



80 | POLICY
FORUM

DNSSEC and Security Workshop
ICANN80
Monday, 10 June 2024



DNSSEC and Security Workshop

ICANN80

Eric Osterweil

10 June 2024



Program Committee

- Gautam Akiwate,
- Steve Crocker, Shinkuro
- Mark Elkins, DNS/ZACR
- Jacques Latour, CIRA
- Russ Mundy, Parsons
- Ram Mohan, Digital Identity
- Yoshiro Yoneya
- Dan York, Internet Society
- Kimberly Carlson and Kathy Schnitt, ICANN Org

Support

The DNSSEC Workshop and associated activities at ICANN are an organized activity of the:

- **ICANN Security and Stability Advisory Committee (SSAC)**



with additional assistance from the:

- **Internet Society**



DNSSEC, DANE & RPKI Deployments Around the World

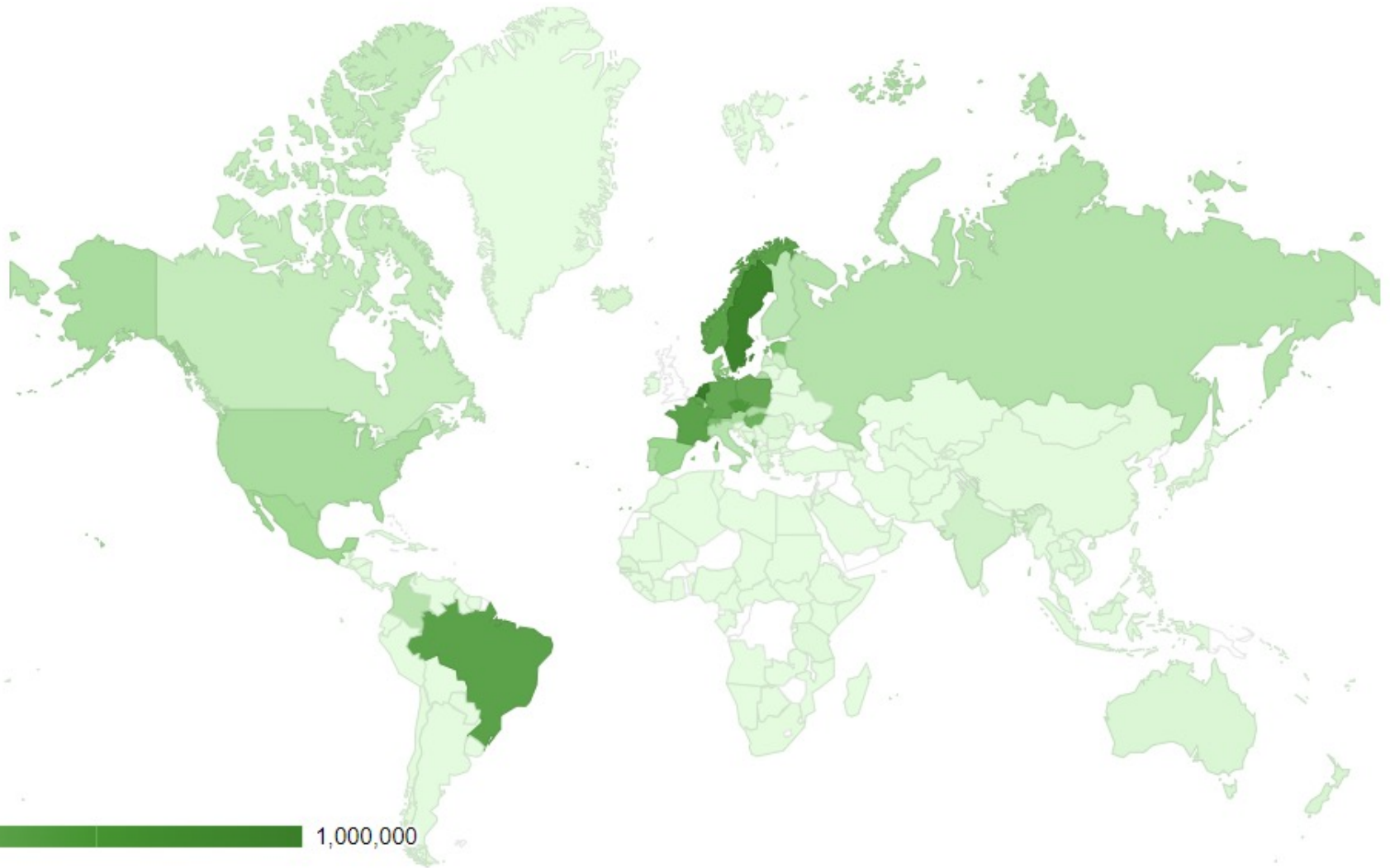
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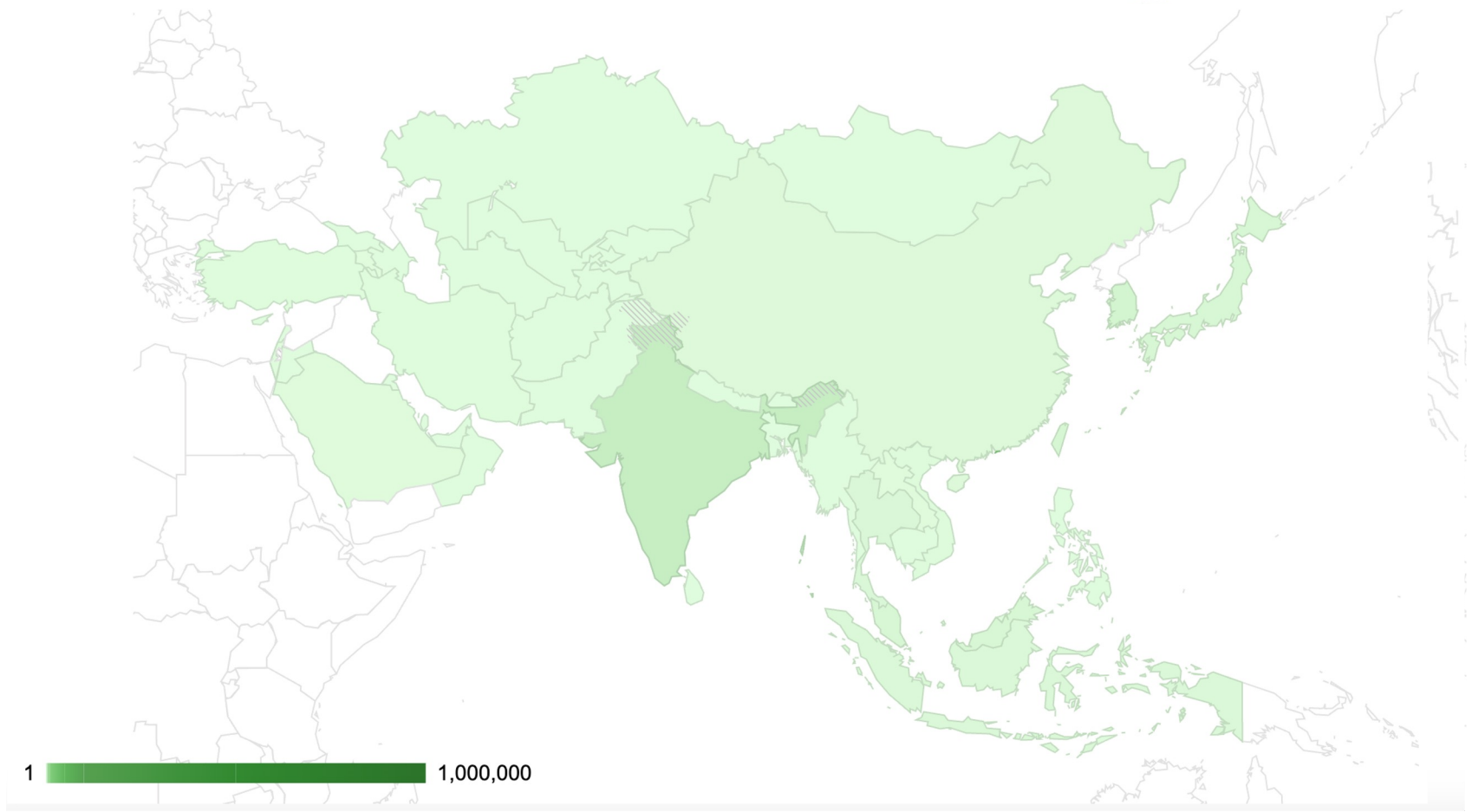
10 June 2024



