

Developing a Testbed For Interactions Between Resolvers and the Root

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Overview

- Genesis of this testbed
- What it can test
- Open development

RSSAC asked the Caucus

- Studying Modern Resolver Behaviours Work Party
- WP information [here](#)
- Analyze DNS resolver and authoritative server code bases and perform (ideally repeatable) simulations to further extract a model of how modern resolvers implement caching and priming of the root name servers.

Testbed overview

- Under active development
- Done as VMs running under VirtualBox in order to make it easy for others to set up
 - Tested resolvers running on one VM (but later will be able to test resolvers not running in a VM)
 - Gateway in another VM (to capture pcaps)
 - Bespoke root server running in another VM (to allow tests such as changing latency, DNSKEY sizes, and so on)

Tests

- First tests aimed at priming repriming (based on a very short TTL for the root SOA and NS and DNSKEY)
- Other tests to follow soon
 - Would love to see others run their own tests
 - Ideas desired

Development

- <https://github.com/icann/resolver-testbed>
- Has a technical plan and setup guide
- Initiated by the RSSAC Caucus, but being developed for the long term
 - You don't have to be in the Caucus to contribute to the testbed