

APNIC Update

LACNIC 29
Panama City, Panama
Sofía Silva Berenguer

APNIC



*“A global, open,
stable and secure
Internet that serves
the entire Asia
Pacific community”*

Activities



Serving APNIC Members



Supporting Regional Internet
Development



Cooperating with the Global
Internet Community



APNIC Activities



Serving APNIC Members



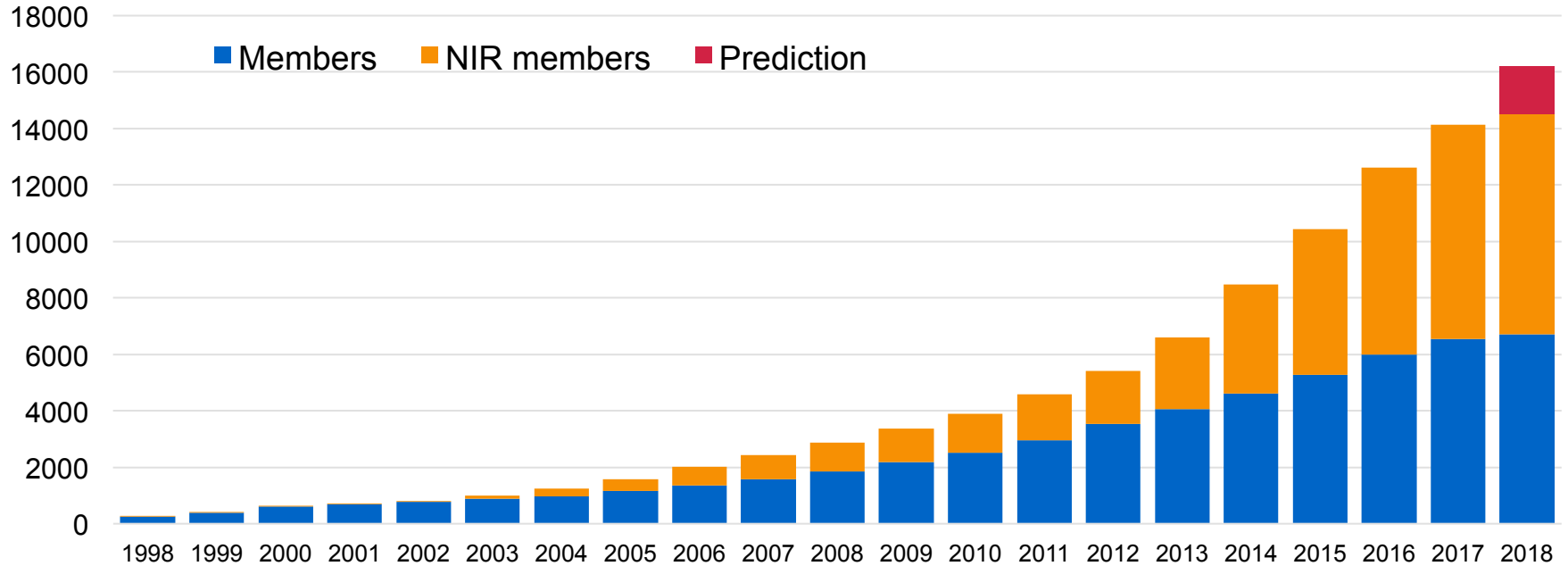
Supporting Regional Internet
Development



