

IANA Update

APTLD 84

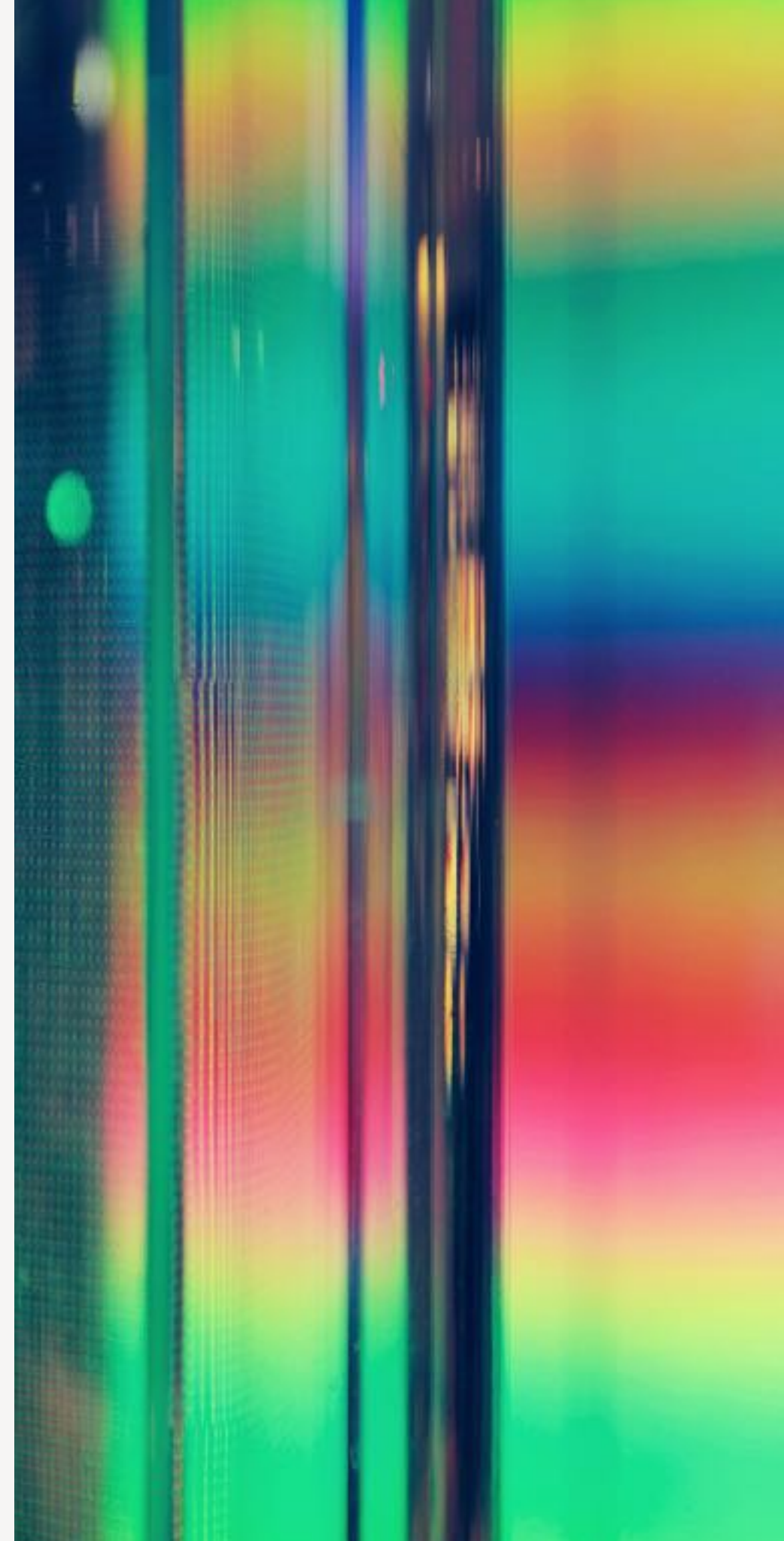
Kim Davies

