**Root zone change management**

The root zone management follows a workflow system for managing TLD labels in the root zone called the Root Zone Management System (RZMS).

In general, an extremely conservative approach is taken to managing the root zone in recognition of its critical role in the DNS ecosystem, which supports the objectives for security, stability and resiliency.

In terms of the general operational workflow, processing follows a well-understood process that involves significant review of each change by multiple parties.

All changes are manually reviewed throughout the process, and staff is empowered to ask questions and engage with the customer whenever a request raises a concern prior to implementation

The current root zone Management system (RZMS) model allows anyone to submit request for changes to TLD in the root zone via E-mail, online system and Fax.

 Access to the online system is by users to whom a randomized usernames have been issued by IANA, and passwords that need to meet minimum complexity requirements.

Customer’s use of online system in the current trust model is a convenience that does not provide additional privileges beyond that of an anonymous customer. It provides a convenient access to submit change request, review pending and historical change requests, and withdraw change requests in a self-service manner, but access is not required to perform these functions.

The change management includes an authorization model under which a nonce is sent via email to the two contacts for the domain and both must use to approve or reject the change request. Contacts can nominate a private email address that does not appear in the WHOIS for this purpose.

Changes must have also been enacted in the child zone and technical testing are performed by two independent implementations

The IANA team is currently building its next generation RZMS, which involves a substantial rewrite of the authorization model. It is planned to move to a model where authentication is made a requirement for lodgment of routine change requests and to provide authorization by authorizing users.

SSR2 notes that the conservation approach and the authorization model, which is based on contacts approval of changes via nonce, sent by unsigned emails, the presence of the proposed changes in the TLD zone APEX and the technical checks done by two different entities and implementations.

SSR2 also notes that IANA team is building the next generation of the RZMS with a new authorization model, which will introduce authentication a requirement for making change request or authorizing changes.

**Recommendations:**

**ICANN org has committed to increasing the level of security and responsiveness of the Root Zone Management System.**

**During implementation of the new root zone management system, ICANN org should impose multi-factor authentication inside the authorization model and ensure integrity and authenticity of all communications.**