

ICANN

VIRTUAL POLICY FORUM

71

14–17 June 2021

DNSSEC and Security Workshop
Monday, 14 June 2021

DNSSEC and Security Virtual Workshop

ICANN71

Dan York, Internet Society

14 June 2021



Program Committee

- ⊙ Mark Elkins, DNS/ZACR
- ⊙ Jean Robert Hountomey, AfricaCERT
- ⊙ Jacques Latour, CIRA
- ⊙ Russ Mundy, Parsons
- ⊙ Ondřej Filip, CZNIC
- ⊙ Yoshiro Yoneya, JPRS
- ⊙ Fred Baker, ISC
- ⊙ Dan York, Internet Society
- ⊙ Andrew McConachie and Kathy Schnitt, ICANN

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

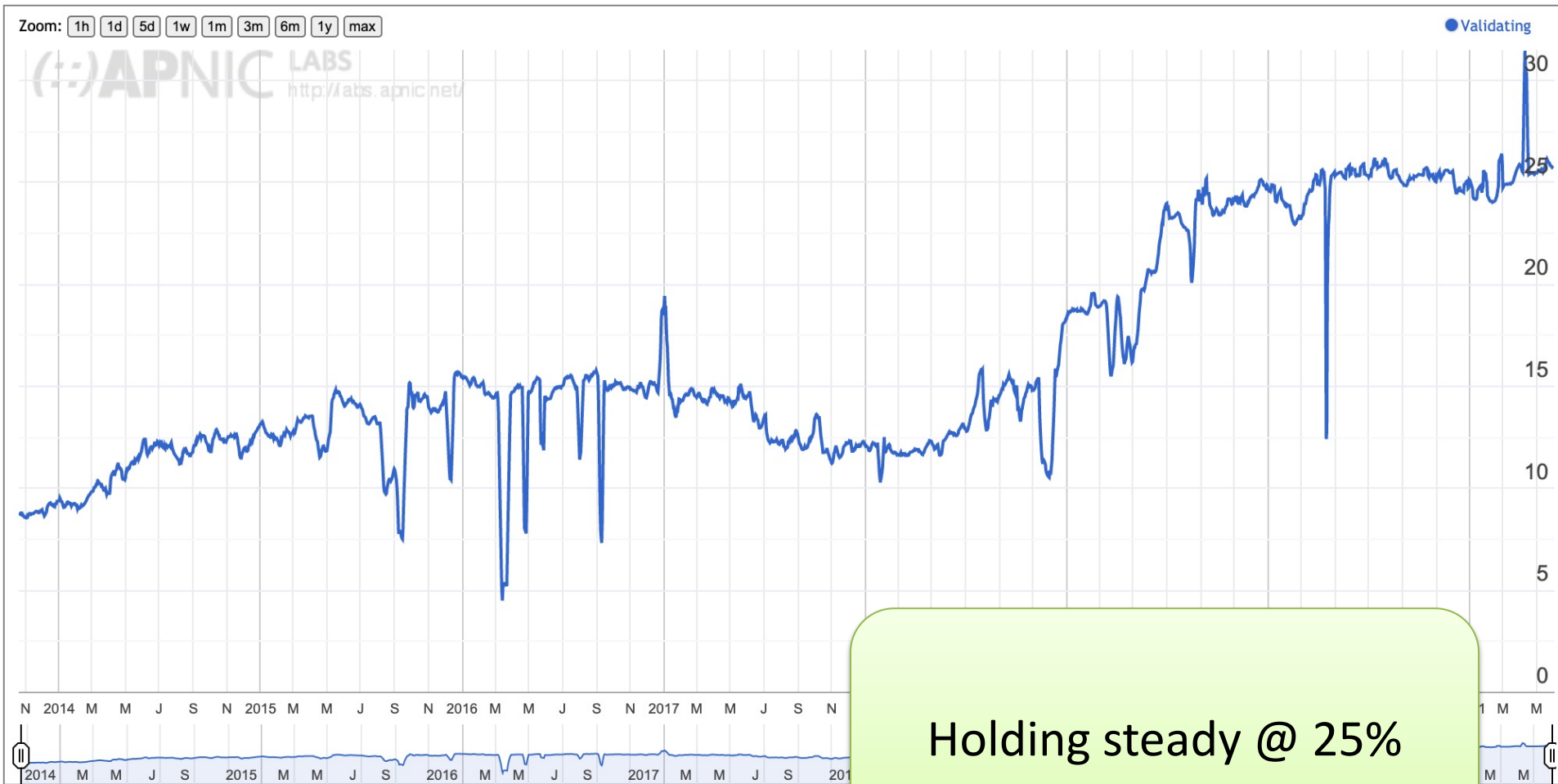
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DNSSEC Validation

