

# Operational Report on the Root DNSSEC Key Signing Key Rollover

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## Background

On Oct 11, 2018, the root zone's DNSSEC key-signing key (KSK) was “rolled.” In other words, a new key replaced the previous key as the one that generates signatures for the DNSKEY RRSet. The preparation and progression of the key rollover is described in detail by ICANN at the following web page:

<https://www.icann.org/resources/pages/ksk-rollover>

## The Event

All root server operators (RSOs) were involved and engaged in this event from the early planning stages to post-event analysis and will remain so through the rest of the rolling process, which next includes revoking and removing the old key. Within the root server community, studies and tests were conducted in preparation. The RSOs have been providing real-time summary data (including RFC 8145 key tags) to ICANN since 2017. Additionally, the RSOs collected incoming DNS queries during several days around the event, and these are being distributed through DNS-OARC for further analysis. During the actual event, all root server operators intensified monitoring and coordination with each other and other involved parties.

## Statement

To the extent of the knowledge of the root server operator organisations, the KSK rollover did not lead to any noticeable impact at all on the root server system. When the new version of the root zone, with signatures created by the new KSK, was published, all service points were automatically updated according to normal procedures, and no significant increase in traffic or other unusual activity occurred.

The RSOs also actively tracked client use of the new KSK, and we agree with the assessment made by ICANN at <https://www.icann.org/news/announcement-2018-10-15-en> that there were very few problems seen by users.

## Conclusion

The root server operators conclude that there was no impact on the root server system as consequence of the KSK rollover. Thanks to careful study and preparation by the Root Zone Management partners, RSOs, and many others, this change has been initiated successfully and can be expected to complete successfully when the old KSK is removed from the zone. There are no signs of compromise of the stability or integrity of the system in relation to this event.