Internet Namespace Security Observatory



Internet Namespace Security Observatory



Internet Namespace Security Observatory

ccTLDs

TLDs

[Zone Drill Down](#)

Select TLDs to view

View

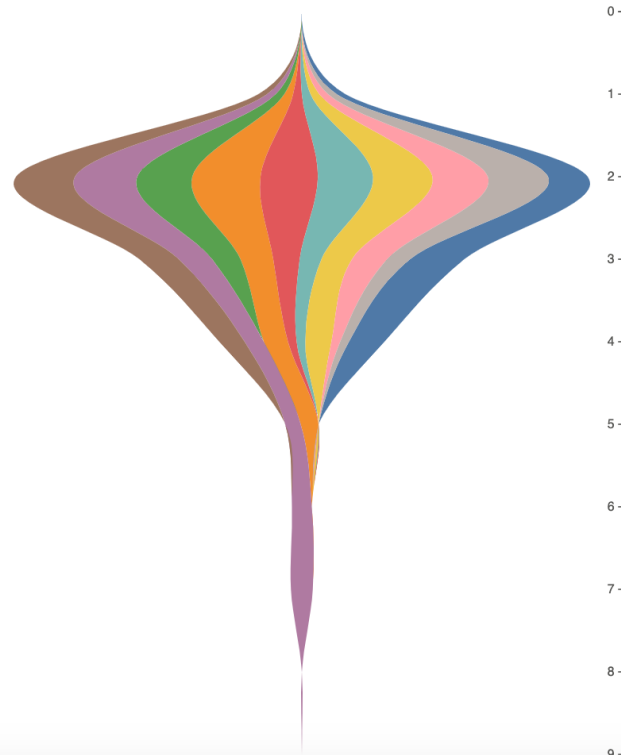
Number of DNSSEC Zones, at Each Level of the Heirarchy

