APNIC EC Meeting Minutes

Face-to-Face meeting, Taichung, Taiwan

Monday, 11 September 2017, 10:00—18:00 (UTC +8)
Thursday, 14 September 2017, 13:40—14:00 (UTC +8)

Meeting start: 10:00 (UTC +8), Monday, 11 September 2017

Present
>Gaurab Raj Upadhaya
>Izumi Okutani
>Jessica Shen
>Kam Sze Yeung
>Kenny Huang
>Paul Wilson
>Rajesh Chharia
>Roopinder Singh Perhar
>
>Connie Chan (minutes)
>Craig Ng
>Richard Brown

Apologies
>Nil

Agenda
1. Opening of meeting and declaration of quorum
2. Agenda bashing
3. Declaration of interests
4. Review of minutes of last meeting and record of circular resolutions passed since the last meeting
5. Matters arising from the last meeting
6. Chair update
7. WH&S update
8. Secretariat report
9. ASO review
10. Financial reports and budget discussion
11. Service Partner model
12. APNIC Foundation update
13. APNIC Survey update
14. NRO Number Council election procedures
15. Risk Register update
16. Any other business (AOB)
17. Next EC meeting
18. Implementation of Prop-116
19. APNIC Foundation Board
20. Translation during AMM

Minutes

1. Opening of meeting and declaration of quorum

The Chair of the Executive Council welcomed all attendees to the meeting. The Chair declared the meeting open at 10:00 (UTC +8) on Monday, 11 September 2017 and noted that a quorum was present.

2. Agenda bashing

The Chair called for comments on the agenda. There were no changes to the agenda.

3. Declaration of interests

The Chair asked the EC members to review the Register of Interests (attached), and declare any potential conflicts of interests, and for any such declaration to be recorded in the minutes.

Gaurab Raj Upadhaya declared that he is on the APRICOT 2018 Organizing Committee.

Action item 2017-13: The Secretariat to update the Register of Interests.

4. Review of minutes of last meeting and record of circular resolutions passed since the last meeting

The following circular resolutions (which require the agreement of all EC members who are entitled to vote on the resolution) were passed by the EC during the period between the last EC meeting and this meeting, and are recorded in these minutes for completeness.

Resolution 2017-13: The EC resolved to remove the current exemption to the IPv4 Transfer fee resulting from mergers, acquisitions or takeovers, by deleting the following words from the two documents below:

- In the Member Fee Schedule, under paragraph 2, the fourth bullet point and the words "Transfers that are a result of a merger, acquisition, or takeover"; and

- In the Non-Member Fee Schedule, under paragraph 3, the second bullet point and the words "Transfers that are a result of a merger, acquisition, or takeover".

The changes to the fee schedules will take effect immediately after this resolution is passed.

Resolution 2017-14: The EC resolved to adopt the minutes of EC meeting of 3 June 2017.

5. Matters arising from the last meeting

The following matters were completed:

Action item 2017-05: The Secretariat to update the Register of Interests.

Action item 2017-06: Duncan Macintosh to proceed to contact the potential board members of the APNIC Foundation and invite them to serve on the Board.

Action item 2017-08: Craig Ng to prepare a circular resolution to remove the current exemption for transfer fees, for transfers of IPv4 resources resulting from mergers, acquisitions or takeovers.

The following matters from the previous meetings will be covered in the agenda:

Action item 2017-07: Craig Ng to prepare a proposal in relation to the issue of appointing an APNIC EC member to the APNIC Foundation Board. (See agenda item 12)

Action item 2017-09: Craig Ng to give legal consideration on refunds in relation to account closures. (See agenda item 10)

Action item 2017-10: Richard Brown to follow up with Credit Suisse on the investment returns. (See agenda item 10)

Action item 2017-11: The Secretariat to continue fine-tuning the Service Partner model and report back to the EC at APNIC 44. (See agenda item 11)

Action item 2017-12: The Secretariat to finalize the Survey timeline for further discussion at APNIC 44. (See agenda item 13)

6. **Chair update**

The Chair provided an update on the EC travel expenses by activity code. He reminded the EC to review the travel planner, and ensure that attendances are evenly distributed across different regional events.