Cooperating with the Global
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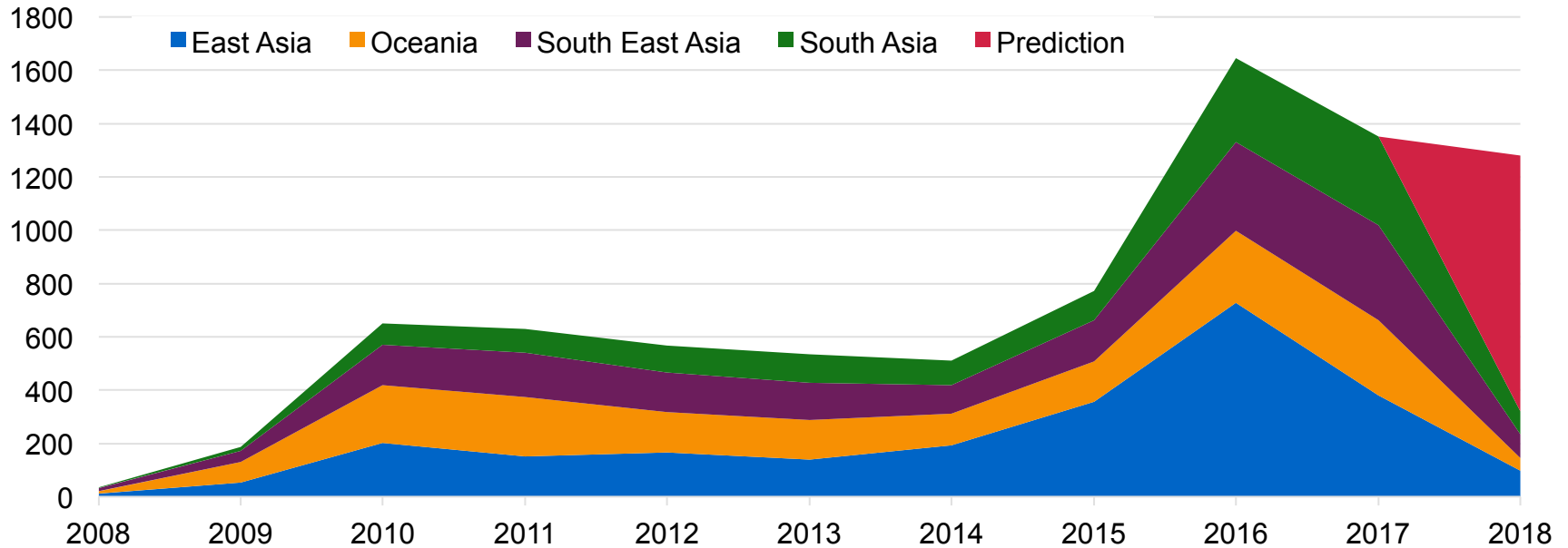
Membership



