



## **Continuous Data-driven Analysis of Root Server System Stability**

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At the end of 2015 the Continuous Data-driven Analysis of Root Server System Stability (CDAR)[1] study was started by the consortium partners NLnet Labs, SIDN and TNO. The objective of the CDAR study is to analyze the technical impact of the introduction of New gTLDs in the root zone on the stability and security of the root server system.

With this in mind, we engaged in the collection and analyses of a large variety of measurement data sets (RIPE Atlas measurements, RIPE DNSMON, RSSAC002, DITL, and others). The projects aims at answering the question if the growth on the root zone files impact, in any measurable way, the operational stability of the root DNS system.

In this presentation, the CDAR team will discuss with the community our first results on the analysis of the measurement data, as well the data collection and analysis methods used to observe the technical impact of New gTLD program. In specific, we will present a (i) characterization of the Root DNS traffic, an (ii) analysis of RSSAC002 data and TLD domain statistic to describe the impact of new gTLDs, and (iii) the impact of fluctuations in the query rates at the Root on DNS stability. (For the latter, we can use data of the late root DDoS attacks [2] and analyse the combined data of RIPE Atlas, DNSSMON and RSSAC002 data.)

A second type of assessments focusses on the correctness of DNS data and its impact on the Root stability and security. Results will be presented from continuous, valid/broken DNSSEC chain validations between the Root and (New g)TLDs, amongst others.

By sharing the current CDAR results we contribute to building on previous results from the DNS-OARC community and we enable the community to reflect on the study results.

[1] <http://cdar.nl>

[2] <http://root-servers.org/news/events-of-20151130.txt>

### **Summary**

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