IPv6-Ready DNS/DNSSSEC Infrastructure

draft-bp-v6ops-ipv6-ready-dns-dnssec-00

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Previous Work

- DNSSEC Resource Record Should Include AAAA
  - draft-v6ops-byrne-dnssecaaaa-00

- Towards a Worldwide IPv6-Ready DNS Infrastructure
  - draft-palet-sunset4-ipv6-ready-dns-00

The issues (1)

- DNS64 is part of widely deployed IPv6-only transition mechanisms
  - 464XLAT
  - Happy Eyeballs
  - NAT64

- Millions of hosts depend on that

- Host validating DNSSEC may fail

The issues (2)

- A big part of the transition cost is on the back of ISPs
  - Which means is charged to end-users

- Content/application providers need to do more
  - If they have the technical ability to do DNSSEC, they likely have the technical ability to do IPv6 too
  - Should assume part of the transition cost
  - Clear signals to them should be provided

Goals

- Make sure DNSSEC infrastructure is IPv6 ready
    - So DNS64 never breaks it

- Make sure there is a plan for the rest of the DNS infrastructures to be IPv6 ready

IPv6 Ready

- Accessible and operational if queried from a remote dual-stack and IPv6-only networks

- AAAA RRs

- PMTUD and fragmentation well handled

Implementation Timing

- Root and TLDs, 6 months

- DNSSEC, 6 months

- NS, 12 months

- Other RRs, 18 months

  – Pass validation or get suspended

IANA/ICANN

- Verify the implementation

- Can we engage them?

Next steps

- Become a WG item ?

- Inputs ?