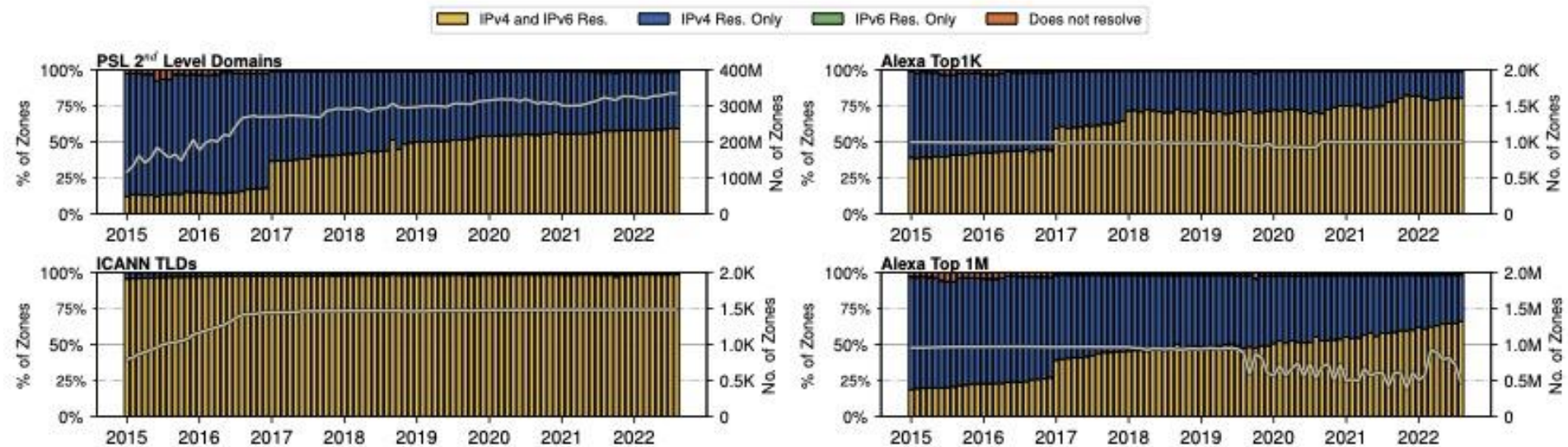# RFC3901-bis !!

BCP91 DNS IPv6 Transport Operational Guidelines
draft-momoka-dnsop-3901bis

IETF118-dnsop

Momoka / Tobias Fiebig

It's been 20 years since BCP91 (RFC3901)

Time for an update….?

Deployment of IPv6 in Authoritative servers is growing

Streibelt, Florian, et al. "How Ready is DNS for an IPv6-Only World?."
International Conference on Passive and Active Network Measurement. Cham: Springer Nature Switzerland, 2023. (edited)

So what do we want to say in this new draft?

(we are still working on the actual text so review of the draft is appreciated)

Guidelines for DNS Zone Configuration

RFC3901:

Every DNS zone SHOULD be served by at least one IPv4-reachable authoritative name server.

⬇️⬇️⬇️⬇️⬇️

bis:

Every authoritative DNS zone SHOULD be served by at least one IPv4-reachable authoritative name server and at least one IPv6-reachable authoritative name server to maintain name space continuity.

5

Guidelines for DNS Resolvers

RFC3901:

Every recursive name server SHOULD be either IPv4-only or dual stack.

⬇️⬇️⬇️⬇️⬇️

bis:

Every iterative name server SHOULD be dual stack.

Misconfigurations Causing IP Version Related Name Space Fragmentation

Additional section for example of misconfigurations because it happens for IPv6 but is not noticed thanks to Happy Eyeballs:

- No A/AAAA records for NS names

- Missing GLUE

- No A/AAAA record for in-domain NS

- Zone of unrelated/sibling-domain NSes not resolving

- Parent zone not resolvable via one IP version

Considerations

Should IANA's Technical requirements for authoritative TLD name servers add a connectivity check for both IPv4 and IPv6?

Current:

Name server reachability

The name servers must answer DNS queries over both the UDP and TCP protocols on port 53. Tests will be conducted from multiple network locations to verify the name server is responding.

Adoption??

Adoption to give a SHOULD to IPv6 ??