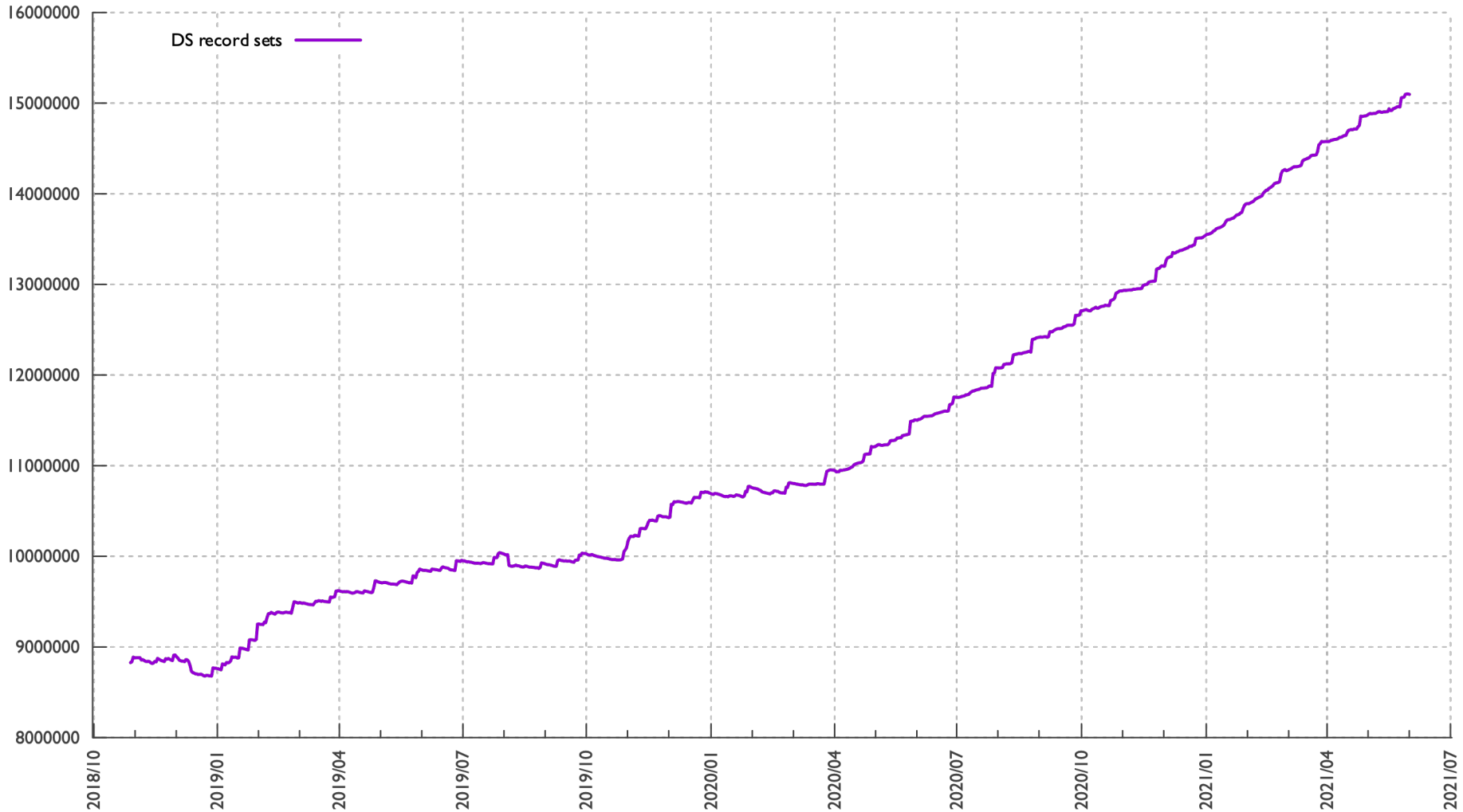


<https://stats.labs.apnic.net/dnssec/XA?hc=XA&hx=0&hv=1&hp=0&hr=1&w=7>

Code	SubRegion	DNSSEC Validates	Samples	Weight	Weighted Samples
QR	Micronesia, Oceania	58.43%	984	0.71	697
QS	Polynesia, Oceania	54.75%	747	0.83	617
QO	Western Europe, Europe	48.48%	100,756	2.54	255,758
XT	Southern Asia, Asia	47.76%	1,488,913	0.76	1,130,509
QQ	Melanesia, Oceania	47.11%	3,188	1.06	3,379
XV	Western Asia, Asia	39.75%	276,738	1.15	317,961
XQ	Northern America, Americas	37.36%	730,758	0.59	432,679
XP	South America, Americas	32.99%	477,092	1.01	480,810
XK	Southern Africa, Africa	32.79%	35,368	1.67	59,168
XW	Eastern Europe, Europe	32.23%	282,992	1.22	346,288
QM	Northern Europe, Europe	32.17%	137,299	1.12	153,113