As at 31 Mar



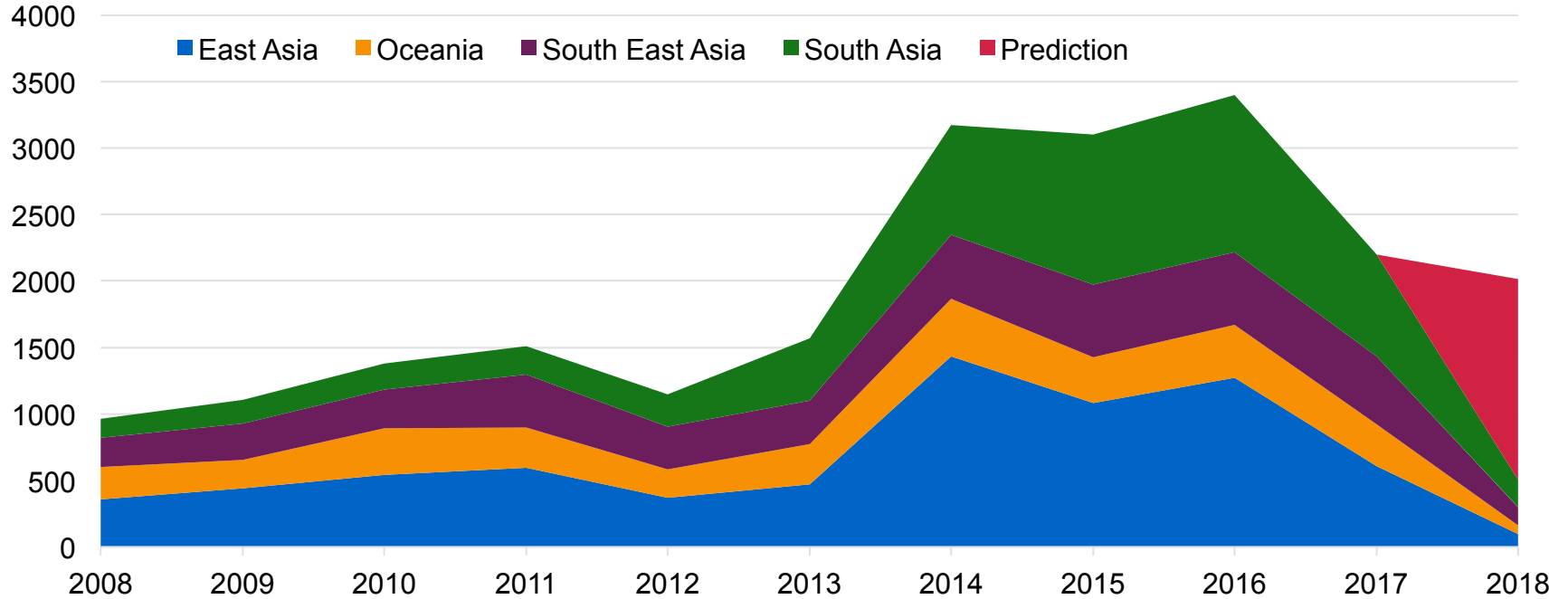
IPv6 Delegations



As at 31 Mar



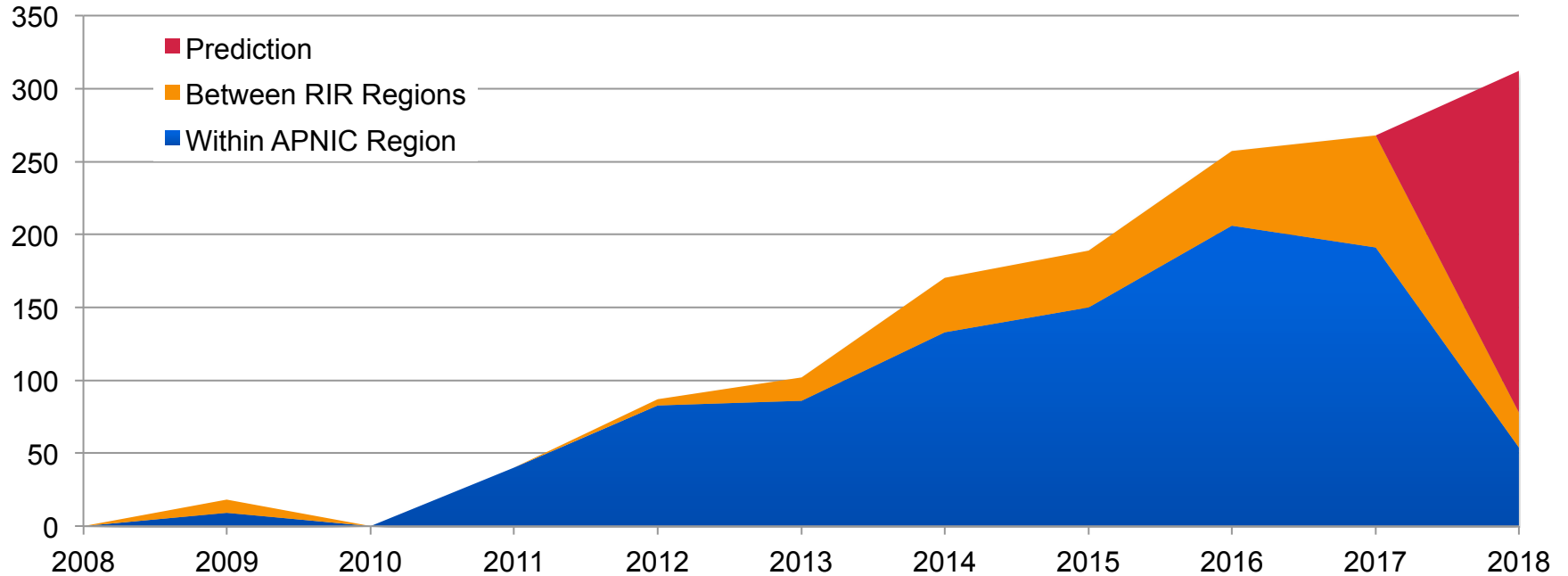
IPv4 Delegations



As at 31 Mar



IPv4 Transfers



As at 31 Mar



Whowas

- Provides historical whois results
- Improved user interface
- IETF draft RDAP extension for batch results

