

Automaton Nameserver Check

Contents

1. Introduction	1
2. Background	1
3. Proposal	1
4. Recommendation	2

1. Introduction

This document proposes moving some checks made on the format of nameserver submitted with a registration to earlier on in the process and to remove other checks. The impact of this is that registrations with incorrectly formatted nameserver entries may be rejected rather than currently being allowed but not making it into the zone file. However those without nameserver will now be accepted.

2. Background

Currently the Automaton makes only a very limited check on the format of nameservers submitted with a domain name registration. It only checks to ensure that name is not entirely numeric and that it ends with a dot. If there is a glue record then it is checked to make sure it fits a valid IPv4 or IPv6 format and is not in private address space.

However when the zone file is built one additional check is made. The nameserver is also checked to ensure that it has a valid TLD. Due to problems with legacy data the Automaton checks are also repeated. If a nameserver fails these checks then it is not built into the zone file. If all the nameservers for a domain fail these checks then that domain does not appear in the zone file.

Please note: At no point in the process is any check made to see if the specified nameserver exists, this checking just ensures the textual representation of the nameserver is in a legal format.

The Automaton also restricts registrations so that they must supply a minimum of two nameservers up to a maximum of nine. The PAB decided some time ago that we should allow registrations with one nameserver or no nameservers at all for roughly the following reasoning:

- Whilst there are some who consider it poor practice to only specify one nameserver it is not necessary for the registry to impose adherence to particular practices in this manner. With the increasing adoption of anycast one IP address may point to more than one server.
- There are undoubtedly many artificial workarounds in use by tagholders and registrant to get around the requirement for at least two anyway, such as using two names that both point to the same server.
- There are many customers who do not wish to have their names built into the zone file but are currently required to and so may choose to give nameserver delegations that point nowhere in order to comply with the rules but avoid the names resolving.

This will shortly be implemented without further referral to the PAB, though it will be preceded by an announcement.

3. Proposal

The proposal is to:

Move this nameserver TLD check from the zone file build to the automaton and so any registration or modification that specifies the nameservers in invalid format is rejected and not processed. This could lead to registrations being rejected that would currently be allowed.

The reasoning for this is:

- The current process violates the “principle of least astonishment” as we accept something one moment and then reject it the next without any form of warning to those affected. Currently someone can have a domain that is in the zone file, send a modification to point to different nameservers and find the whole domain removed from the zone file because they have specified the nameservers incorrectly, and yet they will only find this out when the domain stops resolving.
- The principle of not allowing rubbish entries into the zone file is something we wish to maintain. We do not want to allow obviously bad entries that may cause problems with the nameserver software (possibly deliberately) or with end user resolvers.
- We do not want to support alternate roots or the generation of traffic for non-routable space, hence the restriction on TLDs and private address space. It is our view that it would be too laborious a process to also ensure that nameserver glue records are not for bogon space (unallocated IP addresses) and probably prone to error.

4. Recommendation

The PAB is asked to consider the following resolution

“The PAB resolves to recommend that the check on the TLD of nameserver records held in the register move from the zone file build process to the Automaton at the point of registration or modification and that any operation that fails this check at this point is prevented from completing and returns an appropriate error message.”