

draft-ietf-dnsop-avoid-fragmentation

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Updates from IETF 108

- submitted draft-ietf-dnsop-avoid-fragmentation-02, Sep. 15, 2020
- Diff is here: <https://tools.ietf.org/rfcdiff?url2=draft-ietf-dnsop-avoid-fragmentation-02.txt>
- Simplified Recommendations (Section 3)
- Added text in Section 4
 - Default path MTU value for IPv6 is XXXX. Default path MTU value for IPv4 is XXXX.
 - Discussions under here will be deleted when the discussion is over.

Recommendations

- 3.2. Recommendations for UDP responders
 - UDP responders SHOULD send DNS responses with IP_DONTFRAG / IPV6_DONTFRAG [RFC3542] options.
 - UDP responders MAY probe to discover the real MTU value per destination.
 - UDP responders SHOULD compose UDP responses that result in IP packets that do not exceed the path MTU to the requestor. Of course, as in the conventional case, a specified value (1220 or 1232) as the DNS packet size limit may be used.
- 3.1. Recommendations for UDP requestors
 - UDP requestors SHOULD send DNS responses with IP_DONTFRAG / IPV6_DONTFRAG [RFC3542] options.
 - UDP requestors SHOULD use the requestor's payload size to limit the path MTU value minus the IP header length and UDP header length. Of course, as in the conventional case, a specified value (1220 or 1232) as the requestor's payload size may be used.
 - UDP requestors MAY drop fragmented DNS/UDP responses without IP reassembly to avoid cache poisoning attacks.

Please review and comment

- fujiwara's idea to update
 - To avoid packet loss at UDP responder, add texts
 - If the UDP responder detects immediate error that the UDP packet cannot be sent beyond the path MTU size (EMSGSIZE), the UDP responder MAY recreate response packets fit in path MTU size, or TC bit set.
 - Change priority: First IP_DONTFRAG, Second avoid packet drop
 - Add text in Intro: This document proposes to set IP_DONTFRAG / IPV6_DONTFRAG in DNS/UDP responses in order to avoid IP fragmentation, and describes how to avoid packet losses due to IP_DONTFRAG / IPV6_DONTFRAG.
 - Change order: Section 3.2 (responders) and Section 3.1 (requestor)