The Chair also noted that a new MOU will be signed between APNIC and APRICOT during the Joint Board meeting to be held on 12 September 2017 aimed at delivering better outcomes. The new MOU is more detailed, and ensures more streamlined and coordinated approaches.

7. **WH&S update**

Roopinder Perhar presented the key findings of the health and safety report. He noted that most of the issues reported were routine in nature and are well handled by the Secretariat. There were no concerns from the EC's perspective.

8. **Secretariat report**

The DG spoke to the AMM presentation which is structured more towards the strategic plan (attached).

The EC noted that they would like to see more infographics and comparative data in the AMM presentation. They also suggested providing links in the sidebar to strategies in the slides. This will provide our community with a comprehensive overview of data to help ensure accurate reporting and deeper understanding of results.

The DG then spoke to the HR report.

[Confidential information redacted]

The EC considered the draft AMM agenda for APNIC 44 (attached).

> **Resolution 2017-15: The EC resolved to approve the draft agenda for the APNIC Member Meeting of 14 September 2017.**

Motion proposed by Gaurab Raj Upadhaya; seconded by Rajesh Chharia. Passed unanimously.

The DG went through the six policy proposals that will be discussed at the Policy SIG. The EC had a brief discussion of these proposals.

[Confidential information redacted]

9. ASO review

Pablo Hinojosa joined the meeting for this agenda item.

The DG provided some background information of the ASO review report, and spoke to the ASO review presentation that will be given during the ASO review session during APNIC 44.

The EC reviewed and discussed the ASO review report, and considered the scheduled ASO review session at APNIC 44 as a consultation session. They noted that the first 17 recommendations are practical things that can be implemented by the NRO EC. They also suggested that the community take into account the non status-quo options as stated in the Recommendation 18, considering all the current aspects of the relationship of RIRs and ICANN including the PTI Contract Review Committee and the Empowered Community.

10. Financial reports and budget discussion

Richard Brown spoke to the July financial report presentation (attached).

The EC considered the Monthly Financial Report and the Investment Fund Management Report for July 2017 (attached). The EC noted that APNIC is solvent and able to meet all current debts.

The July financial reports highlight that membership revenues will be below budget by the end of the year. Revenue is tracking at 3% under budget and expenses are tracking at 1% under budget forecast.

At the end of July 2017, APNIC had a total of 6,324 Members serving 54 economies.

Richard Brown spoke to the 2018 budget outlook and baseline budget forecast presentation (attached). The EC will receive additional detailed 2018 budget projections before the next meeting in December at which the 2018 budget will be presented for approval.

The EC considered and discussed the proposed baseline budget. The EC also noted that membership growth had slowed over 2017. The EC agreed to discuss the issue of declining revenue, fees and the long-term strategy at the EC retreat in December.

The EC has asked the Secretariat to plan for a balanced budget for 2018.

Regarding the refund issue, Craig Ng noted that there is no legal impediment to not giving refunds, but it is our practice to give refunds in certain circumstances. The EC will look at this in more detail at the next meeting.

11. Service Partner model

Sanjaya spoke to the Service Partner model presentation.

The EC discussed the proposal at length including the criteria that may be used to assess the success of the trial at the end of the two-year period.

> **Resolution 2017-16: The EC resolved to adopt the Service Partner model in the chosen economies for a two-year trial period.**

Motion proposed by Kenny Huang; seconded by Roopinder Perhar. Passed unanimously.

12. APNIC Foundation update

Duncan Macintosh joined the meeting for this agenda item, and spoke to the Foundation update presentation (attached).

The EC discussed several names for the potential board members of the APNIC Foundation.

[Confidential information redacted]

13. APNIC Survey update

Richard Brown spoke to the APNIC Survey presentation (attached).

The EC discussed the timeline and the proposed location for the Survey focus group meetings.

14. NRO Number Council election procedures

The DG spoke to the election procedures for the conduct of the APNIC 44 NRO NC election (attached).

> **Resolution 2017-17: The EC resolved to appoint Vincent Chen as Election Chair, Mr George Kuo and Ms Connie Chan of the APNIC Secretariat as Election Officers, and Ms Anna Mulingbayan, Mr Wita Laksono and Mr Zen Ng as Election Tellers, for the APNIC 44 NRO NC election.**

Motion proposed by Paul Wilson; seconded by Roopinder Perhar. Passed unanimously.

