Measuring CNAME + DNAME

IETF103 Hackathon project results

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Measuring CNAME + DNAME

- draft-sury-dnsop-cname-plus-dname

- second level domain aliases:
  กรุงเทพมหานคร.th → bangkok.th
  www.กรุงเทพมหานคร.th → www.bangkok.th
Measuring CNAME + DNAME

- Previously used `cname-plus-dname.rocks` completely broken with google now

  - `delegation.cdname2.nlnetlabs.nl 3600 CNAME (insecure.nlnetlabs.nl)`
  - `delegation.cdname2.nlnetlabs.nl 3600 DNAME (insecure.nlnetlabs.nl)`

- To test for impact of caching:
  - Query first CNAME (apex) then DNAME (www.)
  - Query first DNAME (www.) then CNAME (apex)
CNAME + DNAME – Results

Worst case

CNAME Query

DNAME Query

17009 resolvers on 9577 probes

17020 resolvers on 9572 probes

98.63% 1.37%

99.55% 0.45%

98.44% 1.56%

97.69% 2.31%
CNAME + DNAME – Results
Happy path

DNAME Query
17008 resolvers on 9572 probes

CNAME Query
16973 resolvers on 9551 probes
CNAME + DNAME - Results

- Worst case 2.31% SERVFAILs
  1.56% of Atlas probes cannot do it
- No resolvers need to be updated
- Only authoritatives at TLDs need to support it
  \textit{(NSD already does as slave)}
- Incrementally deployable (at TLDs) solution that works right now