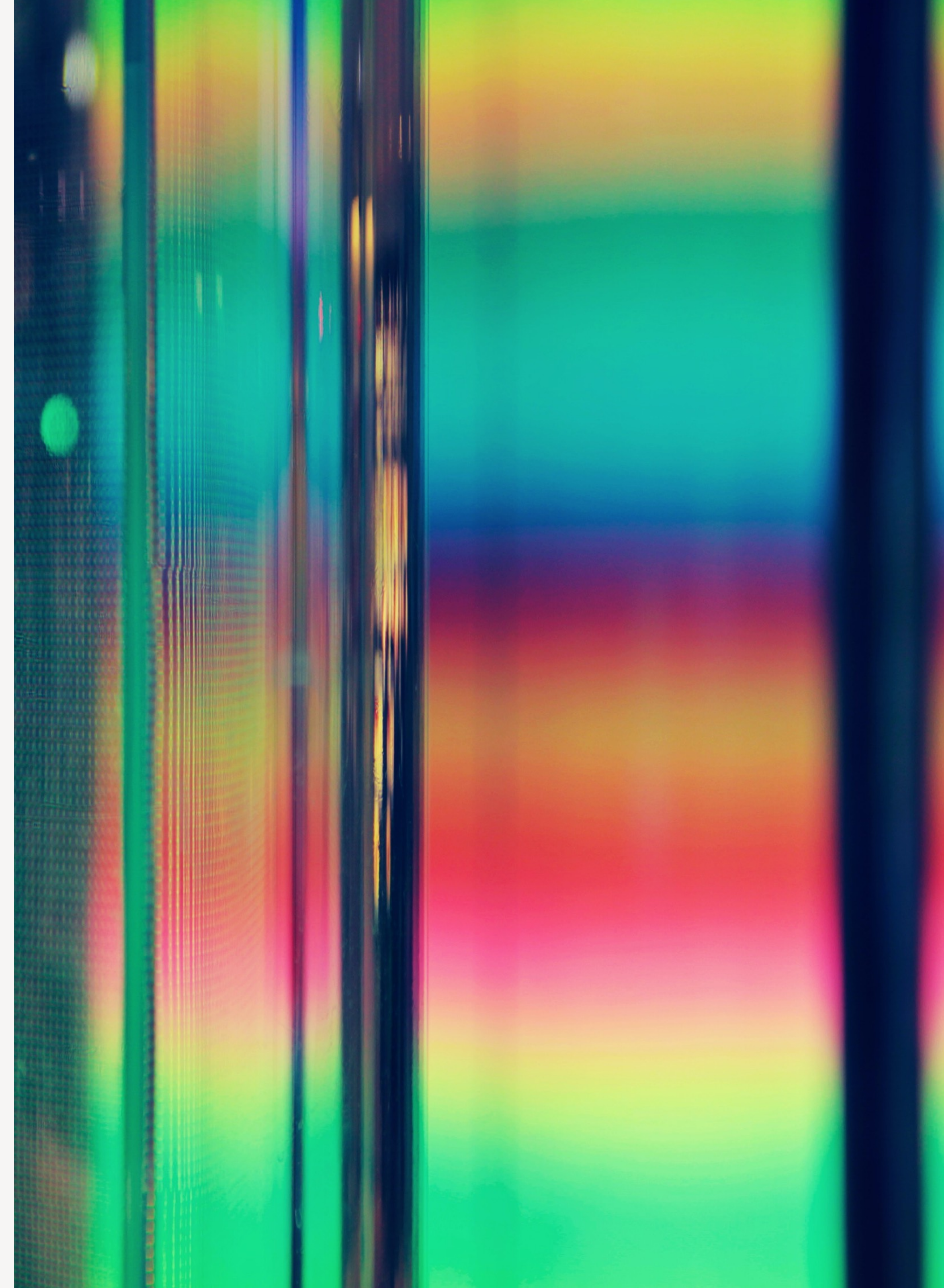# IANA Update

RIPE 89

Kim Davies
VP, IANA Services, ICANN; President, PTI