«

1/140

»

br 179,566 com 6,899,751 cz 388,160 eu 221,476 fr 208,277 net 667,212 nl 1,435,610 no 229,219 org 610,355 se 830,218



Internet Namespace Security Observatory

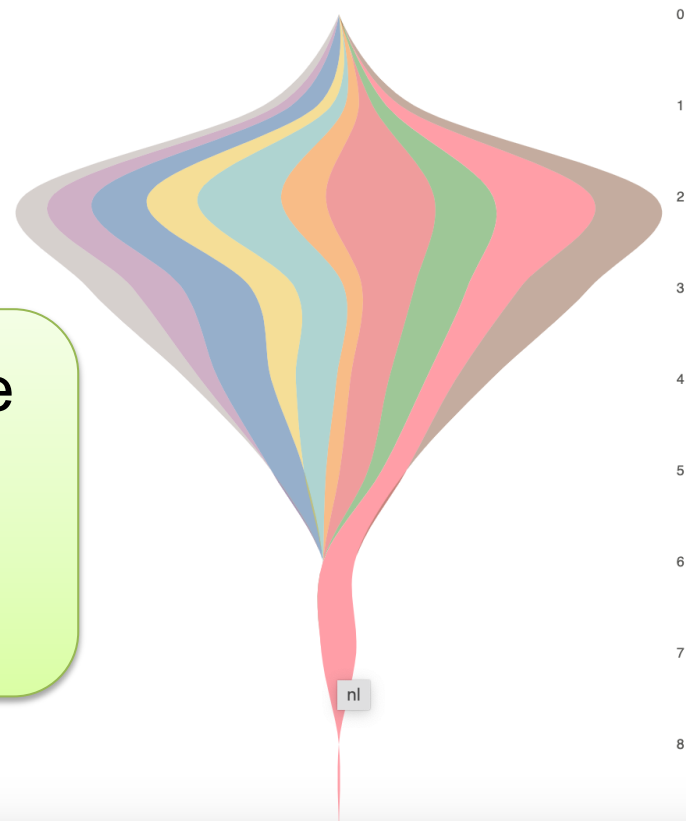
nl x	gov x	arpa x		
com x	de x	cl x	jp x	x v
za x	my x	uk x		

