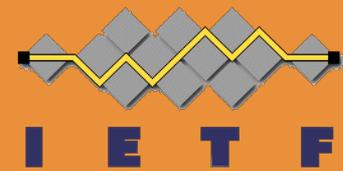




Serving Stale Data to Improve DNS Resiliency

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draft-tale-dnsop-serve-stale

- TTL still defines maximum interval before refresh
 - But not for complete expunging from cache
- Failure to refresh from any authority becomes soft error
 - Initial refresh on short timer (1.8sec) before client response
 - Resolver keeps trying up to normal fetch timeout (20ish sec)
 - Negative responses are considered successful refresh
 - Doesn't attempt to fix unintentional auth data errors
- After time (days) for manual intervention, eventually hard error
- Balances data integrity with resiliency
 - Provides service when previous answer usually still works

It Works!

- Patch originally written for BIND 9
- In use at Akamai since 2011
 - Smooths over temporary instability
 - Prevented several major incidents
- Contributed to ISC for BIND 9.12
- Both Akamai and Google IPR
 - Officially “Licensing Declaration to be Provided Later”
 - Expected to be “use it for free”, per contribution to ISC

1

Are the Timers Right?

1.8 seconds to respond to client with 1 second TTL stale answers, 7 days until hard fail?

2

Working Group Adoption

Fairly mature from operational experience.