

Measuring CNAME + DNAME

IETF103 Hackathon project results

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Measuring CNAME + DNAME

- `draft-sury-dnsop-cname-plus-dname`
- second level domains aliases:
 - กรุงเทพมหานคร.th → bangkok.th
 - www.กรุงเทพมหานคร.th → bangkok.th
- Aliasing to CDNs:
 - ietf.org → ietf.org.cdn.cloudflare.net

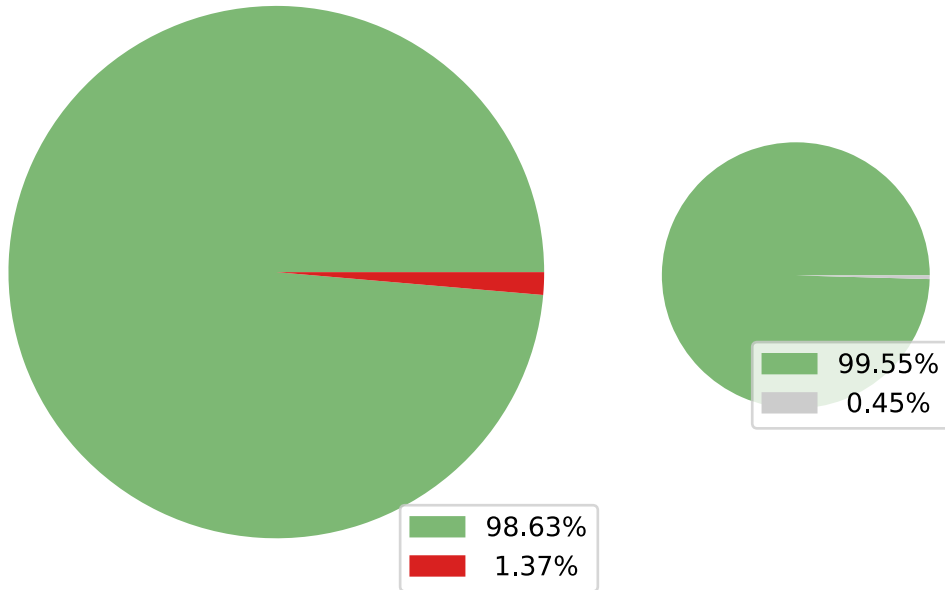
Measuring CNAME + DNAME

- 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

