

Statement of Work and Scope for RSSAC 002v3

4 February 2016

Work Assignment:

The RSSAC recently updated the RSSAC002 document with a number of minor clarifications. RSSAC002v2 was published on 26 January 2016.¹ While working on the v2 updates, a number of more substantial issues came to light, but were postponed. At this time the RSSAC wishes to address these other issues and again update RSSAC002. It requests Duane Wessels to lead a caucus work party to produce version 3 of RSSAC002: RSSAC Advisory on Measurements of the Root Server System, with adherence to RSSAC caucus procedures.

Scope:

The work party will be asked to consider a number of issues and updates that have been proposed for RSSAC002, including:

- 1) Whether or not the zone-size metric should continue to be measured,
- 2) How to measure and report the load-time metric with respect to large number of anycast instances,
- 3) Clarify ambiguity in the description of the rcode-volume metric,
- 4) Address the role of responses in the traffic-volume metric,
- 5) Feasibility of measuring the publication-time metric (e.g. on NSD),
- 6) Whether to include any additional metrics, and
- 7) Any other issues or updates that may be identified by the Caucus.

Deliverable:

The *final draft* of the "RSSAC002v3: RSSAC Advisory on Measurements of the Root Server System", numbered Draft-RSSAC-002 version 3.

Date of Delivery:

Final draft submitted to the RSSAC no later than **June 1st, 2016**. Submission prior to the deadline is welcome.

Guidelines:

The RSSAC requests Duane Wessels to report progress on this work to RSSAC as appropriate. In the event that the deadline will not be realized, Duane should inform RSSAC immediately and provide details of the work that cannot be completed by the deadline.

RSSAC support staff will assist the working party deliberation of the work, including setting up mailing list for the work party, arranging and supporting regularly teleconference calls, taking notes of meetings, drafting background materials of the work,

¹ See <https://www.icann.org/en/system/files/files/rssac-002-measurements-root-07jan16-en.pdf>

serving as editors for the document if needed.

Background:

The RSSAC published RSSAC002v1 on 20 November 2014. Based on implementation experience from a number of root server operators, the document has been updated with several clarifications and version 2 was published on 26 January 2016.² During the discussion of RSSAC002v2, additional metrics, request for clarifications, and changes were proposed. These were:

- Request for more realistic *YAML examples* (Akkerhuis)
- *zone-size metric*: Is this metric worth the trouble? It is somewhat difficult to define. Every operator that reports this is measuring it "out of band" because measuring it "in band" is all but impossible. All letters report the same value for this metric which leads to wasted effort.
- *load-time* (Crabill, Kash). This could be clarified with respect to large number of instances
- *publication-time* (Kash, Akkerhuis) is this still true? "There are current DNS software logging limitations that inhibit the perfect collection and resolution of latency in publishing available data values due to the lack of zone serial numbers in AXFR/IXFR logging statements." For NSD this is fixed starting with version 4.12, since 4.1.4 it will now also be logged at a less verbose log level (on request of Anand Buddhdev, Ripe-NCC).
- *RCODE distribution* (Roy Arends) Section 2.5 reads "The RCODE distribution is a raw count of the RCODE values observed in responses during the reporting period. This single sentence is ambiguous, since it is interpreted in two ways. Either it includes responses received, or it doesn't. That needs to be clarified, otherwise the numbers are meaningless as they can't be compared. Section 4.3 has a similar ambiguity. Does responses-sent mean sent by the root server, or sent by something else, and observed by the root server.
- *RCODE distribution* (Ondrej Sury) I would move the text from 4.5 (or add short note) about extended RCODEs to 2.5.
- *traffic-volume* (Ray Bellis) descriptive text in section 2.3 doesn't talk about responses. it is titled "The number of queries" The stated rationale (measuring increasing loads over time) doesn't need response volumes, and in the presence of RRL it's not a useful proxy measurement for the reliability of a server either.
- Are there additional metrics to consider? (Crabill)

² See <https://www.icann.org/en/system/files/files/rssac-002-measurements-root-07jan16-en.pdf>

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