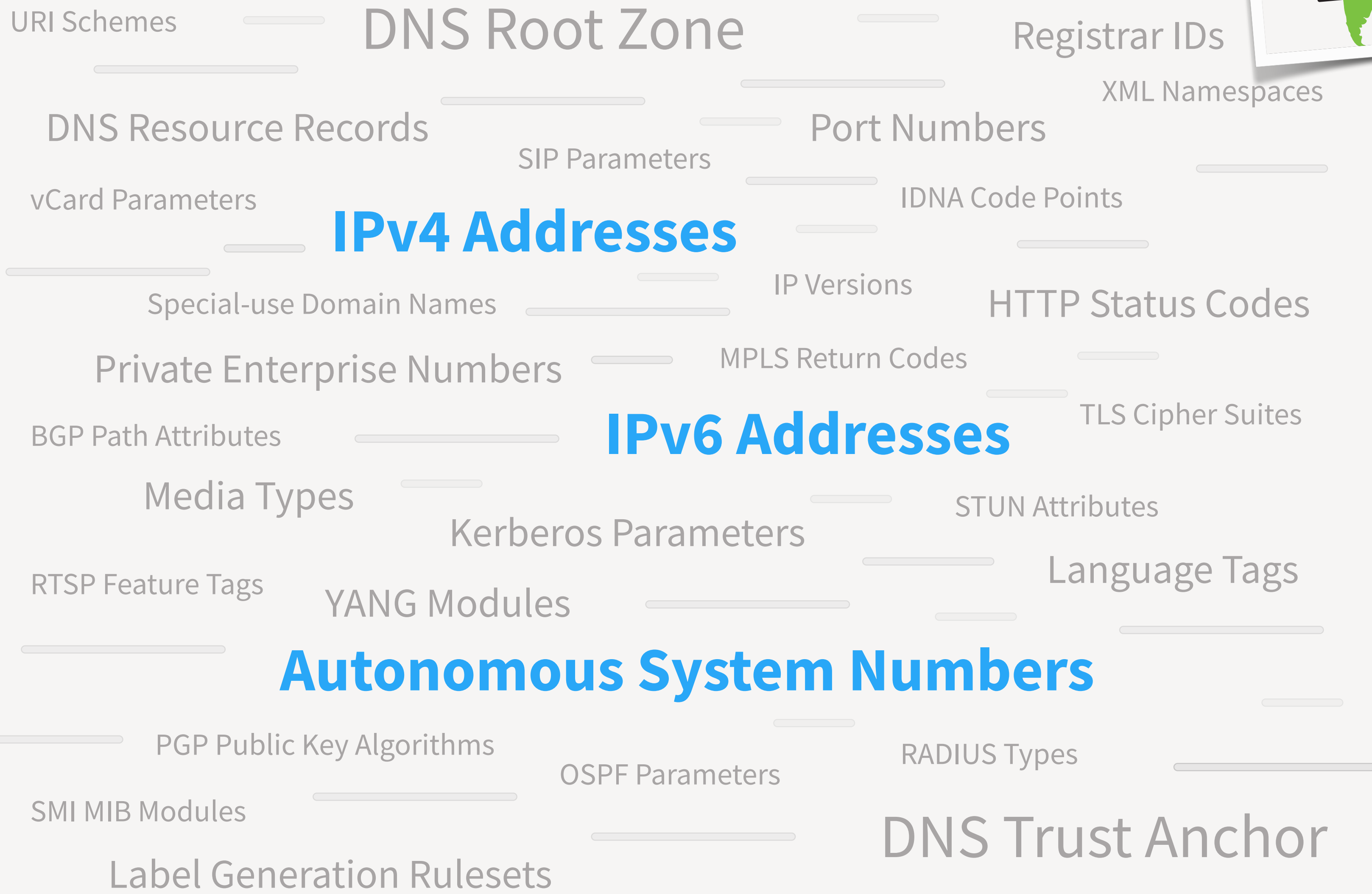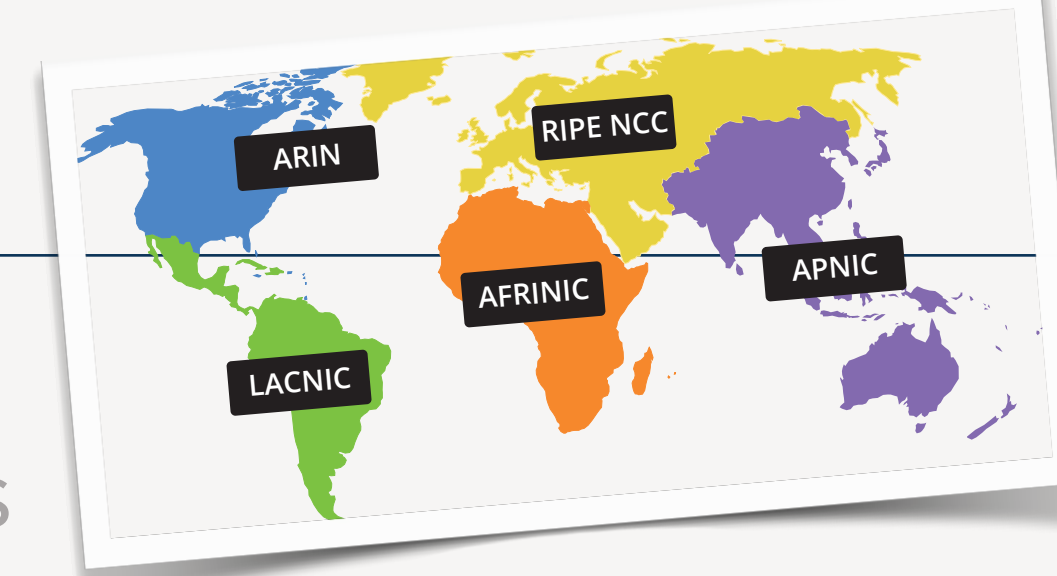
Prague
October 2024