15. Risk Register update

The EC reviewed the status of the APNIC Risk Register. The EC agreed to the suggested minor changes, and suggested to add a new risk to the register. The EC also discussed some other potential risks. The Secretariat will draft a new risk and report back at the next meeting.

Action item 2017-14: Richard Brown will draft a new risk to the Risk Register.

16. Any other business

The Chair called for any other business.

a. Joint board meeting with the LACNIC Board in 2018

The Chair noted that the LACNIC Board agreed, in principle, to the proposal from APNIC to hold a joint board meeting with LACNIC in the mid-year meeting next year.

Action item 2017-15: The DG will contact LACNIC, and arrange for a suitable date for the proposed joint board meeting.

17. Next EC Meeting

The next EC meeting will be held in Brisbane on 7 to 8 December 2017.

Meeting adjourned at 18:00 (UTC +8), Monday, 11 September 2017.

Meeting resumed at 13:40 (UTC+8), Thursday, 14 September 2017.

Present
> Gaurab Raj Upadhaya
> Izumi Okutani
> Jessica Shen
> Kam Sze Yeung
> Kenny Huang
> Paul Wilson
> Roopinder Singh Perhar
>
> Craig Ng (minutes)

Apologies
> Rajesh Chharia

18. Implementation of Prop-116

The EC discussed the implementation issues associated with Prop-116. There are some concerns that there will be a rush of transfers before the implementation of Prop-116.

> **Resolution 2017-18: The EC resolved that transfers of resources allocated from the 103/8 (Final /8) pool, be temporarily suspended pending the implementation (if consensus is reached) of Prop-116 (Prohibit to transfer IPv4 address in the final /8 block).**

Motion proposed by Roopinder Perhar, seconded by Izumi Okutani. Passed unanimously.

19. APNIC Foundation Board

[Confidential information redacted]

> *Action item 2017-16: The EC directed Duncan Macintosh to conduct due diligence on the two other candidates, and to report to EC with a report on the five potential candidates, for EC's consideration at the next EC meeting in December.*

20. Translation during AMM

The EC discussed the issues on translation during the AMM.

Meeting closed at 14:00 (UTC+8), Thursday, 14 September 2017.

Attachments:

A.   **Register of interest**
B.   **AMM presentation**
C.   **Secretariat report**
D.   **[Confidential information redacted]**
E.   **AMM draft agenda**
F.   **Policy proposal summary**
G.   **ASO review report**
H.   **July 2017 financial report and presentation**
I.   **July 2017 investment report**
J.   **2018 budget outlook presentation**
K.   **[Confidential information redacted]**
L.   **APNIC Foundation update presentation**
M.   **Survey update presentation**
N.   **NRO NC election procedures**
O.   **[Confidential information redacted]**

Agenda Item 3
Declaration of Interests

APNIC EC Register of Interests

Declaration of interests of EC members

This register records the interests of EC members, which may conflict with the EC members' duties to APNIC. This register is accurate as at 1 July 2017.

Gaurab Raj Upadhaya declared that he currently holds the following positions:

- Employee of Limelight Networks as Director, Network Strategy and Interconnect
- Director of the Nepal Research and Education Network (NREN)
- Chairman of Nepal Internet Exchange (NPIX)
- Member of the APRICOT Program Committee

Izumi Okutani declared that she currently holds the following positions:

- Employee of JPNIC as Policy Liaison
- Member of the Internationalization of JANOG (JANOG i18n)
- Member of the Secretariat of Internet Governance Conference Japan (IGCJ)
- Member of the Multistakeholder Steering Group of APrIGF

Jessica Shen declared that she currently holds the following positions:

- Employee of CNNIC as Director of IP Operation, under the Ministry of the Cyberspace Administration of China

Kam Sze Yeung declared that he currently holds the following positions:

- Member of the HKNOG Program Committee
- Employee of Akamai Technologies, Inc

Kenny Huang declared that he currently holds the following positions:

- Member of IP Committee of TWNIC
- Board of Director, ISOC Taiwan Chapter
- Member of the Advisory Council of DotAsia Organization
- Director of Mind Extension Inc.