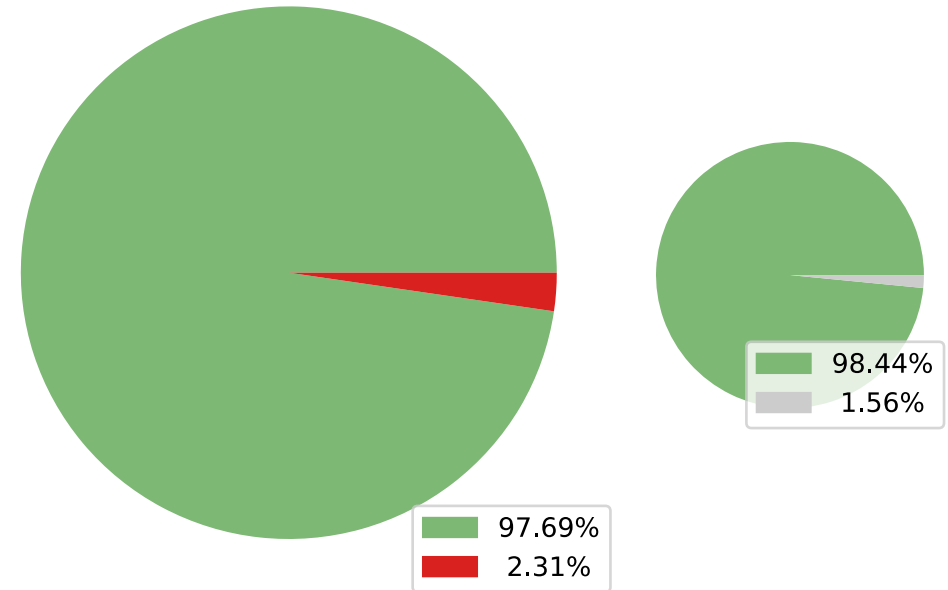
## Worst case

### CNAME Query



17009 resolvers on 9577 probes

### DNAME Query

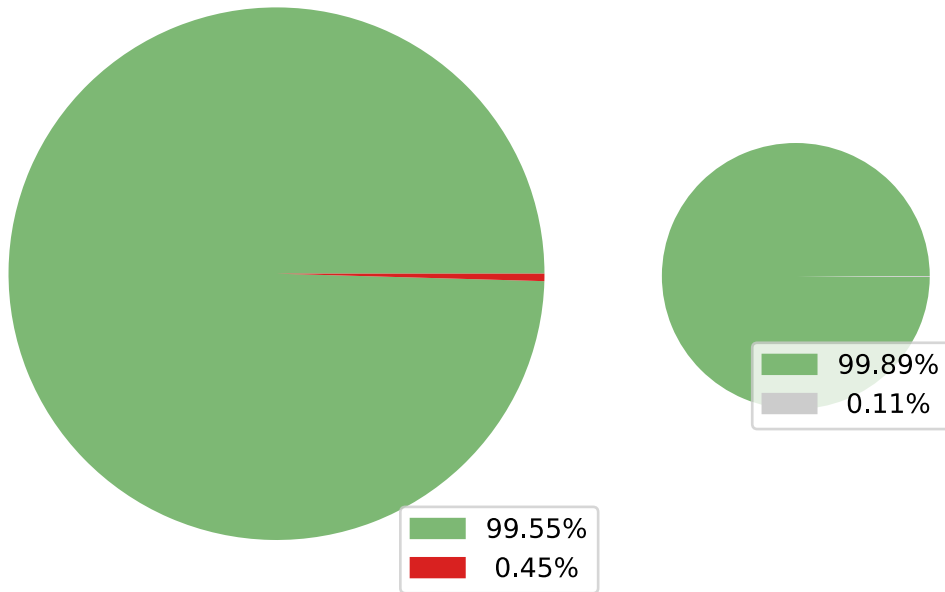


17020 resolvers on 9572 probes

# CNAME + DNAME – Results

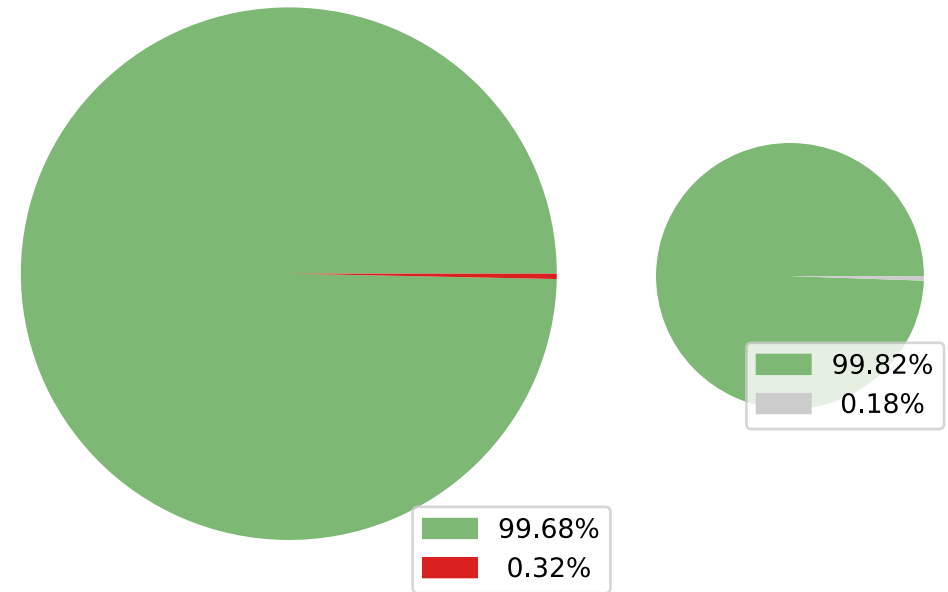
## Happy path

### 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  
(*NSD already does as slave*)
- Incrementally deployable (at TLDs) solution that **works right now**