PTI | An ICANN Affiliate

Number Resource Services

URI Schemes

DNS Root Zone

Registrar IDs

XML Namespaces

DNS Resource Records

Port Numbers

SIP Parameters

IDNA Code Points

vCard Parameters

IPv4 Addresses

IP Versions

HTTP Status Codes

Special-use Domain Names

MPLS Return Codes

Private Enterprise Numbers

TLS Cipher Suites

BGP Path Attributes

IPv6 Addresses

STUN Attributes

Media Types

Kerberos Parameters

Language Tags

RTSP Feature Tags

YANG Modules

Autonomous System Numbers

PGP Public Key Algorithms

RADIUS Types

OSPF Parameters

SMI MIB Modules

DNS Trust Anchor
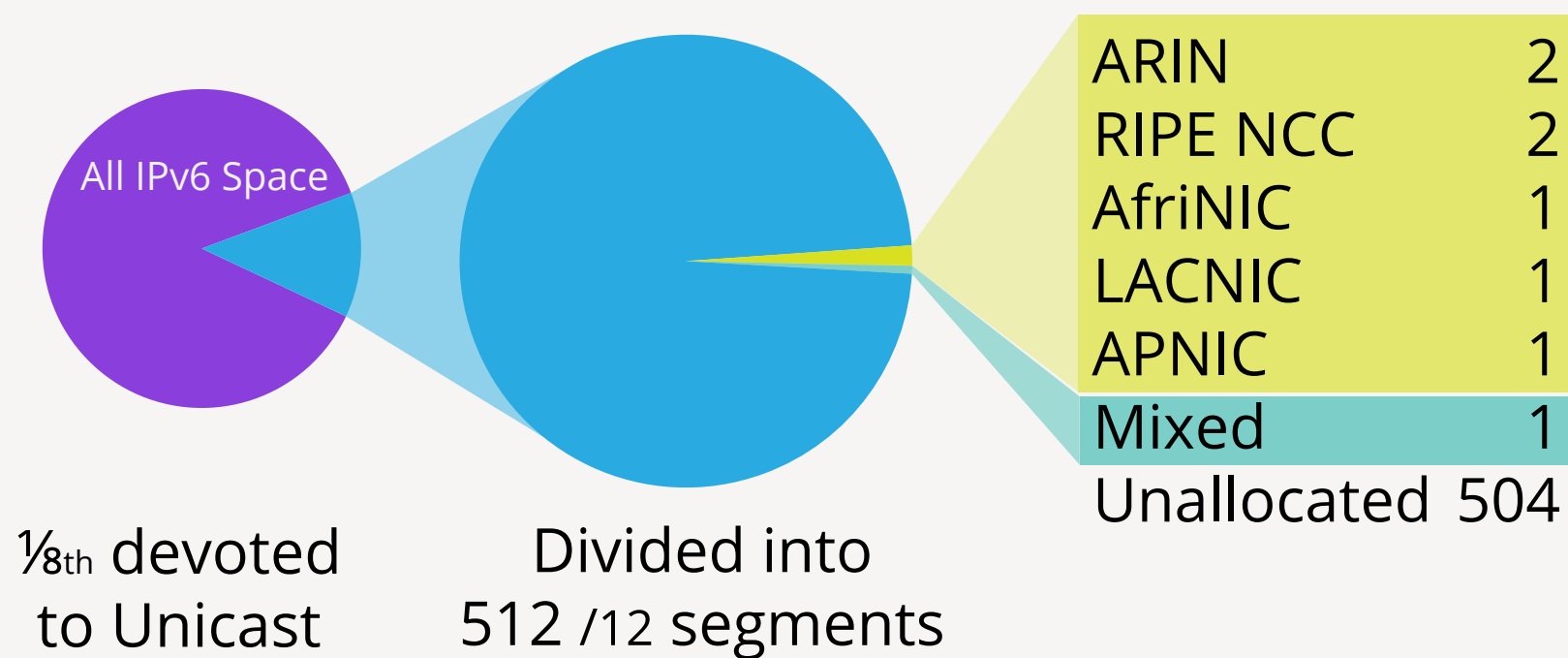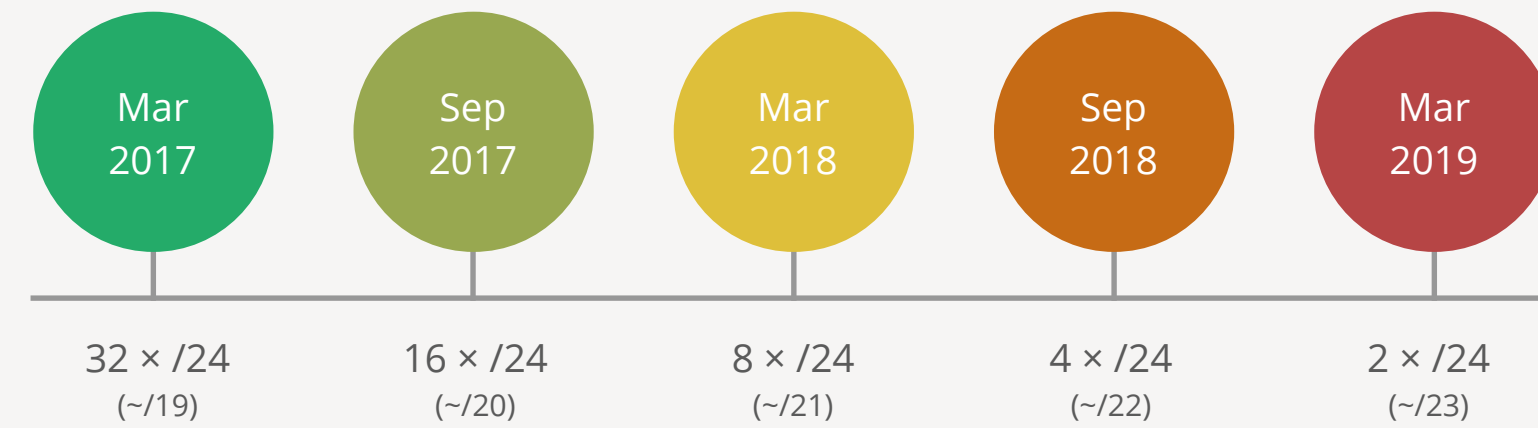
Label Generation Rulesets

Address allocation status

IPv4 Addresses

- 222 /8s designated for unicast use (≈86%)

