



NOMINET

The state of DNS security records

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How it began

- Checking deployment of SPF/DMARC for vendors, fun and curiosity.
- IPv6
- CAA
- DKIM
- DMARC
- DNSSEC
- SPF



Domain Security check

Current average score : 6.95

Current average based on 204 domains.

Domain :

N.B. The results generated by this tool will be recorded for research purposes - no other information will be saved.

Background

This tool is designed to provide a quick check on how well a domain is following best practices for publishing security related DNS records. Configuring and maintaining these records can be painful and very few companies have implemented even half of them. This tool does a quick quality check of which of these records are published for a domain and gives a health score. It does not do indepth validation, there are [other people](#) that do that sort of thing.



Data collection

- Alexa
- ICANN accredited registrars
- Top 100 registrars
- Security 500
- Vendors, DNS providers



Data collection

- Alexa
- ICANN accredited registrars
- Top 100 registrars
- Security 500-150
- Tranco
- DoH Providers
- Infrastructure domains for the domains being checked
- ~~Vendors, DNS providers~~



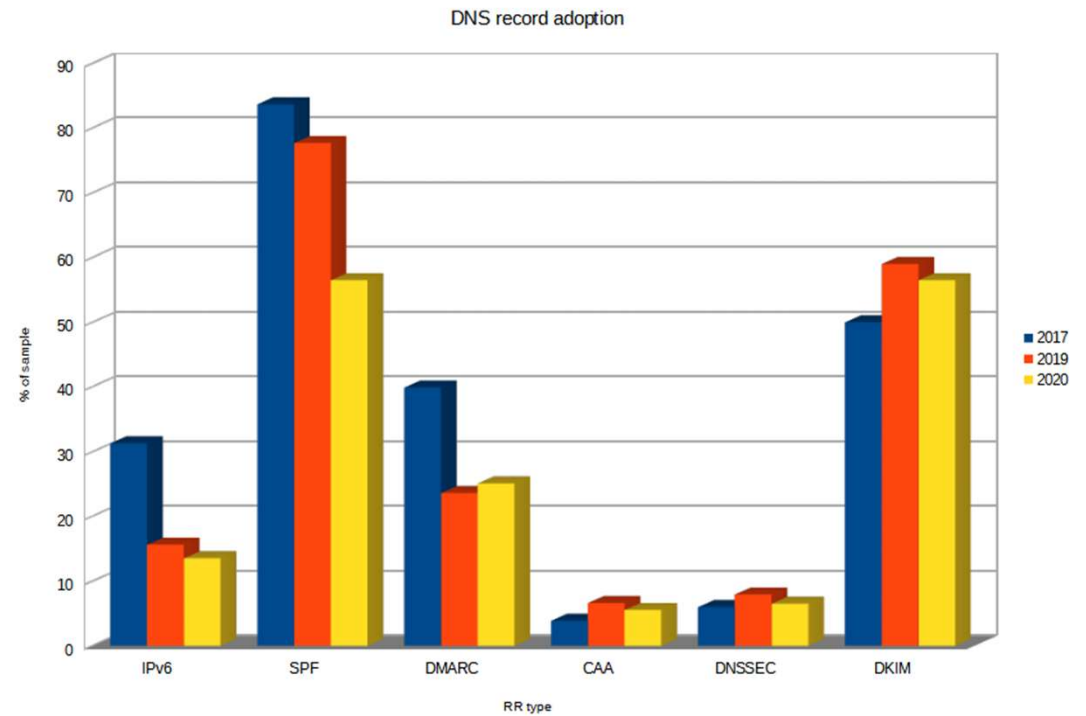
Method

- Look up a lot of records and record the results
- Compare against best practice documents
- DKIM records can only be inferred so aren't entirely reliable
- Not checking registry settings as whois API access costs money

