the Root Zone Maintainer who, once they are authorized by the NTIA, updates the Root Zone File, DNSSEC signs it, and distributes it to the Root operators.

Post transition there will only be the IANA Functions Operator and the Root Zone Maintainer. The CWG-Stewardship is not recommending any change in the functions performed by these two roles at this time. The CWG-Stewardship is recommending that should there be proposals to make changes in the roles associated with root zone modification, that such proposals should be subject to wide community consultation.

1. Future changes to the Root Zone Management process must be made with due consideration to the IANA Functions Operator’s and Root Zone Maintainer’s abilities to process change requests expeditiously.

1. If this recommendation is approved, the estimated costs for the study should be added to the PTI budget for the period(s) in which it will be performed. [↑](#footnote-ref-1)