

Root Zone (Root Zone) KSK Rollover

This page is available in:

English | العربية (<http://www.icann.org/resources/pages/ksk-rollover-2016-07-27-ar>) | Español (<http://www.icann.org/resources/pages/ksk-rollover-2016-07-27-es>) | Français (<http://www.icann.org/resources/pages/ksk-rollover-2016-07-27-fr>) | 日本語 (<http://www.icann.org/resources/pages/ksk-rollover-2017-05-31-ja>) | 한국어 (<http://www.icann.org/resources/pages/ksk-rollover-2017-05-31-ko>) | Português (<http://www.icann.org/resources/pages/ksk-rollover-2016-07-27-pt>) | Русский (<http://www.icann.org/resources/pages/ksk-rollover-2016-07-27-ru>) | 中文 (<http://www.icann.org/resources/pages/ksk-rollover-2016-07-28-zh>)

The root KSK rollover is currently planned for 1600 UTC on 11 October 2018.

This page has general information about the KSK rollover. If you came here looking how to update to the latest KSK trust anchor, please see <https://www.icann.org/dns-resolvers-updating-latest-trust-anchor> (<https://www.icann.org/dns-resolvers-updating-latest-trust-anchor>) this page.

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(/sites/default/files/assets/root-zone-ksk-rollover-500x500-09may16-en.jpg)

News

18 September 2018 – [News Release: Board Approval of KSK Roll](#) (/resources/press-material/release-2018-09-18-en)

العربية (/resources/press-material/release-2018-09-18-ar) | Español (/resources/press-material/release-2018-09-18-es) | Français (/resources/press-material/release-2018-09-18-fr) | 日本語 (/resources/press-material/release-2018-09-18-ja) | 한국어 (/resources/press-material/release-2018-09-18-ko) | Português (/resources/press-material/release-2018-09-18-pt) | Русский (/resources/press-material/release-2018-09-18-ru) | 中文 (/resources/press-material/release-2018-09-18-zh)

22 August 2018 – [ICANN \(Internet Corporation for Assigned Names and Numbers\) Publishes Comprehensive Guide on What to Expect During the Root KSK Rollover](#) (/news/announcement-2018-08-22-en)

18 July 2018 – [Minimal User Impact Expected From Root Zone \(Root Zone\) Key Signing Key \(KSK\) Rollover](#) (/news/blog/minimal-user-impact-expected-from-root-zone-key-signing-key-ksk-rollover)

13 May 2018 – [ICANN \(Internet Corporation for Assigned Names and Numbers\) Board requests RSSAC \(Root Server System Advisory Committee\), SSAC \(Security and Stability Advisory Committee\) and RZERC advice on Draft Plan](#) (/resources/board-material/resolutions-2018-05-13-en#1.g)

23 April 2018 – [Staff report on the Draft Plan Comments published](#) (/en/system/files/files/report-comments-ksk-rollover-restart-23apr18-en.pdf)

1 February 2018 – [Announcing Draft Plan For Continuing With The KSK Roll](#) (/news/blog/announcing-draft-plan-for-continuing-with-the-ksk-roll)

1 February 2018 – [Comments Requested for Draft Plan](#) (/public-comments/ksk-rollover-restart-2018-02-01-en)

18 December 2017 – [Update on the Root KSK Rollover Project](#) (/news/blog/update-on-the-root-ksk-rollover-project)

27 September 2017 – [KSK Rollover Postponed](#) (/news/announcement-2017-09-27-en)

27 October 2016 – [KSK Rollover Operations Begin](#) (/news/blog/ksk-rollover-operations-begin)

[View more news.](#)

Technical Updates

23 April 2018 – [Staff report on the Draft Plan Comments published](#) (/en/system/files/files/report-comments-ksk-rollover-restart-23apr18-en.pdf)

18 December 2017 – [Update on the Root KSK Rollover Project](#) (/news/blog/update-on-the-root-ksk-rollover-project)

17 October 2017 – [Postponing the Root KSK Roll](#) (/en/system/files/files/root-ksk-roll-postponed-17oct17-en.pdf)

27 September 2017 – [ICANN \(Internet Corporation for Assigned Names and Numbers\) announces a postponement for the KSK Rollover](#) (/news/announcement-2017-09-27-en)

4 September 2017 – [Checking the Current Trust Anchors in DNS \(Domain Name System\) Validating Resolvers](#) (/dns-resolvers-checking-current-trust-anchors)