- The last 5 of these /8s were allocated on 3 February 2011 to the RIRs

- Recovery pool active 2017—2019, now exhausted

Mar 2017	Sep 2017	Mar 2018	Sep 2018	Mar 2019
32 × /24 (~/19)	16 × /24 (~/20)	8 × /24 (~/21)	4 × /24 (~/22)	2 × /24 (~/23)

All IPv6 Space

⅛th devoted to Unicast

Divided into 512 /12 segments

ARIN	2
RIPE NCC	2
AfriNIC	1
LACNIC	1
APNIC	1
Mixed	1
Unallocated	504

IPv6 Addresses

- Minimal allocation to date of available space (≈1.2% of unicast, ≈0.1% of total)

Accountability

- Performance reporting against SLAs
- Post-transaction surveys
- Annual surveys
- Annual community reviews

https://iana.org/performance
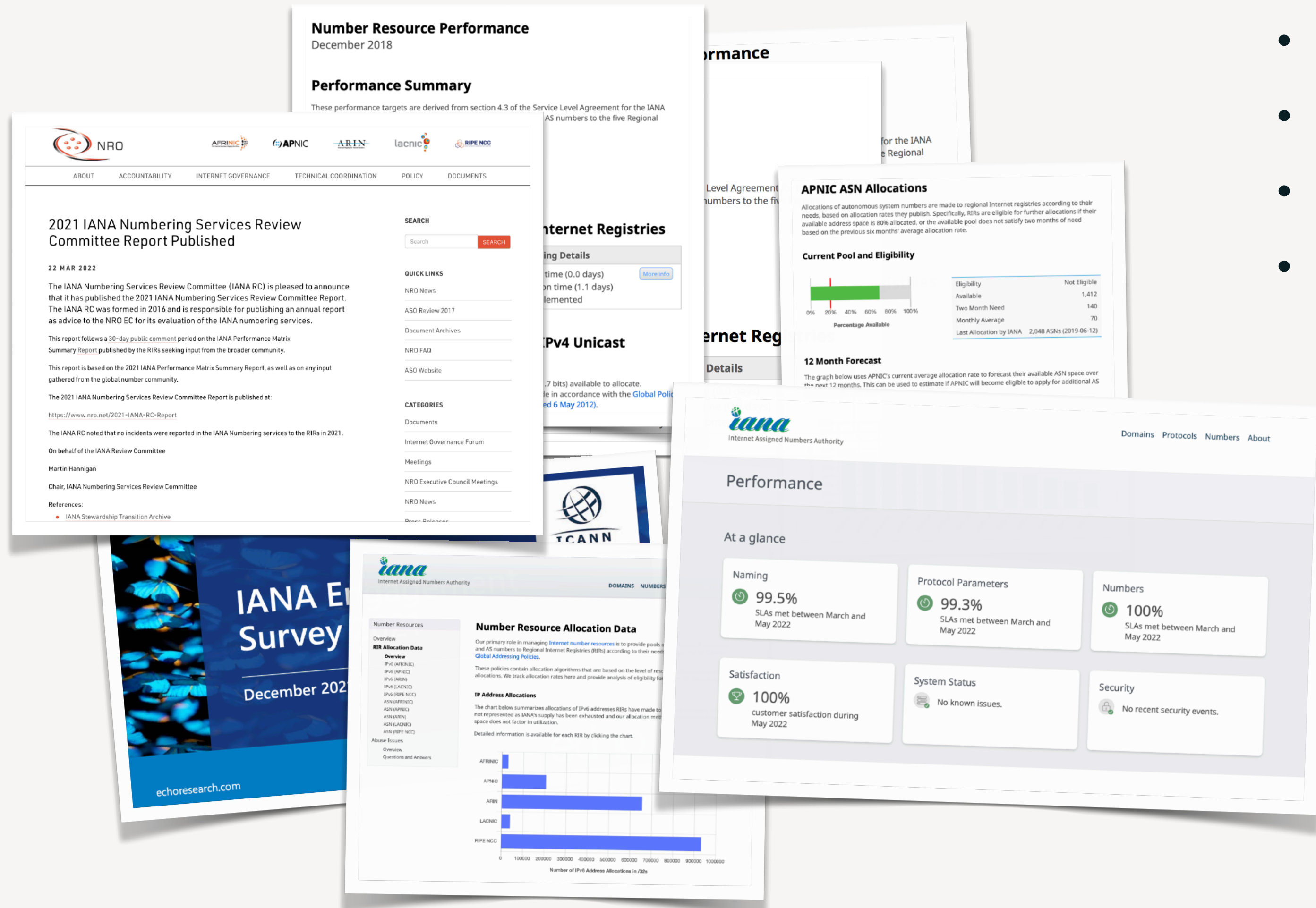
DNS Trust Anchor