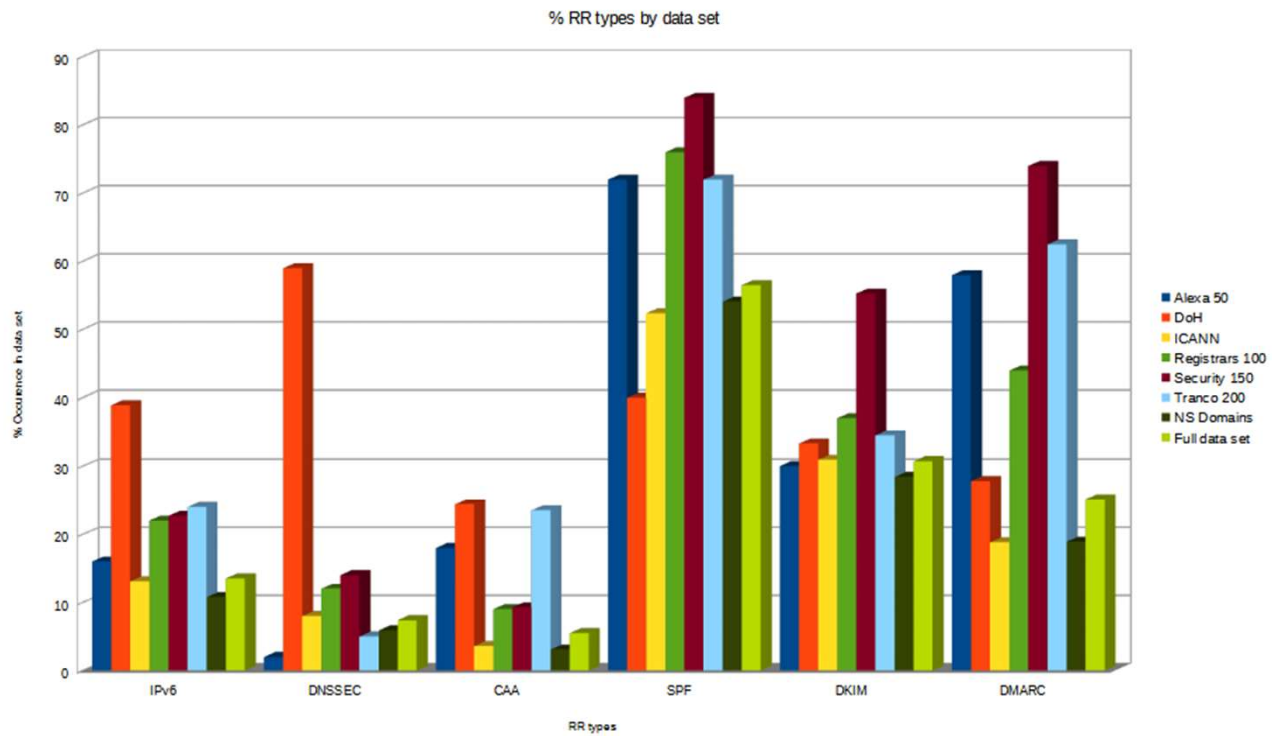


How are things going?

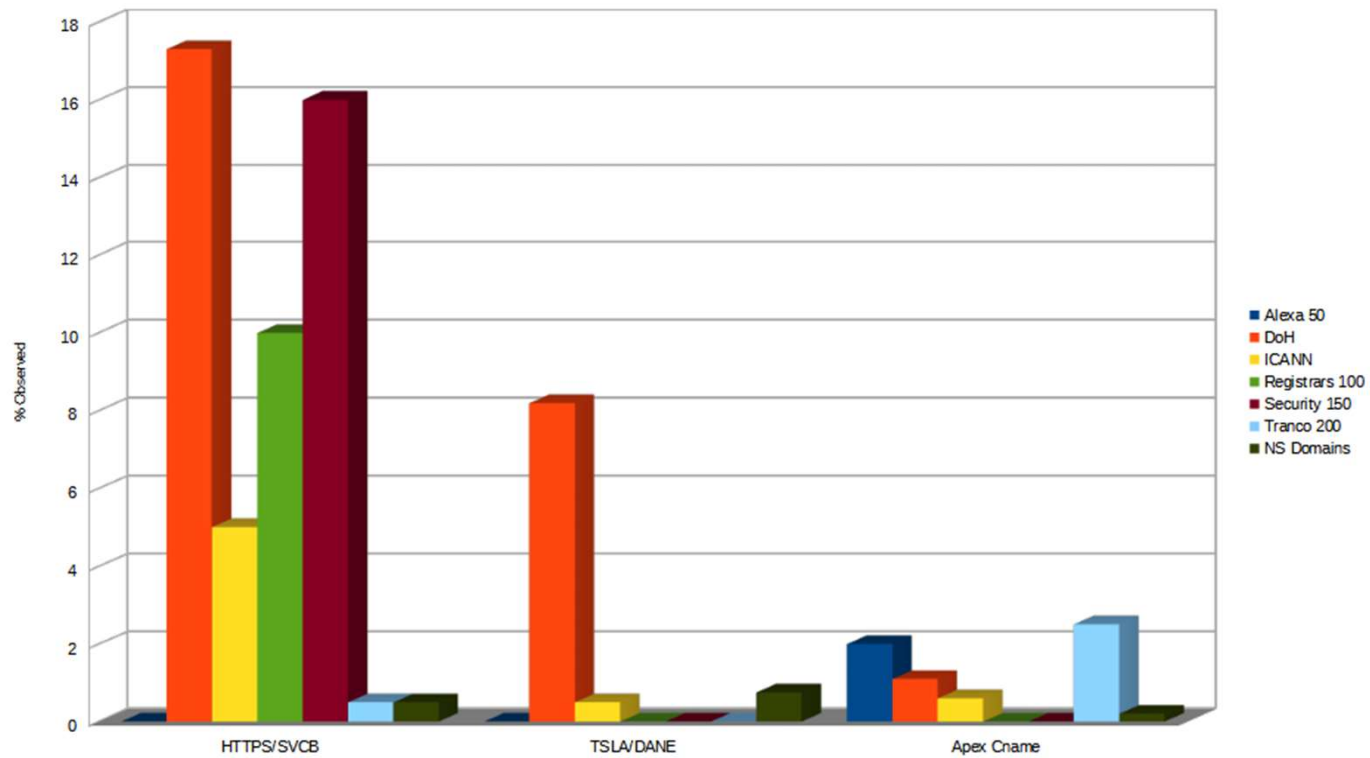
RR Types	2017	2019	2020
CAA	3.9%	6.6%	5.5%
DKIM	50%	59%	56.5%
DMARC	39.9%	23.6%	25.1%
DNSSEC	6%	7.4%	6.5%
SPF	83.7%	59%	56.5%
Data set size	2,314	1,967	3,551



Breaking it down



The new and the worrying



In conclusion

- Uptake of security measures is generally poor
- There are few resources to encourage & enable best practices
- Changing default zone contents could make a big difference
- There isn't enough public research out there
- Finding good (public) data sets is hard
- This may all change next year
- Other tools are available



Thank you