QP	Australia and New Zealand, Oceania	28.02%	37,581	1.08	40,599
XN	Caribbean, Americas	21.94%	101,232	0.35	35,296
XJ	Northern Africa, Africa	21.51%	394,066	0.5	195,185
XH	Eastern Africa, Africa	20.79%	159,039	0.93	147,605
XL	Western Africa, Africa	20.08%	272,334	0.65	178,339
XR	Central Asia, Asia	19.61%	11,464	5.65	64,817
QN	Southern Europe, Europe	17.55%	326,649	0.53	173,851
XI	Middle Africa, Africa	15.37%	27,283	1.54	41,960
XU	South-Eastern Asia, Asia	14.36%	1,024,714	0.53	537,987
XO	Central America, Americas	11.17%	168,904	1.04	175,336
XS	Eastern Asia, Asia	3.93%	264,690	5.86	1,550,697

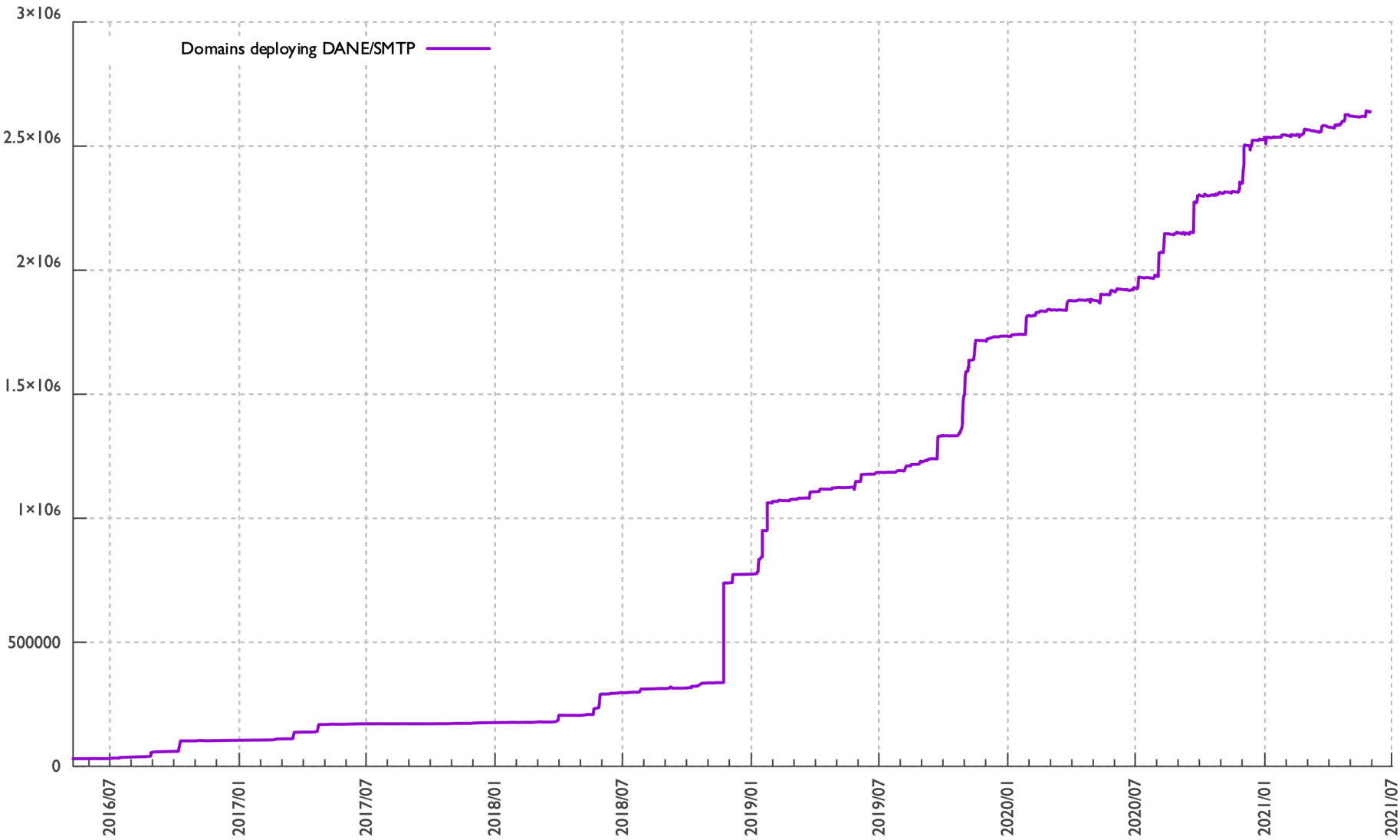
<https://stats.labs.apnic.net/dnssec/XA?hc=XA&hx=0&hv=1&hp=1&hr=1&w=7&p=0>