4 September 2017 – [Updating of DNS \(Domain Name System\) Validating Resolvers with the Latest Trust Anchor](#) (/dns-resolvers-updating-latest-trust-anchor)

11 July 2017 – [KSK-2017 is published in the DNS \(Domain Name System\)](#) (/news/blog/a-key-milestone-in-protecting-the-dns)

Overview

ICANN (Internet Corporation for Assigned Names and Numbers) is planning to perform a Root Zone (Root Zone) Domain Name (Domain Name) System Security (Security – Security, Stability and Resiliency (SSR)) Extensions (DNSSEC (DNS Security Extensions)) KSK rollover as required in the [Root Zone \(Root Zone\) KSK Operator DNSSEC \(DNS Security Extensions\) Practice Statement](#) (<https://www.iana.org/dnssec/icann-dps.txt>) [TXT, 99 KB].

Rolling the KSK means generating a new cryptographic public and private key pair and distributing the new public component to parties who operate validating resolvers, including: Internet Service Providers; enterprise network administrators and other Domain Name (Domain Name) System (DNS (Domain Name System)) resolver operators; DNS (Domain Name System) resolver software developers; system integrators; and hardware and software distributors who install or ship the root's "trust anchor." The KSK is used to cryptographically sign the Zone Signing Key (ZSK), which is used by the Root Zone (Root Zone) Maintainer to DNSSEC (DNS Security Extensions)-sign the root zone of the Internet's DNS (Domain Name System).

Maintaining an up-to-date KSK is essential to ensuring DNSSEC (DNS Security Extensions)-validating DNS (Domain Name System) resolvers continue to function following the rollover. Failure to have the current root zone KSK will mean that DNSSEC (DNS Security Extensions)-validating DNS (Domain Name System) resolvers will be unable to resolve any DNS (Domain Name System) queries.

The KSK rollover plans were developed by the Root Zone (Root Zone) Management Partners; ICANN (Internet Corporation for Assigned Names and Numbers) in its role as the IANA (Internet Assigned Numbers Authority) Functions Operator, Verisign as the Root Zone (Root Zone) Maintainer, and the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA (US National Telecommunications and Information Agency)) as the Root Zone (Root Zone) Administrator. The role of NTIA (US National Telecommunications and Information Agency) ended on 1 October 2016. The KSK rollover plans were posted in July 2016 and incorporate the community Root Zone (Root Zone) KSK Rollover [Design Team recommendations](#) (<https://www.iana.org/reports/2016/root-ksk-rollover-design-20160307.pdf>) [PDF, 1.01 MB].

Resources

Related information and additional resources can be found at:

العربية (/resources/press-material/release-2018-09-18-ar) | Español (/resources/press-material/release-2018-09-18-es) | Français (/resources/press-material/release-2018-09-18-fr) | 日本語 (/resources/press-material/release-2018-09-18-ja) | 한국어 (/resources/press-material/release-2018-09-18-ko) | Português (/resources/press-material/release-2018-09-18-pt) | Русский (/resources/press-material/release-2018-09-18-ru) | 中文 (/resources/press-material/release-2018-09-18-zh)

- [What To Expect During the Root KSK Rollover](#) (/en/system/files/files/ksk-rollover-expect-17sep18-en.pdf) [PDF, 106 KB]
- [Quick Guide: Prepare Your Systems for the Root KSK Rollover](#) (/en/system/files/files/ksk-rollover-quick-guide-prepare-systems-25apr18-en.pdf) [PDF, 47 KB]
- [RFC \(Request for Comments\) 8145 Root Trust Anchor Reports](#) (<http://root-trust-anchor-reports.research.icann.org/>)
- [Checking the Current Trust Anchors in DNS \(Domain Name System\) Validating Resolvers](#) (/dns-resolvers-checking-current-trust-anchors)
- [Updating of DNS \(Domain Name System\) Validating Resolvers with the Latest Trust Anchor](#) (/dns-resolvers-updating-latest-trust-anchor)
- [DNSSEC \(DNS Security Extensions\) Informational Page](#) (/resources/pages/dnssec-2012-02-25-en)
- [DNSSEC \(DNS Security Extensions\) for Everybody - A Beginner's Guide \(ICANN55\)](#) (<https://meetings.icann.org/en/marrakech55/schedule/sun-dnssec-everybody>)
- [IANA \(Internet Assigned Numbers Authority\) - Root Zone \(Root Zone\) Management](#) (<https://www.iana.org/domains/root>)
- [Root KSK Roll Update Webinar – Presentation by Matt Larson](#) (/en/system/files/files/root-ksk-roll-update-webinar-11oct17-en.pdf) [PDF, 741 KB]
- [Root Trust Anchor Reports](#) (<http://root-trust-anchor-reports.research.icann.org/>)

Get Involved

Ask a Question

Send an email to globalsupport@icann.org (<mailto:globalsupport@icann.org>) with "KSK Rollover" in the subject line to submit your questions.

