

DNS-over-TLS Measurements with RIPE Atlas Probes

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Experimental Setup

- RIPE Atlas team added DNS-over-TLS API after IETF 101
- Requested 1000 probes per measurement run
- Number of responses driven by probe configuration within its network
 - E.g., number of DNS servers to query

Basic Results

- 40841 total queries
- 3659 unique IPv4 DNS servers queried
 - Lots of DNS servers listed via private IP addresses
 - Probes throw error for DNS servers with private IPs
- 61 DNS servers responded over TLS
- 1.67% of DNS servers support DNS-over-TLS
 - Measurements from some known DNS-over-TLS-capable servers failed; need to investigate

Going Forward

- Developing automated measurements of DNS-over-TLS uptake via RIPE Atlas Probes
- Setting up web page to make statistics public
 - Raw statistics
 - Visualization
- Considering non-Atlas approaches to reach more resolvers