View

Number of DNSSEC Zones, at Each Level of the Heirarchy

nl has 32 7LDs

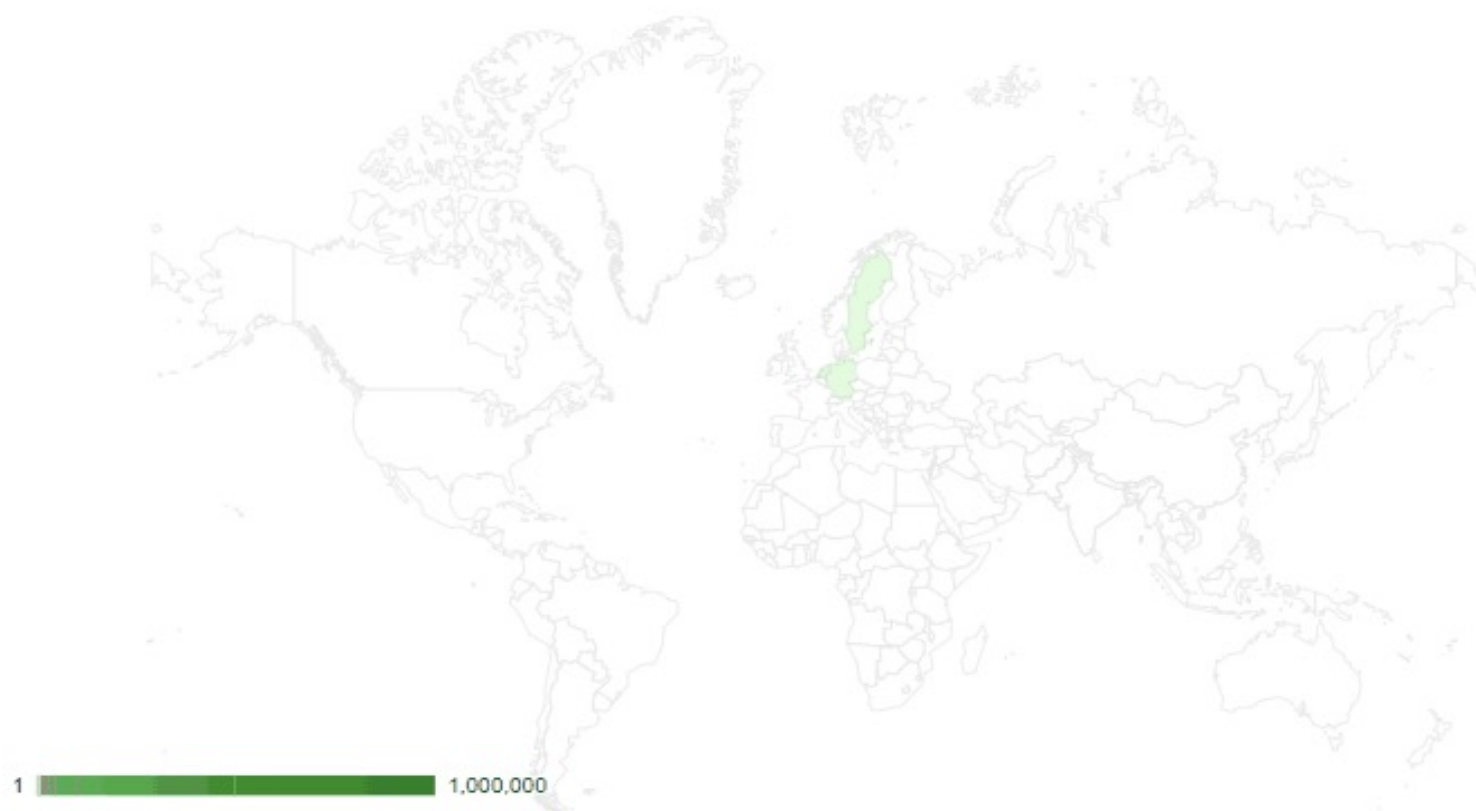
arpa	11,357	cl	183	com	6,899,751	de	112,510	gov	2,650	jp	584	my	513	nl	1,435,610	uk	15,093	za	180
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The winner of the deepest secure hierarchy is **.nl** With 32 7LDs!!