Observed DS Record Count Growth



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

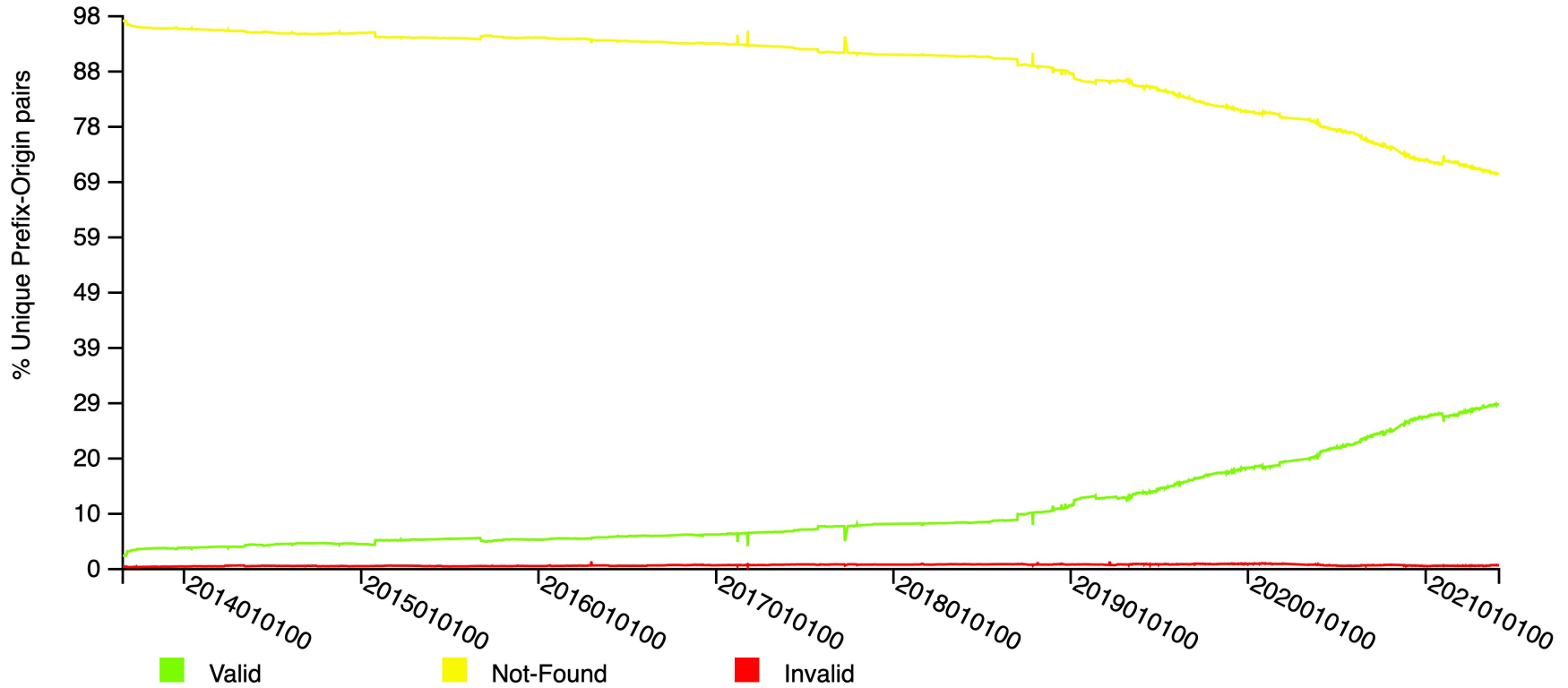
Domains with signed MX and DANE records



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

RPKI Global IPv4 Prefixes

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



NIST RPKI Monitor: RPKI-ROV Analysis

Protocol: IPv4

RIR: All

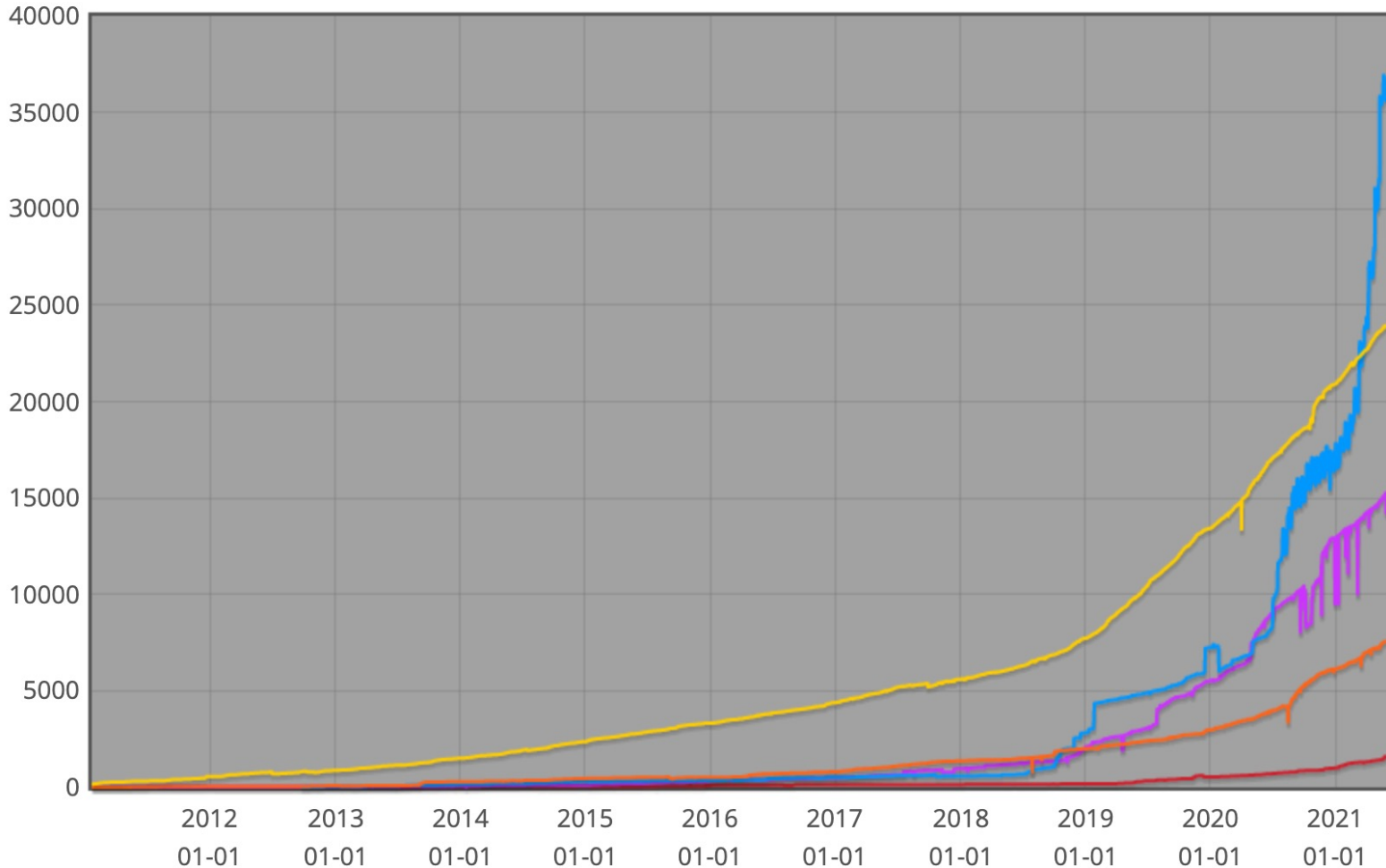
