**To**: New gTLD Subsequent Procedures PDP WG Work Track 1

**Subject**: Cases that reached emergency thresholds

Dear New gTLD Subsequent Procedures PDP WG Work Track 1,

Per your request on 19 September, please see below some data points regarding the cases that have reached an emergency threshold as described in specification 10 of the 2017 base registry agreement. Data is as of 20 November 2017.

We have seen 33 cases in which a service of a gTLD reached one of the emergency thresholds. 16 cases were triggered by issues in the DNS/DNSSEC service. Other 16 cases were triggered by issues in the RDDS services. The last one was triggered by issues with data escrow and is still in its final stages of resolution.

Eleven registry service providers have been involved in the 33 cases, concerning 27 unique gTLDs and a total of 211.7k active names at the second level at the time of the cases. The top 5 cases in term of registrations that reached emergency thresholds had 211k active domains at the time of cases. Four of those cases happened in 2017.

Starting 2015 we began tracking the root cause of these cases. Of the 16 RDDS cases, 3 were due to IPv6 transport not working and 1 was caused by a broken chain of trust in DNSSEC. Another case was due to the web Whois service not responding. For 11 of these RDDS cases we do not have the root cause as they occurred in 2014.

Of the 16 DNS/DNSSEC cases, 5 cases exhibited issues in which either the DNS Servers were not responding or if responding, it was returning a malformed DNSSEC response where the NSEC3 records were not included. For 4 of these cases which occurred in 2014, we do not have the root cause. Additionally, there were two cases with expired signatures followed by breakage of the chain of trust in DNSSEC and 2 more cases where there was no response from the DNS servers (apparently a routing issue), a case of expired DNSSEC signatures, another case of breakage of the chain of trust in DNSSEC, and one case of the registry missing the DS records when requesting delegation from IANA.

With regards to the phase of the TLD life where these cases occurred we have the following information: 11 cases occurred pre-sunrise, 8 during sunrise, 5 before general availability, and 9 during general availability.

In none of the 33 cases an EBERO transition was initiated. In all the cases, the ICANN org was in communication with the registry and determined that the registry was going to be able to resume service faster than an EBERO transition would or, there were no registrants affected.

Please let me know if you have further questions.

Regards,

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