Engage on Social Media

Use the hashtag #KeyRoll to join the conversation: <https://twitter.com/icann> (<https://twitter.com/icann>)

Join the KSK Rollover Discussion List

Sign up to the mailing list for public discussions on related issues: <https://mm.icann.org/listinfo/ksk-rollover> (<https://mm.icann.org/listinfo/ksk-rollover>)

Spread the Word

Share this webpage with others to help them learn about the KSK rollover and how they may be impacted.

Background

In 2009, the RZM partners collaborated to deploy DNSSEC (DNS Security Extensions) in the root zone, which culminated in the first publication of a validated signed root zone in July 2010.

The [requirements](#) (https://www.ntia.doc.gov/files/ntia/publications/dnssec_requirements_102909.pdf) [PDF, 116 KB] for generating and distributing the root zone KSK, as well as the respective responsibilities of each of the RZM partners, were specified by NTIA (US National Telecommunications and Information Agency). The procedures by which those requirements were met by the Root Zone (Root Zone) Maintainer (Verisign) and the IANA (Internet Assigned Numbers Authority) Functions Operator (ICANN (Internet Corporation for Assigned Names and Numbers)) were published in separate DNSSEC (DNS Security Extensions) Practice Statements (DPS): [Verisign DNSSEC \(DNS Security Extensions\) Signing Service DPS](#) (<https://www.verisign.com/assets/dps-zsk-operator-1527.pdf>) [PDF, 138 KB] and [Root Zone \(Root Zone\) KSK Operator DPS](#) (<https://www.iana.org/dnssec/icann-dps.txt>) [TXT, 99 KB].

The [IANA \(Internet Assigned Numbers Authority\) Functions Contract](#) (<https://www.ntia.doc.gov/page/iana-functions-purchase-order>) between NTIA (US National Telecommunications and Information Agency) and ICANN (Internet Corporation for Assigned Names and Numbers) was modified in July 2010 to include responsibilities associated with Root Zone (Root Zone) KSK management, and those requirements have been carried forward in subsequent revisions of that contract.

The [Cooperative Agreement](#) (<https://www.ntia.doc.gov/page/verisign-cooperative-agreement>) between NTIA (US National Telecommunications and Information Agency) and Verisign was also amended in July 2010 to reflect Verisign's Root Zone (Root Zone) ZSK Operator responsibilities.

The [IANA \(Internet Assigned Numbers Authority\) Functions Contract](#) (<https://www.ntia.doc.gov/page/iana-functions-purchase-order>) detailed a Root Zone (Root Zone) KSK rollover, but did not provide detailed requirements, or a detailed timeline or implementation plan. The Root Zone (Root Zone) KSK Operator DPS contains this statement, laying a requirement for a rollover in Section 6.5:

"Each RZ KSK will be scheduled to be rolled over through a key ceremony as required, or after 5 years of operation."

Milestones

- **October 27 2016:** KSK rollover process begins as the new KSK is generated.
- **July 11 2017:** Publication of new KSK in DNS (Domain Name System).
- **September 19 2017:** Size increase for DNSKEY response from root name servers.
- **1 February 2018:** Public comment period for plan to resume the KSK rollover begins, ends 2 April 2018.
- **23 April 2018:** Staff report on the Draft Plan Comments published.
- **13 May 2018:** ICANN (Internet Corporation for Assigned Names and Numbers) Board requests RSSAC (Root Server System Advisory Committee), SSAC (Security and Stability Advisory Committee) and RZERC advice on Draft Plan.
- **11 October 2018:** KSK rollover (subject to change based on operational considerations).

Operational Plans

ICANN (Internet Corporation for Assigned Names and Numbers) publishes its operational plans for the KSK rollover so that the community can know what to expect is coming. Please see [this page \(/resources/pages/ksk-rollover-operational-plans\)](#) for both the current operational plans and the plans that were used earlier.

Announcements Privacy policies and terms of service:

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