

Delegation Revalidation

<https://tools.ietf.org/html/draft-ietf-dnsop-ns-revalidation-00>

IETF 109 DNS Operations Working Group

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Background / Refresher

Presentation at IETF Virtual Interim, April 2020:

- <https://datatracker.ietf.org/meeting/interim-2020-dnsop-02/materials/slides-interim-2020-dnsop-02-sessa-delegation-revalidation>

Adopted as WG document: June 9th 2020. Current draft:

- <https://datatracker.ietf.org/doc/draft-ietf-dnsop-ns-revalidation/>

Recommendations in the draft:

1. Deterministically obtain Child NS RRset and cache it over Parent
2. Re-validate the delegation at the expiration of Parent NS RRset TTL

Updates to the draft

- Renamed as working group document (-00)
- Expanded motivation section in Introduction
- Make revalidation algorithm fully compatible with RFC 7816 (qname minimization)
- DS TTL discussion
 - Separate into its own section
 - By spec, the delegating NS and DS TTL “SHOULD” match. In practice they don’t.
 - If DS is present, resolvers MAY use DS TTL as the revalidation interval instead (MAY -> SHOULD? Or should this be one input into the calculation? Needs more discussion)
- Behaviour if entire NS set is lame: perform revalidation, with hold down timer to avoid DoS loop (what value?)

Updates to the draft

- Optimizations Section
 - Resolvers: Cache whether authorities do minimal-responses and selectively forego subsequent child NS RRset fetches for those.
 - Authorities: if employing minimal-responses, populate NS set in authority only for DNSKEY queries.
- Section on Delegation changes (re-delegations; removals)
 - If delegation is removed, ideally prune cache according to RFC8020, or allow cached entries to below the cut to persist (implementation details may dictate which is easier)
 - If zone has been re-delegated to entirely new set of child nameservers, then do the same.
 - If only a subset of NS entries have been re-delegated, then no cache cleanup is needed or recommended.

Q&A / Discussion

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