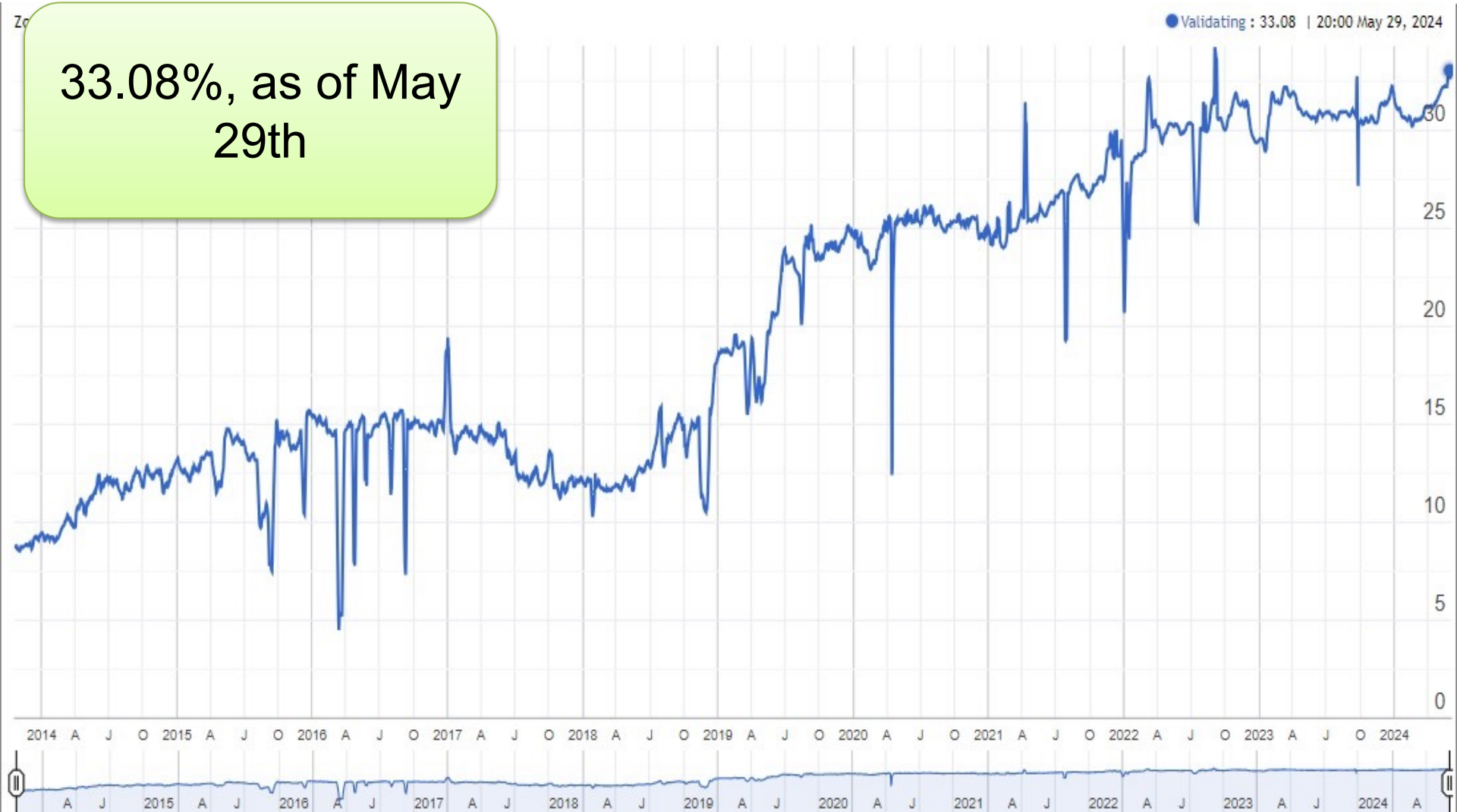


Heatmap of DNSSEC zones by ccTLD



DNSSEC Validation

33.08%, as of May 29th

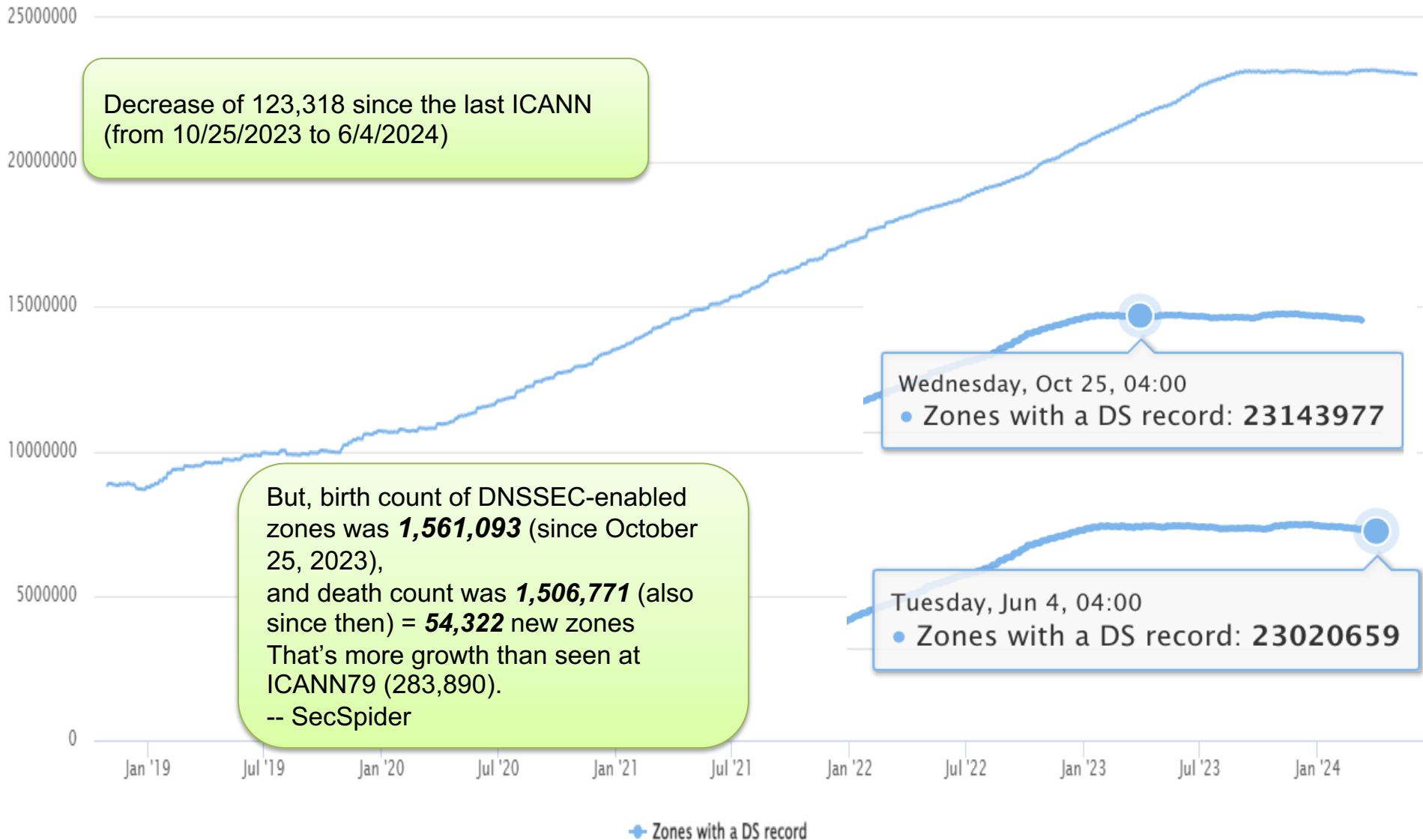


<https://stats.labs.apnic.net/dnssec/XA?hc=XA&hx=0&hv=1&hp=0&hr=1&w=7>

Code	SubRegion	DNSSEC Validates	Samples	Weight	Weighted Samples
QQ	Melanesia, Oceania	87.54%	5,185	1.76	9,133
QS	Polynesia, Oceania	86.56%	1,205	1.36	1,639
QR	Micronesia, Oceania	84.55%	1,993	0.54	1,073
QO	Western Europe, Europe	57.49%	413,719	1.56	645,940
XT	Southern Asia, Asia	57.12%	4,396,010	0.65	2,873,839