Rajesh Chharia declared that he currently holds the following positions:

- President of the Internet Service Providers Association of India (ISPAI)
- Director of the National Internet Exchange of India (NIXI)
- CEO of CJ Online Pvt. Ltd
- Director of Chandra Industrial Company Private Limited
- Director of Soulmicron Techserve LLP

Roopinder Perhar declared that he currently holds the following positions:

- Employee of Netplus Broadband Services Pvt Ltd
- Member of the Internet Service Providers Association of India (ISPAI)

Paul Wilson declared no conflict of interests.

Agenda Item 8
Secretariat report

APNIC Secretariat Report

Paul Wilson

14 September 2017

APNIC 44, AMM

APNIC

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

Activities

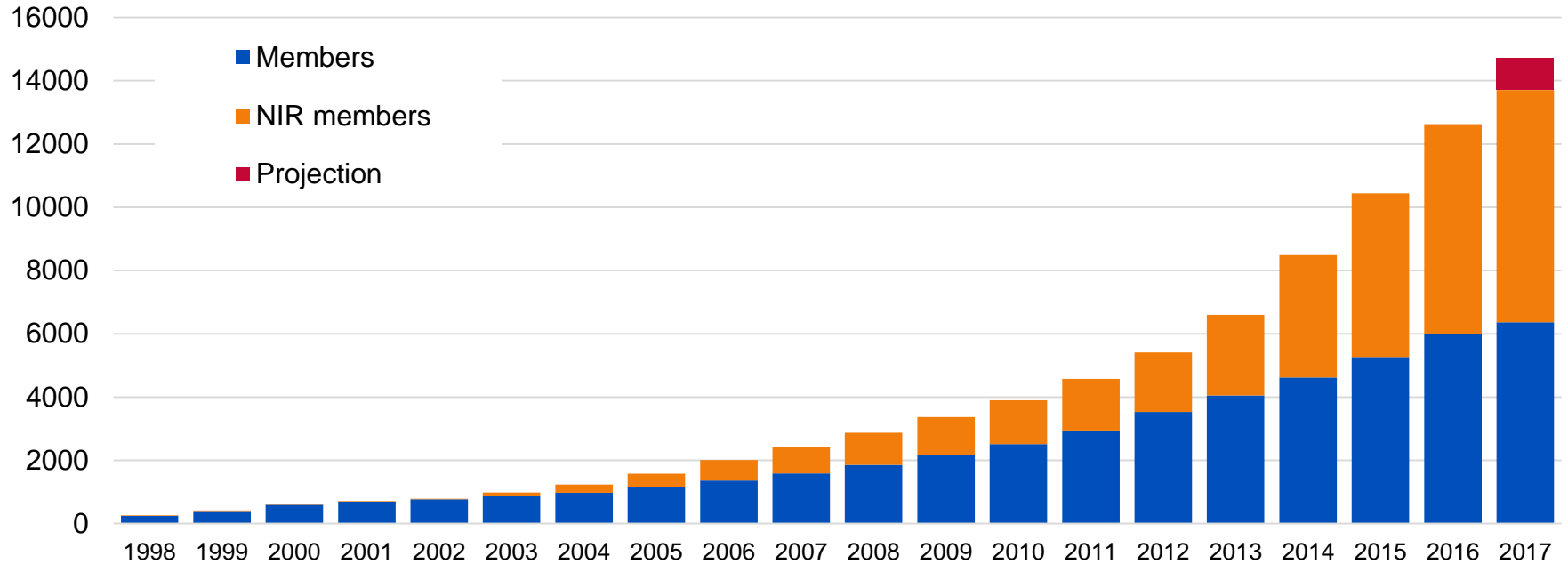Serving APNIC Members

Supporting Regional Internet Development
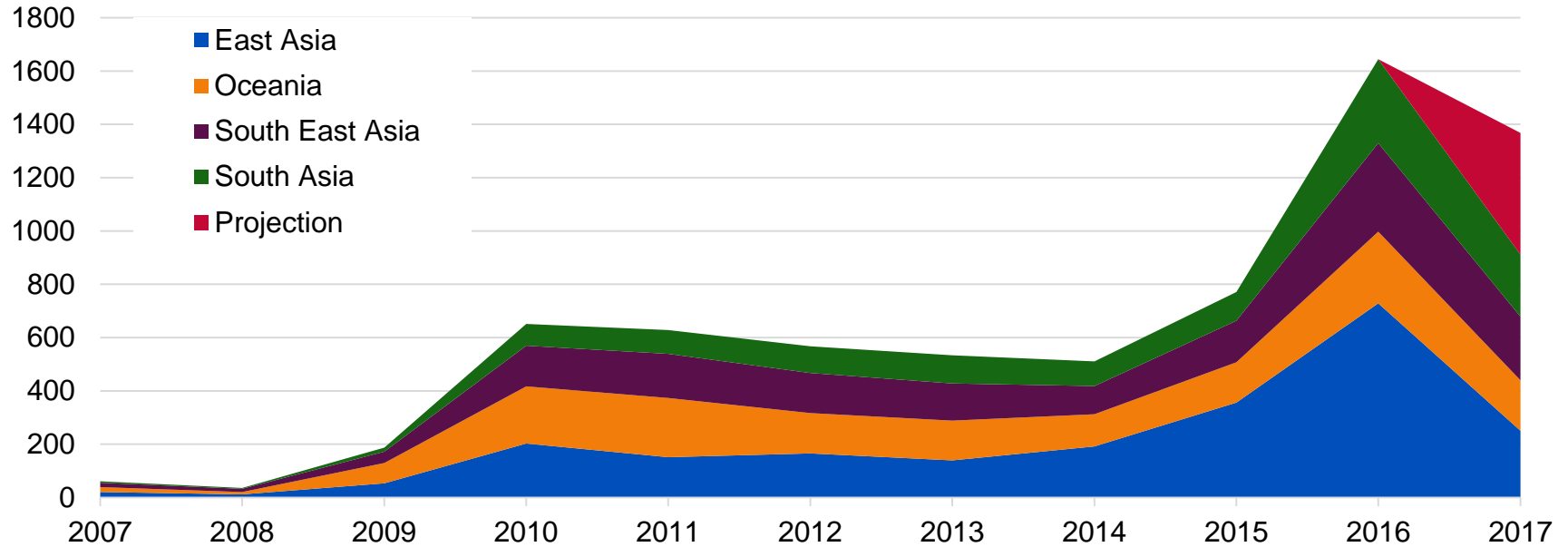
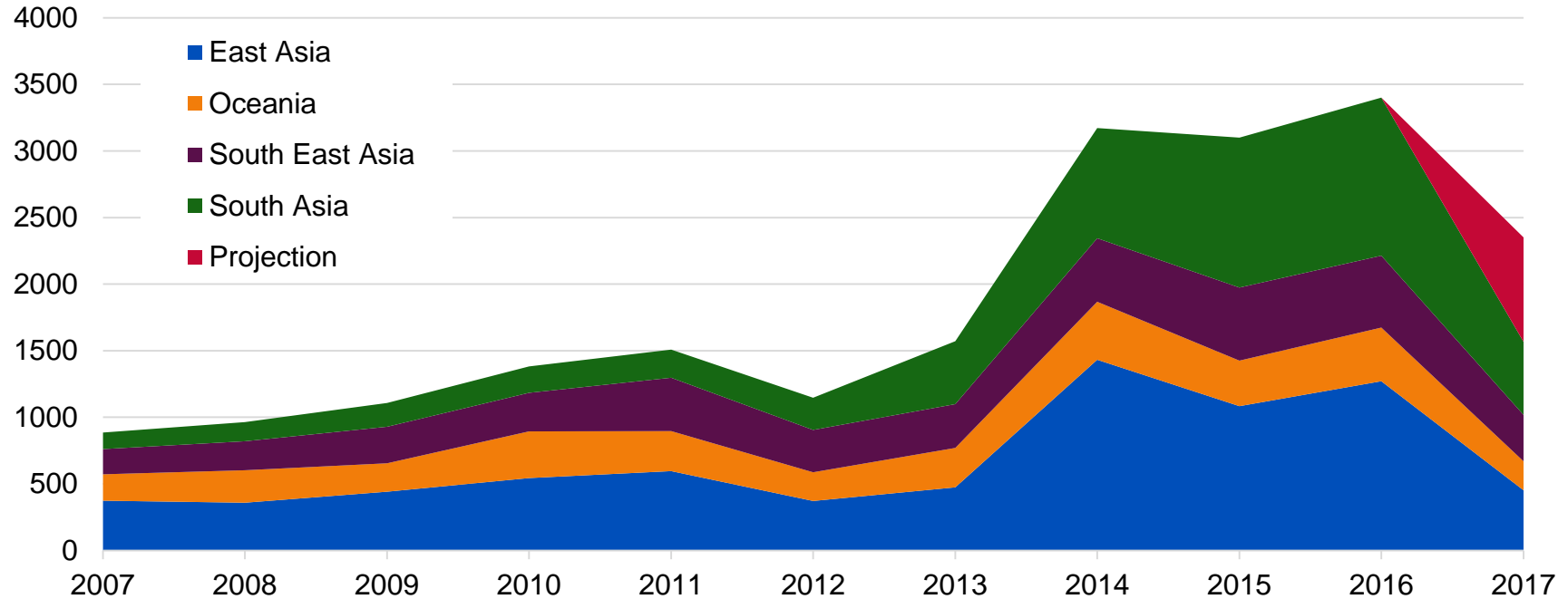Cooperating with the Global Internet Community

