Operational consideration for standards compliance?

The DNS-Violations Project

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DNS Violations Project

- DNS is complex!
- There’s a lot of DNS protocol violations “out there”
- DNS Resolvers just “cope” with that
- We started doing internal list
- Idea: Let’s make this community effort
- DNS Violations project was born
Purpose

- To better understand the breakages of the DNS protocol
- To make DNS better
- To share knowledge
- For Authoritative DNS implementors, to avoid common pitfalls
- For DNS Resolver implementors, to verify they can handle it
Common Violations

- CDN's have a special department in hell
- Garbage at the end of packet
- Case-sensitive DNS servers
- QNAME Minimization
  - Empty Non-Terminals: NXDOMAIN vs NODATA
- EDNS-related breakages
- General protocol ignorance
- DNSSEC-related brokeness
- Unknown RRTyp
Violation Submission

- Community Effort
- Anyone can submit
- Consists of:
  - DVE-<year>-####: short description
  - Description
  - Evidence (textual + dnstap)
  - Proposed fix/Workaround
  - DNS Operator/Vendor Response
  - Metadata
    - Submit-Date
    - Report-Date
    - Fixed-Date
    - ...
What can we do about it?

- **DNS Resolver Vendors**
  - Be patient, educate
  - Coordinate
  - Make a plan to remove the workarounds
  - Stop resolving the most blatant violations
  - Add (small) penalty

- **DNS Community**
  - Be inclusive
  - Invite the DNS operator people
  - Invite the CDN people
  - Promote use of existing solutions

- **BCOP Community**
  - Write the BCOP Document!
Questions?

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