XR	Central Asia, Asia	50.69%	130,799	1.28	167,692
XK	Southern Africa, Africa	47.00%	81,095	1.86	150,992
XV	Western Asia, Asia	46.79%	676,430	1.21	815,489
XP	South America, Americas	43.30%	1,127,094	1.08	1,215,147
QP	Australia and New Zealand, Oceania	38.89%	188,121	0.57	106,892
XH	Eastern Africa, Africa	38.03%	203,416	1.91	389,400
XL	Western Africa, Africa	36.08%	430,666	1.11	476,080
XI	Middle Africa, Africa	35.47%	83,743	1.35	112,984
XW	Eastern Europe, Europe	35.27%	343,315	2.5	857,173
QM	Northern Europe, Europe	34.53%	386,503	1.01	388,893
XQ	Northern America, Americas	33.04%	1,997,188	0.56	1,123,686
XJ	Northern Africa, Africa	30.79%	350,507	1.47	513,589
XU	South-Eastern Asia, Asia	30.77%	1,596,426	0.85	1,359,087
XN	Caribbean, Americas	28.95%	83,219	1.08	90,018
QN	Southern Europe, Europe	26.09%	391,707	1.1	431,355
XO	Central America, Americas	17.25%	370,938	1.17	435,370
XS	Eastern Asia, Asia	2.22%	2,769,455	1.39	3,862,908

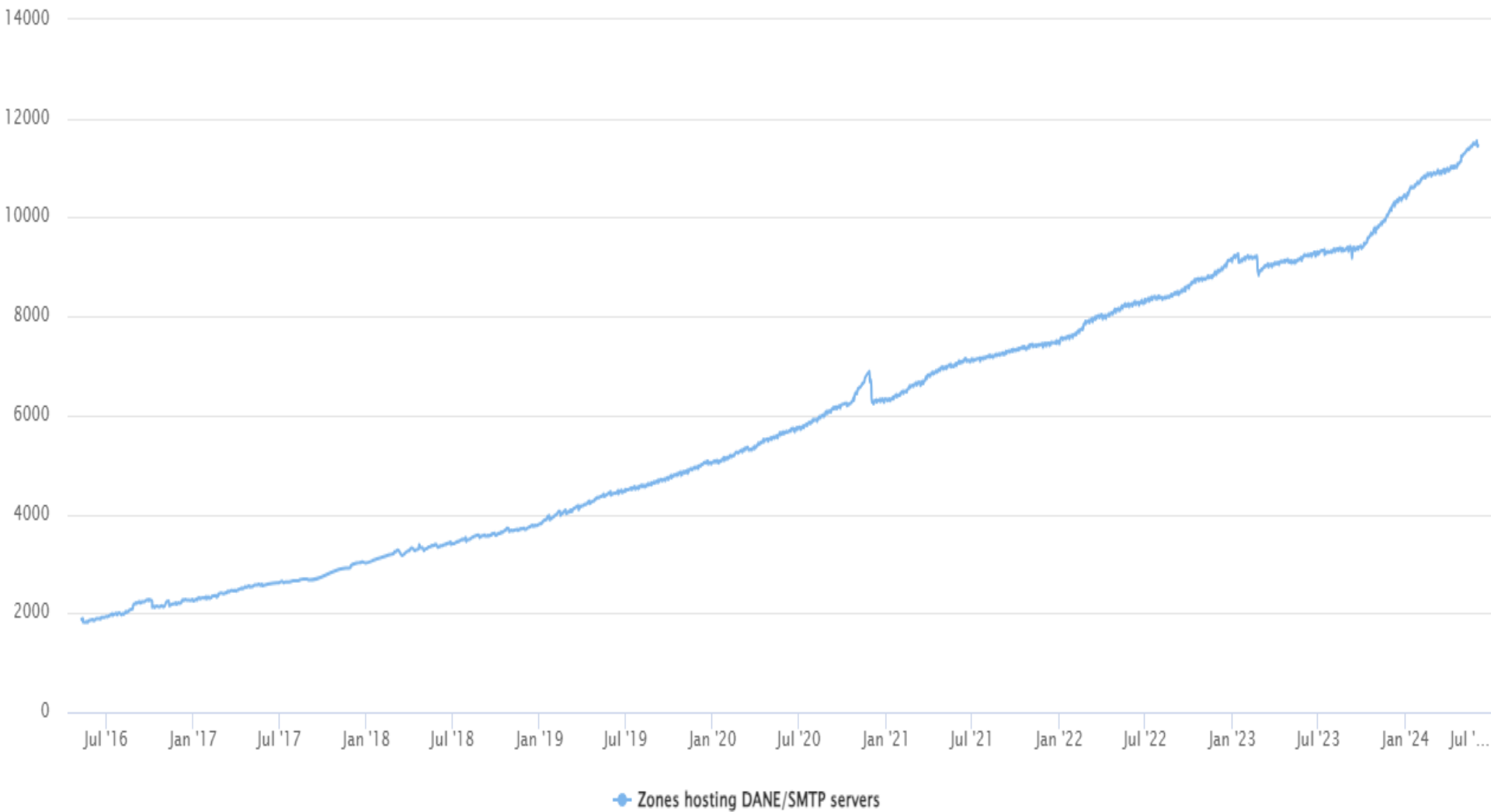
<https://stats.labs.apnic.net/dnssec/XA?hc=XA&hx=0&hv=1&hp=1&hr=1&w=7&p=0>