apnic.net/whowas

The screenshot shows the APNIC Whowas interface for the IP address 202.12.31.0/24. The interface includes a search bar, a timeline from 2008 to 2017, and a detailed view of the current record. The current record is for the network 202.12.31.0 - 202.12.31.255, assigned to APNIC-ANYCAST-1 in Australia. The record is of type ASSIGNED PORTABLE and is described as an Anycast node. The contact information for APNIC Infrastructure Contact is provided, including address, phone, fax, and email. The interface also shows a list of historical records on the left and a detailed view of the current record on the right.

| network | name | network | name |
|-----------------------------|-----------------|-----------------------------|-------------------|
| 202.12.31.0 - 202.12.31.255 | APNIC-ANYCAST-1 | 202.12.31.0 - 202.12.31.255 | APNIC-SERVICES-HK |
| 202.0.0.0 - 203.255.255.255 | | 202.12.31.0 - 202.12.31.255 | |
| 202.0.0.0 - 202.255.255.255 | | | |
| 0.0.0.0 - 255.255.255.255 | | | |

03/07/2011 23:15 <1 version> <Present

| network | name | network | name |
|-----------------------------|--|-----------------------------|---|
| 202.12.31.0 - 202.12.31.255 | APNIC-ANYCAST-1 | 202.12.31.0 - 202.12.31.255 | APNIC-SERVICES-HK |
| country | AU | country | HK |
| type | ASSIGNED PORTABLE | type | ASSIGNED PORTABLE |
| description | Anycast node to be located in (but not limited to) HongKong, USA, The Netherlands Asia Pacific Network Information Centre Regional Internet Registry for the Asia-Pacific Region | description | Asia Pacific Network Information Centre Regional Internet Registry for the Asia-Pacific Region |
| handle | AICI-AP | handle | AICI-AP |
| name | APNIC Infrastructure Contact | name | APNIC Infrastructure Contact |
| kind | group | kind | group |
| address | 6 Cordelia Street South Brisbane QLD 4101 | address | 6 Cordelia Street South Brisbane QLD 4101 |
| voice | +61 7 3858 3100 | voice | +61 7 3858 3100 |
| fax | +61 7 3858 3199 | fax | +61 7 3858 3199 |
| email | helpdesk@apnic.net | email | helpdesk@apnic.net |
| remarks | Infrastructure Contact for APNICs own-use network blocks | remarks | Infrastructure Contact for APNICs own-use network blocks |
| handle | IRT-APNIC-IS-AP | handle | IRT-APNIC-IS-AP |
| name | IRT-APNIC-IS-AP | name | IRT-APNIC-IS-AP |
| kind | group | kind | group |
| address | South Brisbane, Australia | address | South Brisbane, Australia |
| email | helpdesk@apnic.net | email | helpdesk@apnic.net |
| email | helpdesk@apnic.net | email | helpdesk@apnic.net |
| remarks | APNIC Infrastructure Services | remarks | APNIC Infrastructure Services |



Resource Certification

- Resource certification extended to historical resource holders
- New user interface deployed in MyAPNIC
- Delta protocol (RFC 8182) work completed for Q1 2018 release
- Ready to ROA
 - NZ, VN, PH, BN, SG, KH, MG, TW
- 'All resources' (0/0) Trust Anchor transition completed

apnic.net/rpki



| Resource Certification | To date |
|------------------------------|---------------|
| Members created certificates | 903 |
| Members created ROAs | 877 |
| IPv4 under ROAs (/32s) | 17,466,312 |
| % allocated IPv4 | 2.02% |
| IPv6 under ROAs (/56s) | 3,562,983,680 |
| % allocated IPv6 | 0.39% |