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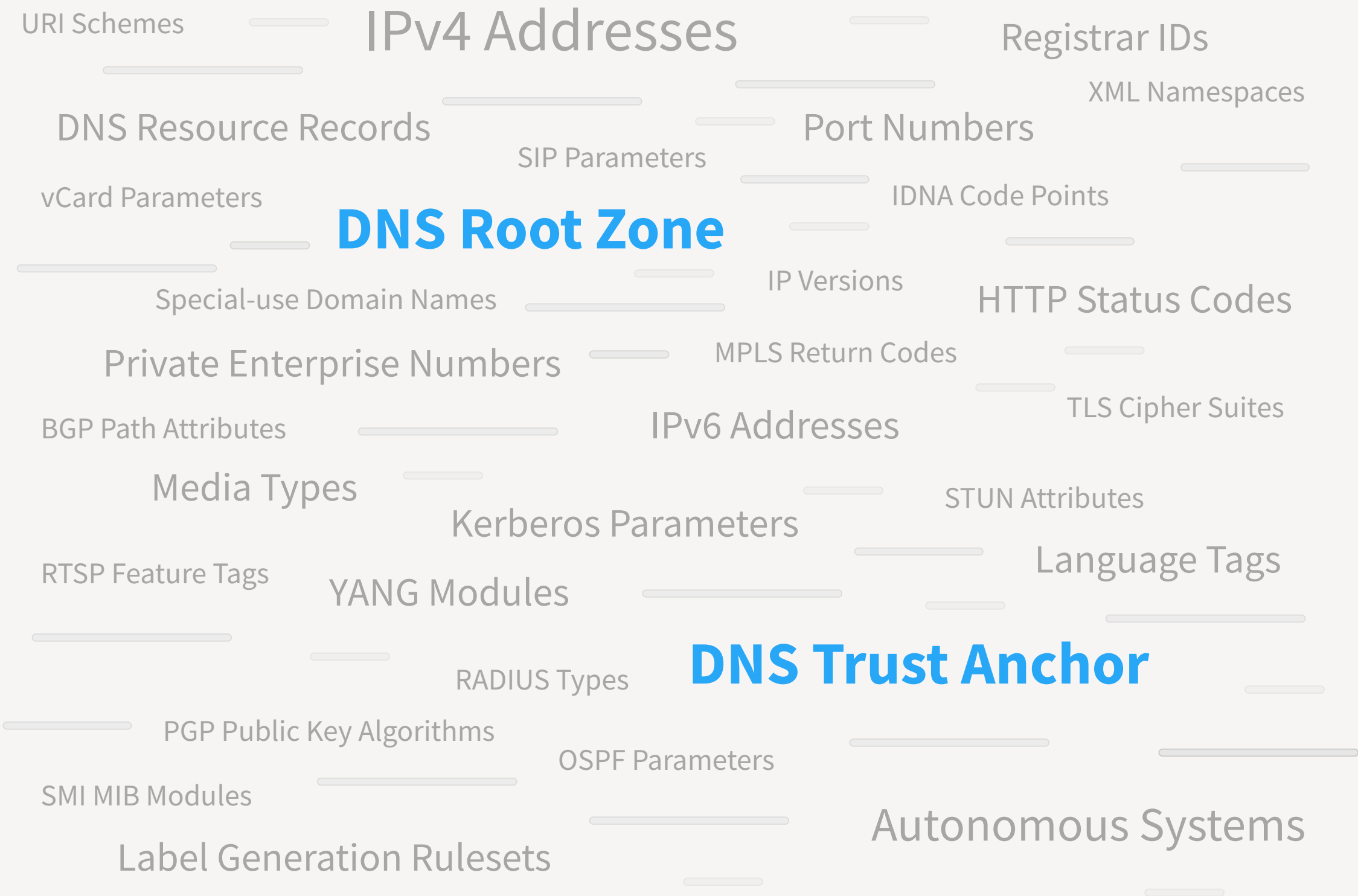
Seoul, South Korea