Observed DS Record Count Growth



<https://stats.dnssec-tools.org/>

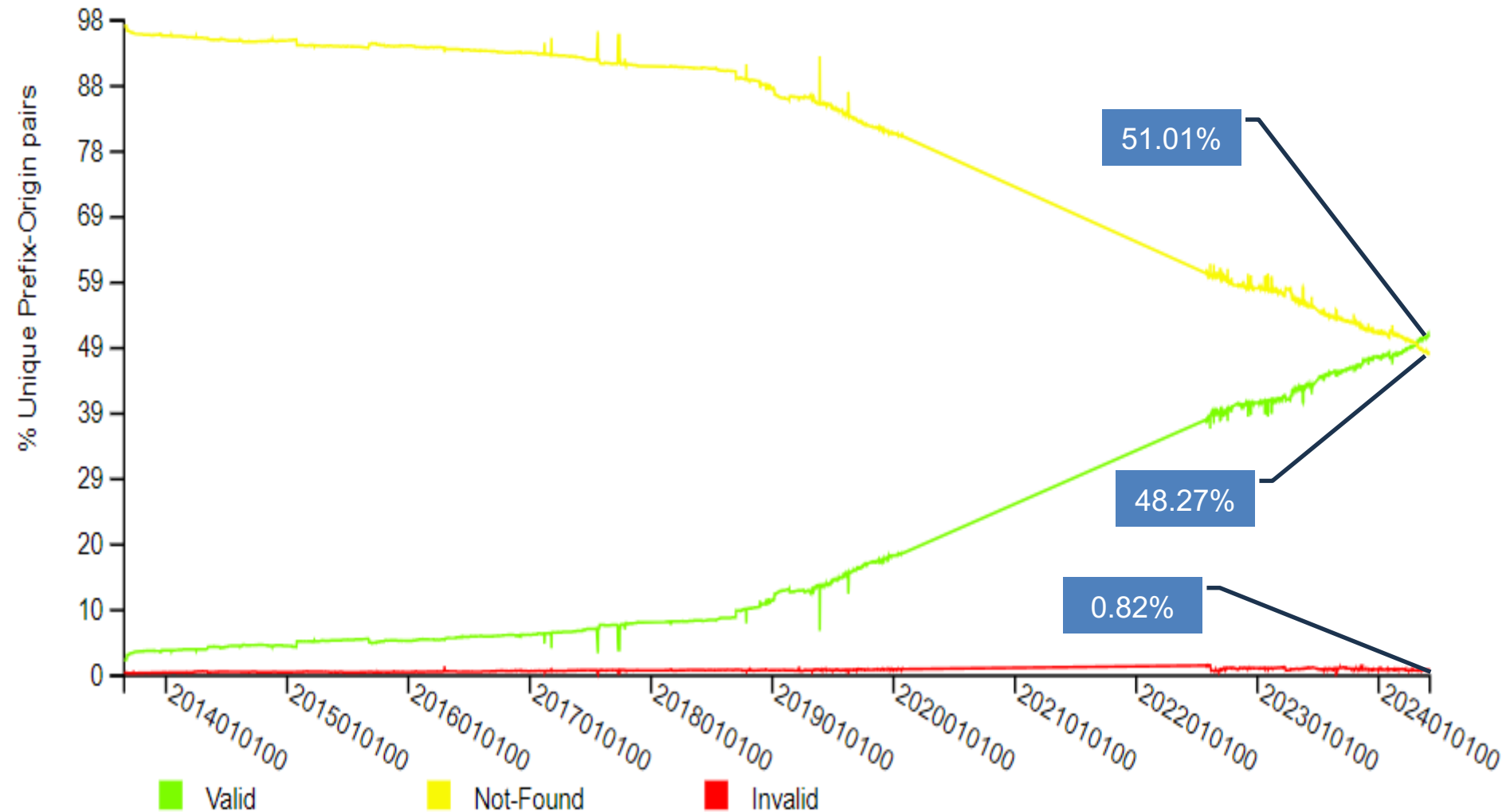
Domains with signed MX and DANE records



<https://stats.dnssec-tools.org/>

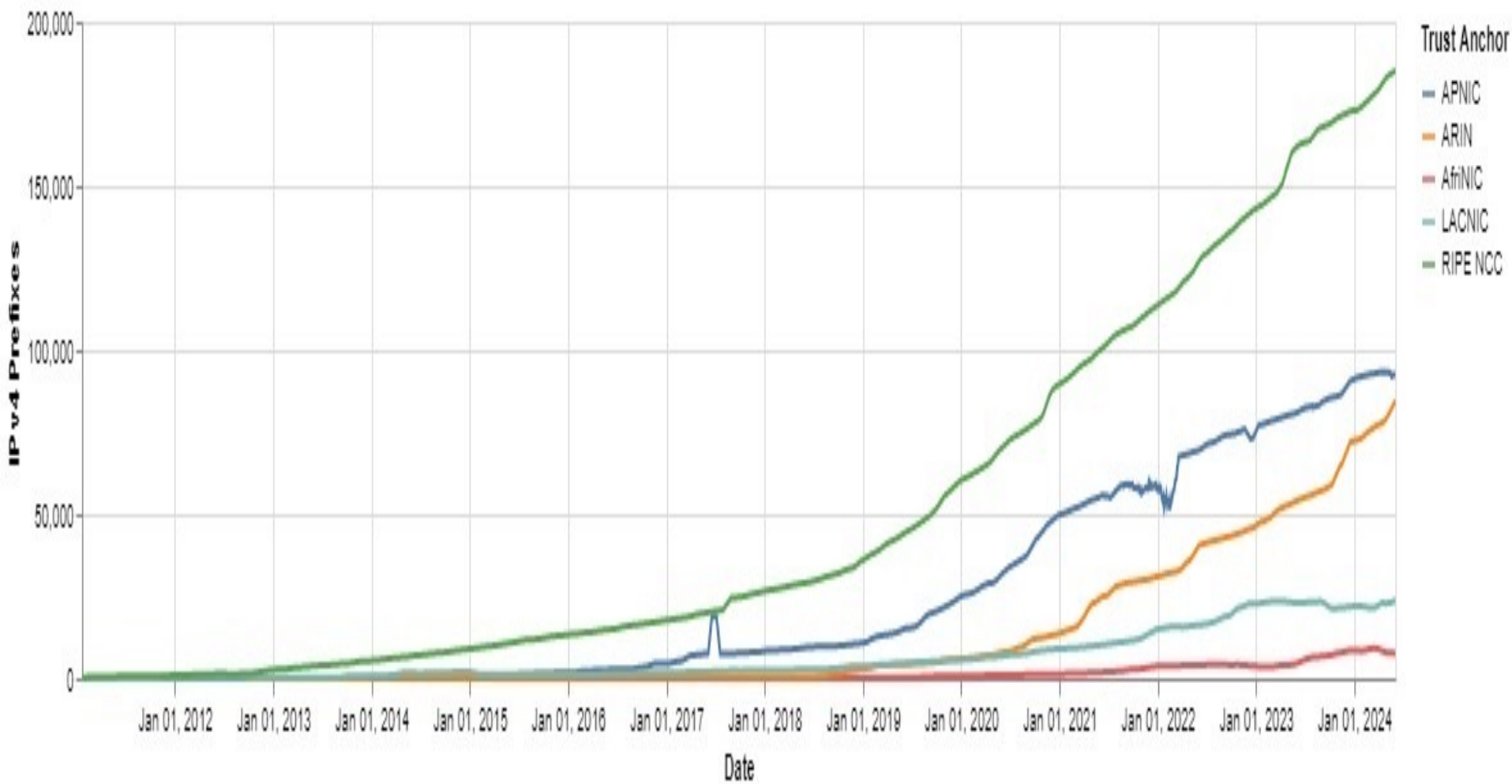
RPKI Global IPv4 Prefixes

RPKI-ROV History of Unique Prefix-Origin Pairs (IPv4)



<https://rpki-monitor.antd.nist.gov/>

RPKI Covered IPv4 Prefixes by RIR



<https://certification-stats.ripe.net/>

Questions & Answers

DNSSEC Resources

inso.gmu.edu

www.dnssec-tools.org

stats.dnssec-tools.org

stats.labs.apnic.net/dnssec

secspider.net

RPKI Resources

rpki-monitor.antd.nist.gov

certification-stats.ripe.net

www.securerouting.net

Thank You

Backup

Heatmap of DNSSEC zones by ccTLD