- RPKI uptime 99.998%
- 23 qps



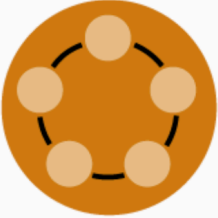


Training & TA



| | 2018 (to date) |
|--|--------------------------------------|
| Face-to-face training Locations Trainees | 16 12 economies; 16 cities 528 |
| Community Trainers | 11 |
| eLearning sessions Trainees | 20 82 |
| Training videos Views | 128 555,576 |
| Technical Assistance | 1 |

APNIC Academy



| | | |
|--|---|---|
|  <p>Internet Resource Management</p> <p>Course</p> |  <p>Routing Basics</p> <p>Course</p> |  <p>Introduction to CyberSecurity</p> <p>Course</p> |
|--|---|---|

apnic.academy

- Launched April 2017
- Free public access
- 2017: Introduction to CyberSecurity, IRM, Routing
 - Enrolled: 2,212
 - Certified: 427
- Coming:
 - Introduction to IPv6
 - Internet Routing Protocols
 - APNIC Address Policies
 - DNS Concepts

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Policy



Current proposals

- Prop-118: No need policy in APNIC region
- Prop-119: Temporary transfers
- prop-120: Final /8 pool exhaustion plan
- prop-123: Modify 103/8 IPv4 transfer policy

Policy engagement

- Updated web content
- Webinars and NOG briefings
- Translation of summaries and outcomes
- Newcomers' mock policy SIG

apnic.net/policy



Participate in APNIC Policy

▼ YOU ► COMMUNITY ► RESULTS

YOUR VOICE COUNTS

- Everyone can participate – not just your boss
- It doesn't matter how much experience you have
- It's a great way to build your profile and contribute to the Internet
- You can directly impact the way APNIC manages Internet numbers

Get involved in policy discussion!

The first step is to subscribe to the mailing list

SUBSCRIBE NOW!

Community



- **NOGs:** Participated in 24 NOGs (2017); 5 (2018 to date)
- **Root servers:** J-root installed in NP; in progress at PG and FJ
- **MoUs:** Sri Lanka CERT|CC, ISC, KISA, APIA, Netnod
- **IXPs:** Support in PG and FJ
- **Fellowships:** 48 fellows at APNIC 44 (23 female), new Returning Fellows category
- **Sponsorships:** 40 regional events (including 19 NOGs)

Security



- Security training: 30 courses (2017); 2 (2018 to date)
- LEA training (2017): 4 events
SG (2), FJ and KR (2018): 1 (TW), 1 (HK)
- Other engagements (2017): 37 (2018) 3
APSIG 2017, APriGF 2017, ASEAN, KISA APISC, CNCERT, INTERPOL SG, APCERT, RISE, ITU Cyberdrill
- FIRST: MoU signed, Events at APRICOT 2017 and APNIC 44
 - Adli Wahid re-elected to FIRST Board
- Security team: Additional Internet Security Specialist
- Security blog posts: 65 (to date)

apnic.net/security

Pacific CERT Development



- Supporting CERT development in the Pacific (FJ, PG, TO, VU, SB)
 - CERT.to: First birthday
 - CERT-PNG: Launched
- Mentoring, training, and technical assistance
- Coordination with APCERT, CERT-Australia, Tonga CERT, ITU and others
- \$200K funding via APNIC Foundation (2 years)