- Security for the DNS (DNSSEC) is a hierarchical system of public key cryptography that matches the hierarchical delegation of the DNS itself.

- The apex key is the **Root Zone Key Signing Key (KSK)**, which serves as the singular trust anchor for the system.

- We manage the key in a highly transparent manner, with public key signing ceremonies and an open design model.
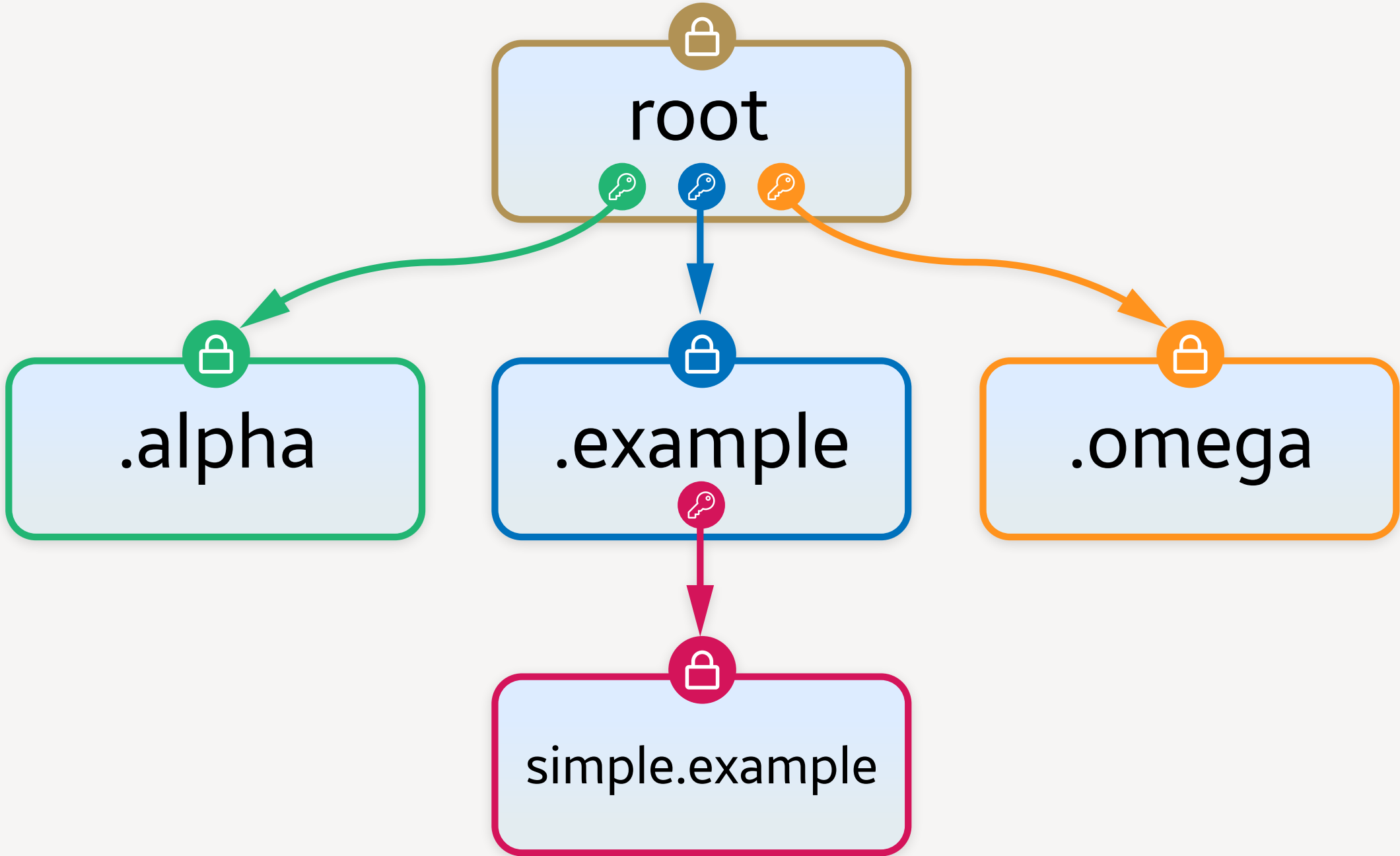
Updating the key

