

# RRSERIAL

A EDNS option for the SOA serial  
of a RR's zone

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# The current status

- DNS records (AAAA, MX, A, etc) lives inside a given zone
- Each zone version has its own “serial” as a SOA field
  - example.com. 1800 IN SOA  
ns.example.com.  
dnsadmin.example.com.  
**2020012203** 28800 14400 3600000  
7200
- If there’s a new version of a zone, the serial changes (increases). This new zone version could have changed record’s values.

# The problem

- When you receive a DNS answer for a record, there's no way to know the serial number of record's zone.
- You have to make a separate query to know the zone serial.
- And this separate query could land:
  - In a different server, with other zone version (load balancing and anycast)
  - In a different time, it could have already changed
- DNS is “LOOSELY COHERENT”

# Who cares?

- DNS Operators !!!
- Debugging
- Monitoring
- Security (audits and archive logs)

# A proposal

- Add a new Extended DNS option (EDNS) by which a client can ask the SOA serial version of the zone in which the record exists
  - Inspired in “NSID”
  - Just for auths servers
  - Hop-to-hop

# The “rrserial” EDNS option

```
$ dig @auth_server www.example.com AAAA +rrserial +norec +nocmd
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 16429
;; flags: qr aa; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 0

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:;; udp: 4096
; RRSERIAL: 2019073001
;; QUESTION SECTION:
;www.example.com.          IN      AAAA

;; ANSWER SECTION:
www.example.com.          900    IN      AAAA

;; Query time: 53 msec
;; SERVER: authoritative#53(2001:DB8::53)
;; WHEN: Tue Aug 07 16:54:05 -04 2018
;; MSG SIZE rcvd: 71
```

# Draft for DNSOP

- <https://datatracker.ietf.org/doc/draft-salgado-rrserial/>
- Presented in DNSOP
  - A couple of supporting comments
  - A proposal for using it as a “TTL extending technique” for resolvers
  - Some private support and interest

# Next steps

- Implementation
  - Currently in NSD 4.1.23
  - Live server (see Appendix A)
  - Hackaton in october?
- A slot in a future DNSOP's agenda



# Thanks!

Please support if you liked it!

draft-salgado-rrserial

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