IPv6



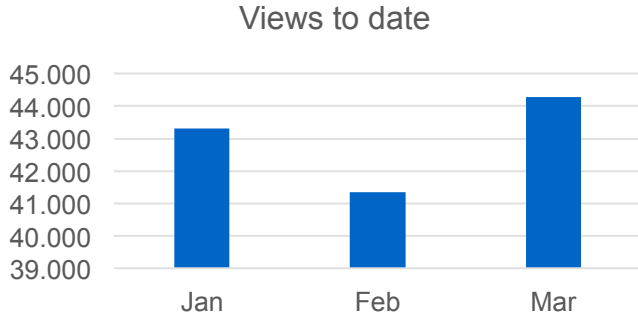
apnic.net/ipv6

- **Training:** 24 face-to-face, 712 trainees (2017); 4 face-to-face; 135 trainees (2018 to date)
- **eLearning:** 25 sessions, 153 trainees (2017); 3 sessions, 6 trainees (2018 to date)
- Regional events: 16 presentations (2017)
- Joint APNIC/ITU IPv6 Infrastructure Security Workshops in TH and BT
- Revamped IPv6 web pages, 20 deployment success stories
- **World IPv6 Day**, 6/6/2017: video, blogs, social media, Member emails
- IPv6 blog posts: 82 (to date)

blog.apnic.net



Views



Average: 42,908 / month

Economies



Economies covered: 26

Guest Bloggers



15 Guest Posts in 2018

Topics



As at 31 Mar

APNIC Foundation



apnic.foundation

- **First year** of operation: 2017
- **Mission:** To build the APNIC Development Program
- Effectively, the “**fund raising arm**” of APNIC
- Two staff seconded from APNIC: **Duncan Macintosh, Sylvia Cadena**
- Three Board members appointed: **Edward Tian (CN); Sharad Sanghi (IN); Sylvia Sumarlin (ID)**

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BIND 9.12 development



- Aggressive NSEC caching RFC 8198
 - DNS resolvers discard junk queries instead of sending them to the root
 - Reduces load on root servers – improves resilience, efficiency and scalability
- APNIC sponsored implementation in ISC's BIND 9.12 (open source)
 - Launched and in deployment

Global Research 2017-2018 (to date)



- Presentations: 39, at IETF, PTC, OARC, RIRs, NOGs...
- Blog posts: 36
- Research topics:
 - DNSSEC KSK rollover
 - IPv6, Extension Headers and IPv6 Fragmentation
 - QUIC and BBR
 - DNS related research with ICANN (contract extended to 2018)
 - DNSSEC and NSEC caching
- Geoff Huston continues on SSAC



DNSSEC KSK Rollover

Quick Guide:

Prepare Your Systems for the Root KSK Rollover



What is the Root KSK Rollover?

The Internet Corporation for Assigned Names and Numbers (ICANN) is planning to roll, or change, the "top" pair of cryptographic keys used in the Domain Name System Security Extensions (DNSSEC) protocol, commonly known as the Root Zone KSK. This will be the first time the KSK has been changed since it was initially generated in 2010, and is considered an important security step, in much the same way that regularly changing passwords is considered a prudent practice by any internet user.

Changing the key involves generating a new cryptographic key pair and distributing the new public component to DNSSEC-validating resolvers. As every internet query using DNSSEC depends on the root zone KSK to validate the destination, this will be a significant change. Once the new keys have been generated, web operators, such as ISPs, will need to update their systems with the new key so that when a user attempts to visit a website, it can validate it against the new KSK.

Why You Need to Prepare

Currently, 25 percent of global Internet users, or 750 million people, use DNSSEC-validating resolvers that could be affected by the KSK rollover. If these validating resolvers do not have the new key when the KSK is rolled, and users relying on those resolvers will encounter errors and be unable to access the Internet.

If you don't use DNSSEC, your system will not be affected by the rollover. However, you should know that DNSSEC is an important part of preventing domain name hijacking. Learn more about implementing DNSSEC here.

ICANN is offering a test bed for operators or any interested parties to confirm that their systems handle the automated update process correctly. Check to make sure your systems are ready by visiting: go.icann.org/KSKtest.

