

**SAC063: SSAC
Advisory on DNSSEC
Key Rollover in the
Root Zone**

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Overview

- This SSAC has published an advisory on issues relating to the rollover of the Domain Name System Security Extensions (DNSSEC) Key-Signing Key (KSK).
- The Advisory explores the following topics:
 - Terminology and definitions relating to DNSSEC key rollover in the root zone;
 - Key management in the root zone;
 - Motivations for root zone KSK rollover;
 - Risks associated with root zone KSK rollover;
 - Available mechanisms for root zone KSK rollover;
 - Quantifying the risk of failed trust anchor update; and
 - DNS response size considerations.

Recommendations

Recommendation 1: Internet Corporation for Assigned Names and Numbers (ICANN) staff, in coordination with the other Root Zone Management Partners (United States Department of Commerce, National Telecommunications and Information Administration (NTIA), and Verisign), should immediately undertake a significant, worldwide communications effort to publicize the root zone KSK rollover motivation and process as widely as possible.

Recommendations, Cont.

Recommendation 2: ICANN staff should lead, coordinate, or otherwise encourage the creation of a collaborative, representative testbed for the purpose of analyzing behaviors of various validating resolver implementations, their versions, and their network environments (e.g., middle boxes) that may affect or be affected by a root KSK rollover, such that potential problem areas can be identified, communicated, and addressed.

Recommendation 3: ICANN staff should lead, coordinate, or otherwise encourage the creation of clear and objective metrics for acceptable levels of “breakage” resulting from a key rollover.

Recommendations, Cont.

Recommendation 4: ICANN staff should lead, coordinate, or otherwise encourage the development of rollback procedures to be executed when a rollover has affected operational stability beyond a reasonable boundary.

Recommendation 5: ICANN staff should lead, coordinate, or otherwise encourage the collection of as much information as possible about the impact of a KSK rollover to provide input to planning for future rollovers.

Thank you