September 2023

PTI | An ICANN Affiliate

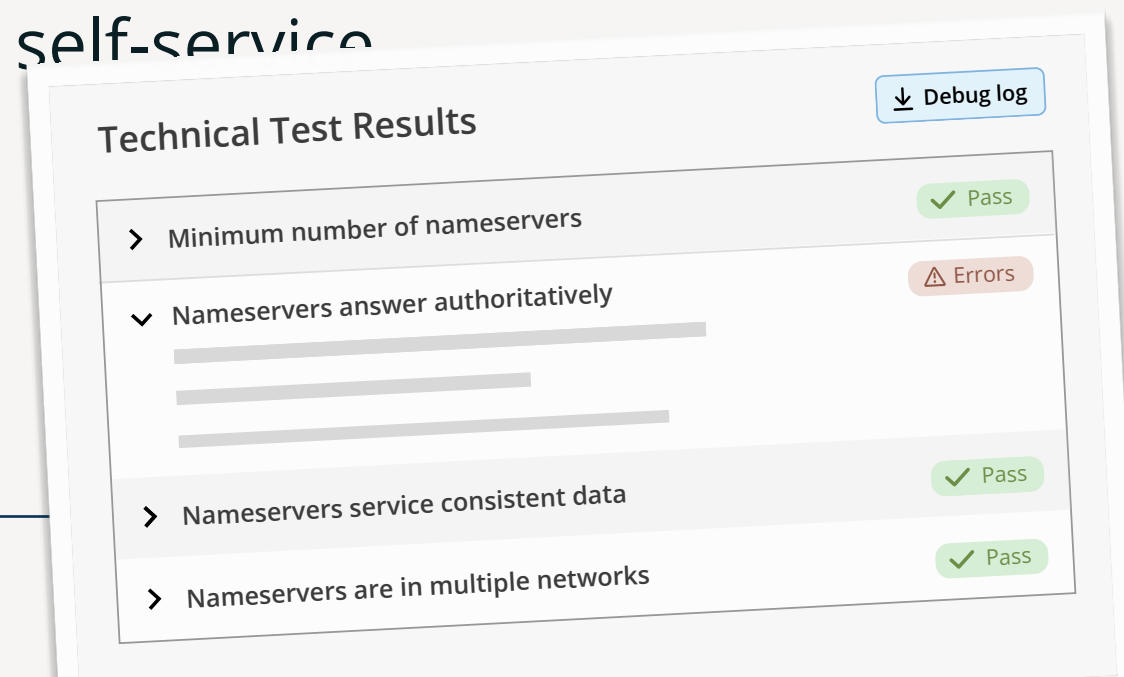


IANA Naming Functions



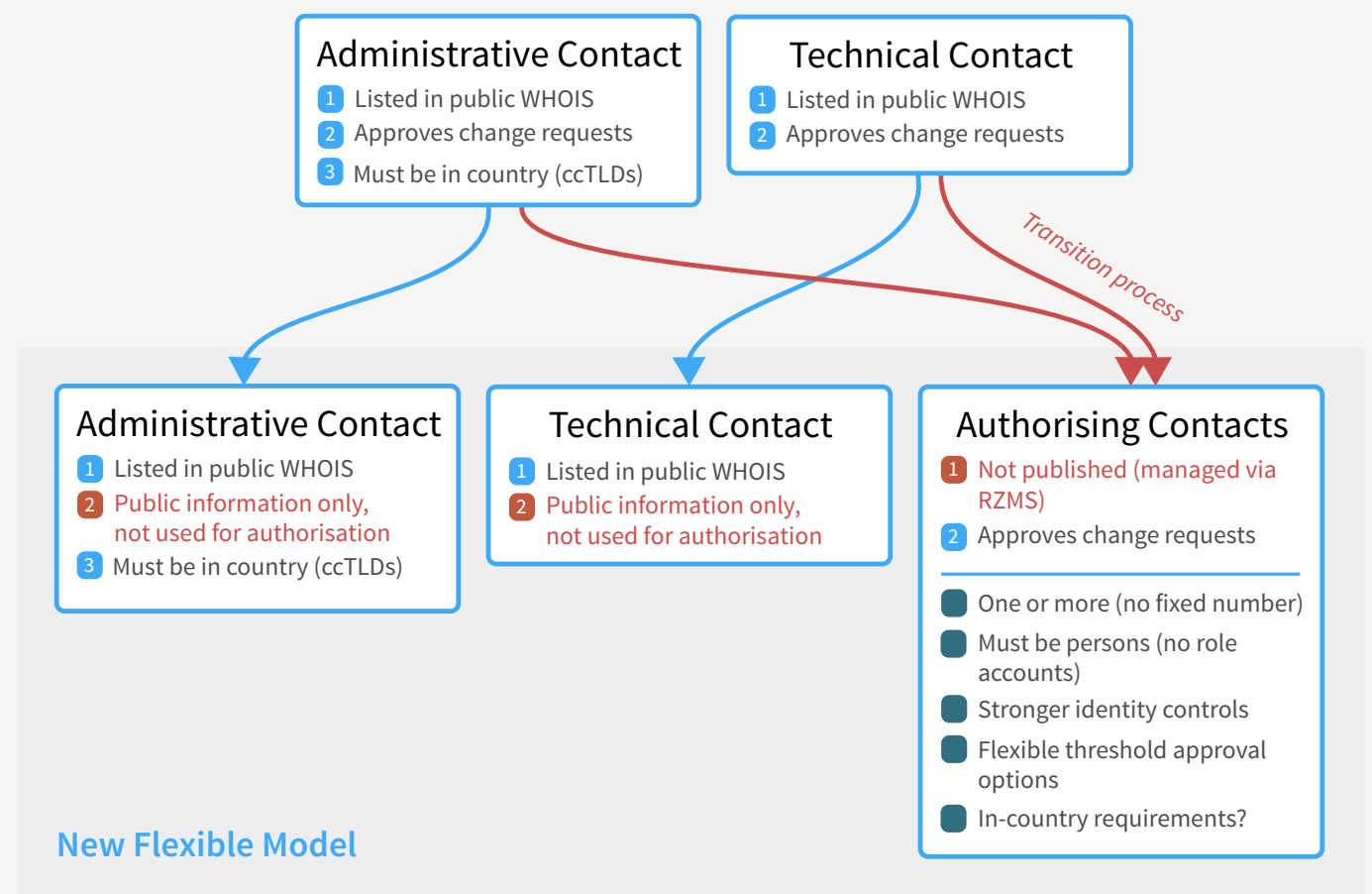
Root Zone Management System

- Our portal for TLD managers to submit change requests and interact
- Ground-up rewrite launched in December 2022
 - Previous code base had 20 year old origins
 - Largely reimplements existing functionality
- Preliminary API, to be expanded further
 - Focused on bulk operations
 - End goal is to provide complete functionality for self service
- Separated technical check process into a separate module
 - More performant, easier to evolve on an independent track
 - Debug logs available to customers via self-service
- Enhanced audit logging



Root Zone Management System

- Key change is a new contact model
 - Administrative and Technical Contacts separated
 - Now are only public facing points of contact in WHOIS etc.
 - New “authorizer” or “user” concept, fully configurable by TLD manager with privilege grants, granular to job responsibility

