

DNS Hacktivities during Hackathon, IETF120 Vancouver

Willem Toorop Shane Kerr Yorgos Thessalonikefs Shumon
Huque Johan Stenstam Peter Thomassen Kenneth Odoh
Lars-Johan

July 21, 2024

Important Stuff

- **Willem Toorop:** Start with SVCB AliasMode processing, following Section 4.2 of RFC9460 in Unbound. Both current DELEG protocol proposals would benefit from this.
- **Shane Kerr:** implemented support for the ZONEVERSION draft in IBM NS1's DNS server
- **Yorgos Thessalonikefs:** Finalize the DNS Error Reporting (RFC9567) implementation for Unbound
- **Shumon Huque:** Implemented the latest protocol enhancements in Compact Denial of Existence: official NXNAME codepoint, meta-type processing: return FORMERR with new EDE Invalid Query-Type code, etc.
- Elias Heftrig: Implementation of IDKEY, a successor to DNSKEY which supports constant-time DNSSEC public key identification.

DSYNC Parent and Child Implementation Status

Implementation of support for rapid, automatic synchronization of delegation data (like change to NS Rrset, glue, DNSSEC KSKS rollover, etc) is nearly complete.

Nameserver (written in Go):

| Scheme | Child-side | Parent-side | Scanner |
|-----------------------------|------------|-------------|------------|
| NOTIFY | DONE | DONE | 75% done |
| UPDATE | DONE | DONE | not needed |
| SIG(0) KEY Bootstrap | DONE | 25% done | not needed |

CLI tools (Python and Go):

| Scheme | Child-side | Parent-side |
|---------------|------------|-------------|
| NOTIFY | Both DONE | Go DONE |
| UPDATE | Go DONE | Go DONE |

So what is this **DSYNC** stuff about, really?

Here is the intended future work-flow:

- 1 Child zone maintainer makes a change (like adding a new nameserver, rolling a key, etc).
- 2 Child zone maintainer then forgets about updating the delegation data in the parent zone and instead heads for the bar.
- 3 Child primary nameserver is reloaded, detects the change. It then:
 - ▶ Looks up the **DSYNC** RRset in the parent zone and selects the best synchronization scheme.
 - ▶ Sends a **NOTIFY(CSYNC)**, **NOTIFY(CDS)** or **UPDATE** depending on what the parent supports. Registers a **NOERROR** response.
 - ▶ Primary nameserver heads for the bar.
- 4 Child zone maintainer and primary nameserver celebrate success over beers.