RFC 2672bis: DNAME rewrite for clarity

Wouter Wijngaards, NLnet Labs
Matt Larson, VeriSign

Why and What

- RFC 2672…
  - has shortcomings and omissions
  - could be clearer
  - is showing its age
- Goal: rewrite to clarify without changing the protocol
- Non-goal: DNAME2

Process

1. Create an I-D listing the issues with RFC 2672
2. Gather working group feedback to create proposed resolutions and add to I-D
3. Create RFC2672bis I-D

Issues with RFC 2672

- List of issues identified so far follows
- Not a complete list
- Not an ordered list
- Just a first cut

Issue: Signalling DNAME comprehension

- RFC 2672 defers signalling mechanism
  - Non EDNS and EDNS version 0 presumed non-DNAME-capable
- With signalling, response to DNAME-capable querier could omit synthesized CNAME

Issue: Synthesized CNAME TTL

- RFC 2672 requires synthesized CNAMEs to have zero TTL
- Could use the DNAME's TTL for synthesized CNAMEs to allow caching

Issue: Wildcard DNAME

- My personal interpretation: RFC 2672 is clear that wildcard synthesis doesn't apply to DNAME, because DNAME substitution occurs before wildcard expansion
- But wcard-clarify claims ambiguity, so this issue should be clarified
- Could prohibit DNAME with wildcard owner name

Issue: Compression in DNAME RDATA

- RFC 2672 prohibits compression in DNAME RDATA pending signalling
- But RFC 3597 prohibits compression in RDATA

Issue: DNAME always sent

- Is including DNAME records in responses to older resolvers problematic? Is it breaking things today? Would it break things with wider DNAME deployment?
- With signalling, could omit DNAME and send only synthesized CNAME

Issue: CNAME synthesis in resolvers

- Are recursive name servers allowed to synthesize CNAMEs from cached DNAMEs for non-DNAME-capable stub resolvers?
- Is this a good idea or a bad idea?
- RFC 2672 is silent on this issue

Next Steps

- Issues list I-D will be published soon
- We are interested in your comments and feedback

- Thanks