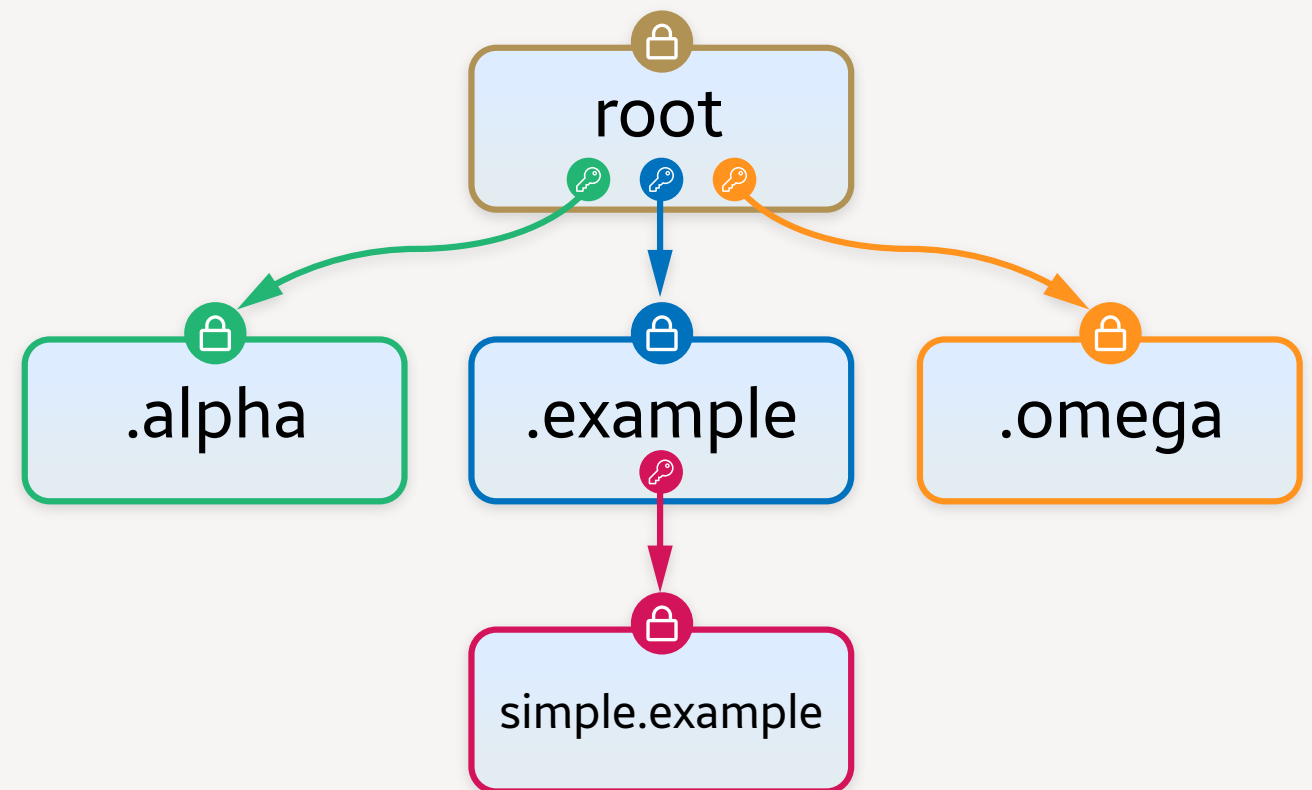


Root Zone Management System future work

- Multi-factor authentication
 - TOTP, WebAuthn
 - Adopted SSR2 recommendation
 - Difficulty is not technological but operational procedures
 - Implement enhanced “know your customer” procedures
- Pass/fail/warn technical checks
 - Provides flexibility to warn of conditions that TLD manager can self-dismiss, rather than blocking a change request
- Health checks
 - Proactively monitor TLDs, notify of issues to be remedied
 - Root Zone update study recommendation

DNS Trust Anchor

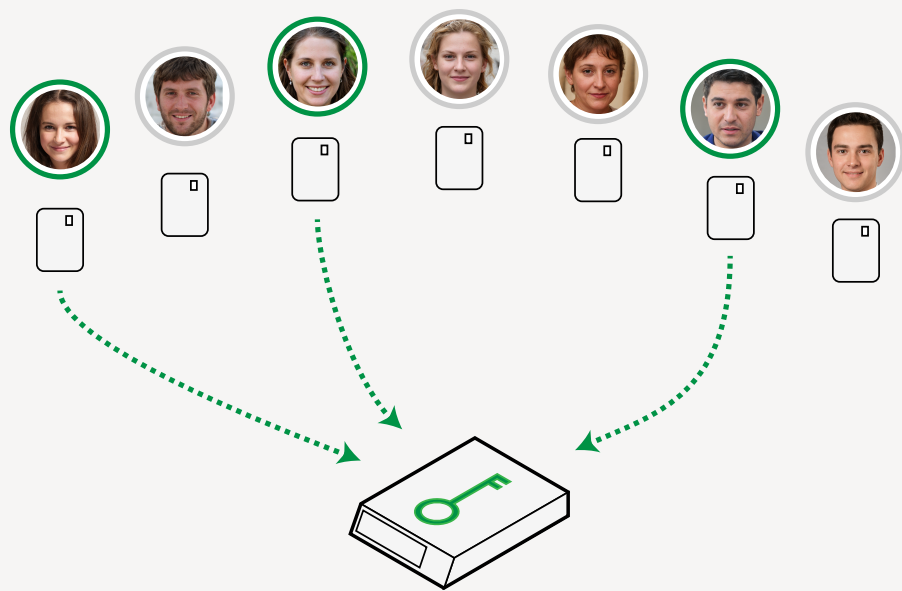
- Security for the DNS (DNSSEC) is a hierarchical system of public key cryptography that matches the hierarchical delegation of the DNS itself.
- The apex key is the **Root Zone Key Signing Key (KSK)**, which serves as the singular trust anchor for the system.
- We manage the key in a highly transparent manner, with public key signing ceremonies and an open design model.