<https://rpki-monitor.antd.nist.gov/>

RPKI Covered IPv4 Prefixes by RIR

Number of ROAs

AfriNIC APNIC ARIN LACNIC RIPE NCC

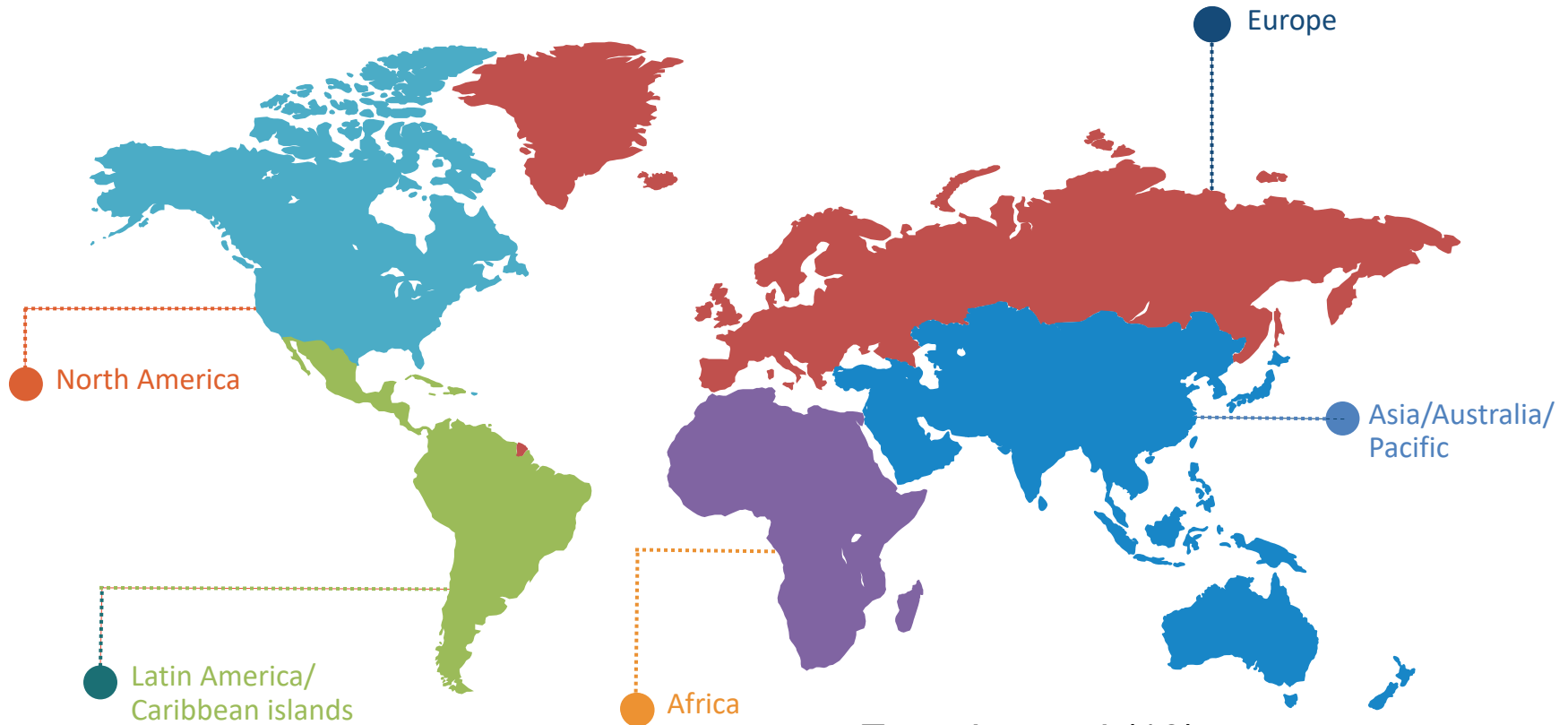
This graph shows the total number of valid Route Origin Authorisation (ROA) objects created by the holders of a certificate



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

ccTLD DNSSEC Deployment Status

ccTLD DNSSEC Status 2021-06-14



Experimental (10)
Announced (4)
Partial (1)
DS in Root (54)
Operational (81)
DS Automation (3)

Questions & Answers

DNSSEC Resources

www.dnssec-tools.org

stats.dnssec-tools.org

www.internetsociety.org/ose/

www.dnssec-deployment.org

stats.labs.apnic.net/dnssec

RPKI Resources

rpki-monitor.antd.nist.gov

certification-stats.ripe.net

www.securerouting.net

Thank You