- We've embarked on the 2nd ever replacement of the key
  - Highly orchestrated event, propagation to all validators through vendor updates etc.
  - Delayed due to (a) COVID, and (b) key hardware vendor change; but now underway
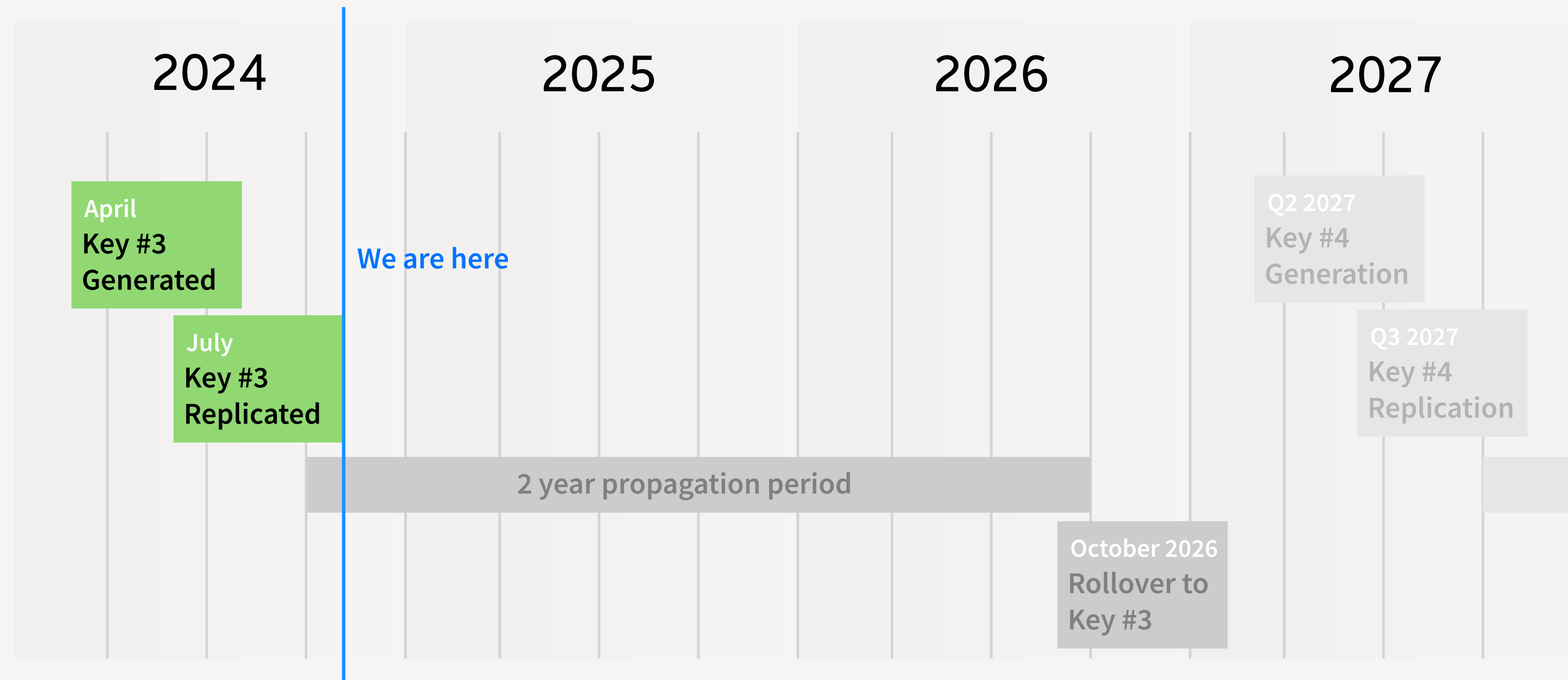- Implements a 3 year cadence, with new algorithm potential in 2027 and beyond