Designed by ICANN Communications, March 2017



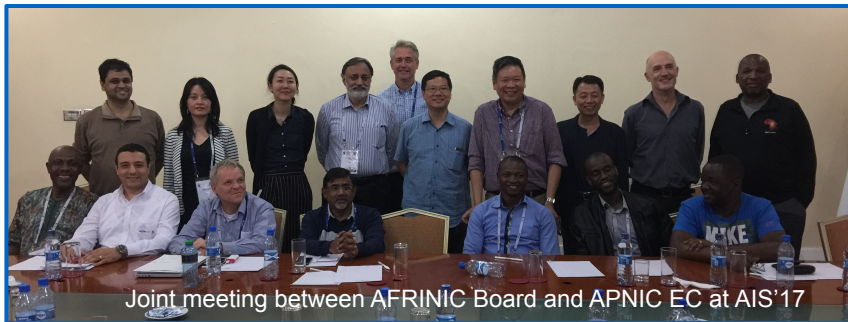
- ICANN's rollover of DNSSEC Root Zone KSK (Key Signing Key)
- APNIC supported ICANN by:
 - Identifying higher risk network operators performing DNSSEC validation (Labs)
 - KSK rollover blogs, resources + translations
 - APNIC 44 information session
 - Communication activities to identified operators to facilitate smooth rollover
- ICANN postponed Keyroll to 2018



RIR Collaboration



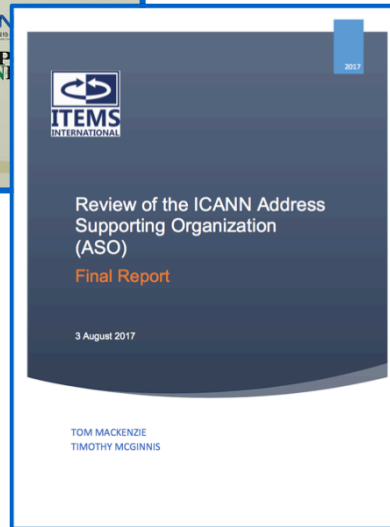
AFRINIC Staff Exchange – Karen and Simon



Joint meeting between AFRINIC Board and APNIC EC at AIS'17

- **Joint APNIC-AFRINIC Board meeting** at AFRINIC 26 / AIS'17
- **LACNIC-APNIC IPv6 workshop** at APEC TEL 55
- **World IPv6 Launch 5th anniversary**
- NRO coordination: ECG, RSCG, CCG, finance, HR, legal
 - RSCG meeting in Viet Nam
- Participation at all RIR meetings in 2017
- **Staff exchange (AFRINIC x2)**
- Seed Alliance with AFRINIC and LACNIC

ASO Review



- Independent ASO Review commissioned by NRO EC in 2017
- Report published August 2017: concluded ASO has a continuing purpose in the ICANN structure + 18 recommendations for improvements
- Community consultation held APNIC 44 and 45 to discuss findings
- NRO to launch global consultations in 2018 to discuss future structure of ASO

APNIC consultation #1 (Sep 2017)

- APNIC EC provided input to the community...
- The presence of the numbering community at ICANN is important
 - Currently divided between ASO AC and NRO EC
 - Current arrangements are ambiguous and a source of confusion and misunderstandings
- In response to the second independent ASO Review, the APNIC-EC proposes to consider non-status-quo options
- ASO Review working group was established

APNIC consultation #2 (Feb 2018)

- Strawman proposal
 - From WG chairs, after discussion on the mailing list
 - Based on Option 3 (two-house model) of the ASO Review report and discussions of the ASO Review Working Group\
- Strong support to a two house ASO structure
 - Policy Council and Registry Council replace ASO AC and NRO EC
 - But no consensus on the number of members or the selection mechanism.
- Members of the APNIC community continue to participate in the wg-aso-review mailing list.

Strawman Proposal



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Coming Soon

Take the ● APNIC Survey 2018

● YOU COULD WIN...

We want to hear from you about APNIC's services and the needs of the Community

Opens 28 May

Microsoft Surface Pro 4
An Apple Watch Sport
Virtual gift cards



Next Conference



NOUMEA, NEW CALEDONIA
6 - 13 September 2018

conference.apnic.net/46

Call for Papers open now

<https://conference.apnic.net/46/program/call-for-papers>

Later...



APRICOT 2019 / APNIC 47
Daejeon, Republic of Korea
18 to 28 February 2019



APNIC 48
Chang Mai, Thailand
5 to 12 September 2019

Stay in Touch!



blog.apnic.net

apnic.net/social



Thanks!