Trusted Community Representatives

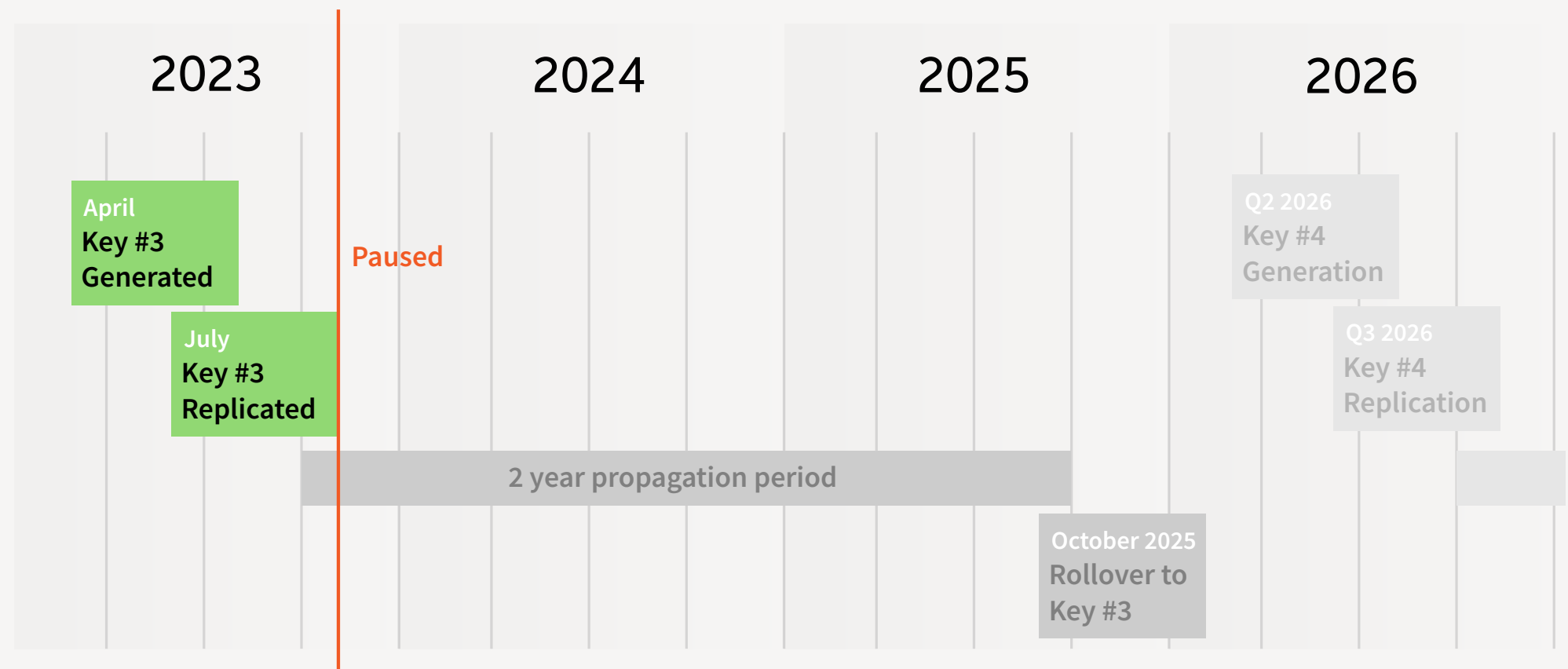
- Community members are a key part of how we protect the key and build trust.
- Participate in and oversee ceremonies
- Maintain credentials required to activate the key.
- Diversity is important — including geography, skills and gender
- We're looking for volunteers to apply from Asia

<https://iana.org/tcr>



Updating the key

- We've embarked on the 2nd ever replacement of the key
 - Highly orchestrated event, propagation to all validators through vendor updates etc.
- Stalled due to the need to replace our hardware security modules, will restart soon and regenerate a new key
- Community work on algorithm rollover requirements for public comment soon (e.g. elliptic curve algorithm)



Thank you!

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