| 2024 | 2025 | 2026 | 2027 |

We are here

April
Key #3 Generated

July
Key #3 Replicated

Q2 2027
Key #4 Generation

Q3 2027
Key #4 Replication

2 year propagation period

October 2026
Rollover to Key #3

Now available

- The new trust anchor is now available for propagation (XML file)
  - Most users will adopt it naturally through software updates
  - Will appear in the DNS itself starting 11 January 2025

Key Status

This table provides additional guidance on how keys have been issues and used. Software implementers should rely on the XML trust anchors file for normative parameters on keys.

| INFORMAL NAME	STATUS	DETAILS
KSK-2024	Pre-Publication	Generated 2024-04-26 (attestation) with key tag 38696 and label Kmyv6jo. Expected to be published in DNS on 2025-01-11, and actively signing starting 2026-10-11.
KSK-2017	Active	Generated 2016-10-27 (attestation) with key tag 20326 and label Klajeyz. Signing since 2018-10-11.
KSK-2023	Abandoned	Generated 2023-04-27 (attestation) with key tag 46211 and label Kmrfl3b. Will not be used, superseded by KSK-2024.
KSK-2010	Retired	Generated 2010-06-16 (attestation) with key tag 19036 and label Kjqmt7v. Signing between 2010-07-15 and 2018-10-11.

https://iana.org/dnssec/files

.INTERNAL

- Recently reserved for use in private networks
  - DNS equivalent to RFC1918 address space
- Will not be provisioned in the global DNS to avoid conflicts
- Compare and contrast with
  - .local — multicast DNS
  - .alt — alternate resolution techniques
  - .home.arpa — home network control protocol
- Internet Draft under development
  - https://datatracker.ietf.org/doc/draft-davies-internal-tld/

Where should IANA be in 2030?

- Both ICANN and IANA are developing our next five year strategies
  - Where do we want to be in 5 years?
  - What does the community want to evolve?
- Consultations will commence later this year
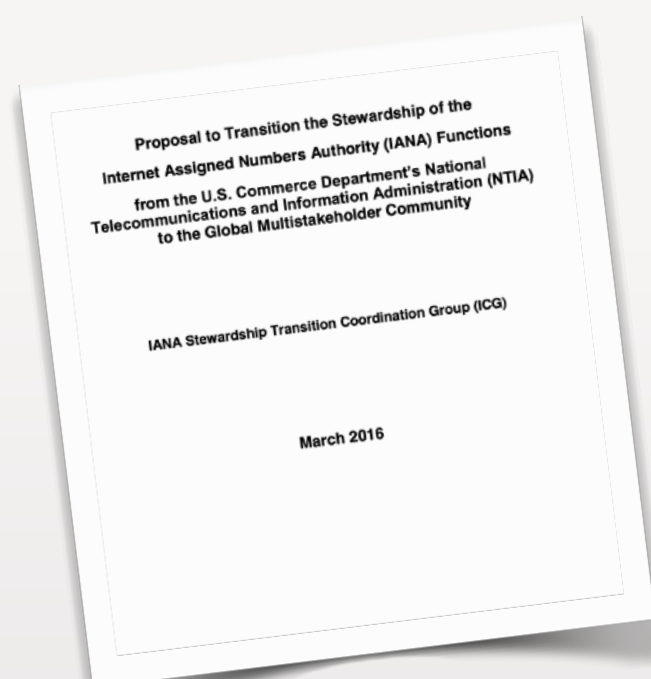
- Implement the IANA stewardship transition

- First dedicated IANA strategy
- Five focus areas
- In its final year

?

2016-2020

2020-2025

2025-2030

... and how are we doing now?

- We perform an annual engagement survey of our customers and community.

- Its very short (<5 minutes) and provides us insights on how to improve

Thank you!

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