DNS Root Server Traffic Analysis

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Abstract

At ICANN, the office of the CTO has begun laying the foundation of large scale DNS root-server traffic analysis. The completion of this project will provide up to one petabyte of storage space to analyze traffic to root-servers. The result of this analysis will help to inform the community of abuse and misconfigurations as well as provide operational insight into the ever-changing topology of the Internet. As an example, this analysis infrastructure will be used to understand potential issues when changing the root zone KSK.

We would like to present some preliminary results that show that only a fraction of DNS traffic that arrives is useful to the end user, and that the bulk of requests consist of queries for non-existent top-level domains, repeated requests for responses that should have been cached, unreadable DNS messages and other interesting traffic.