Membership

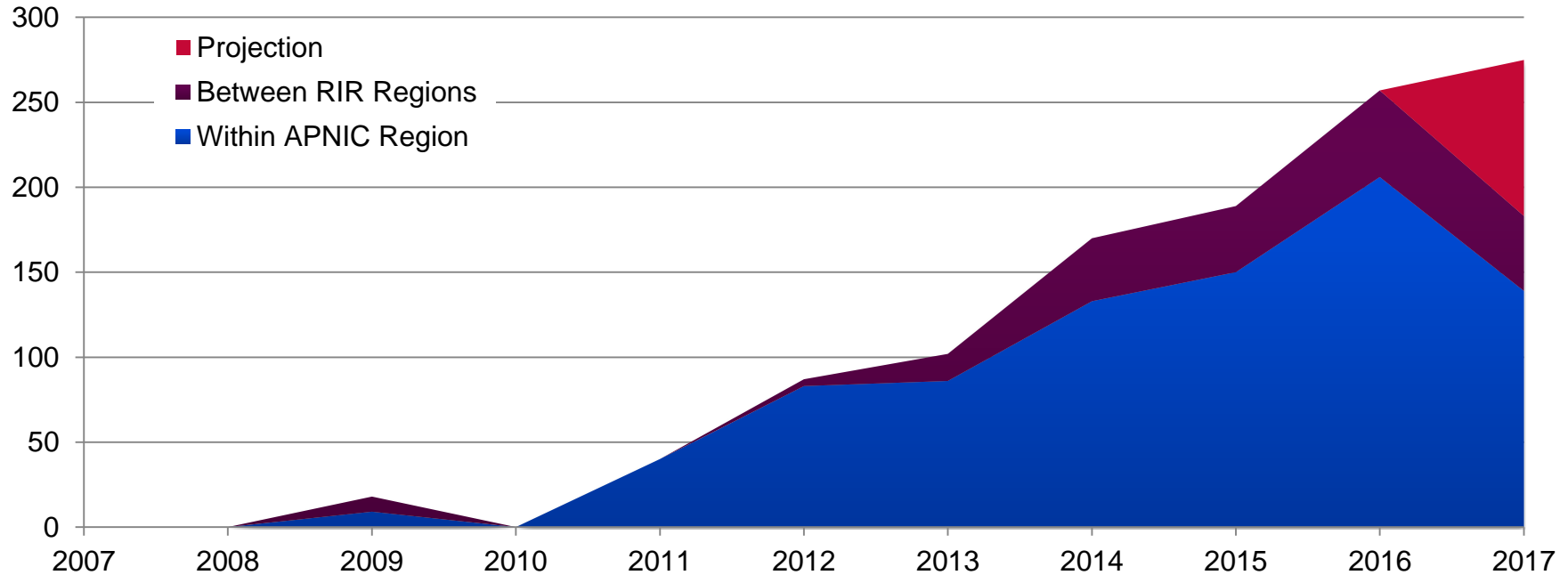
As at 1 Sep

IPv6 Delegations

IPv4 Delegations

As at 1 Sep

IPv4 Transfers

As at 1 Sep

APNIC

7

Total IPv4 Transferred
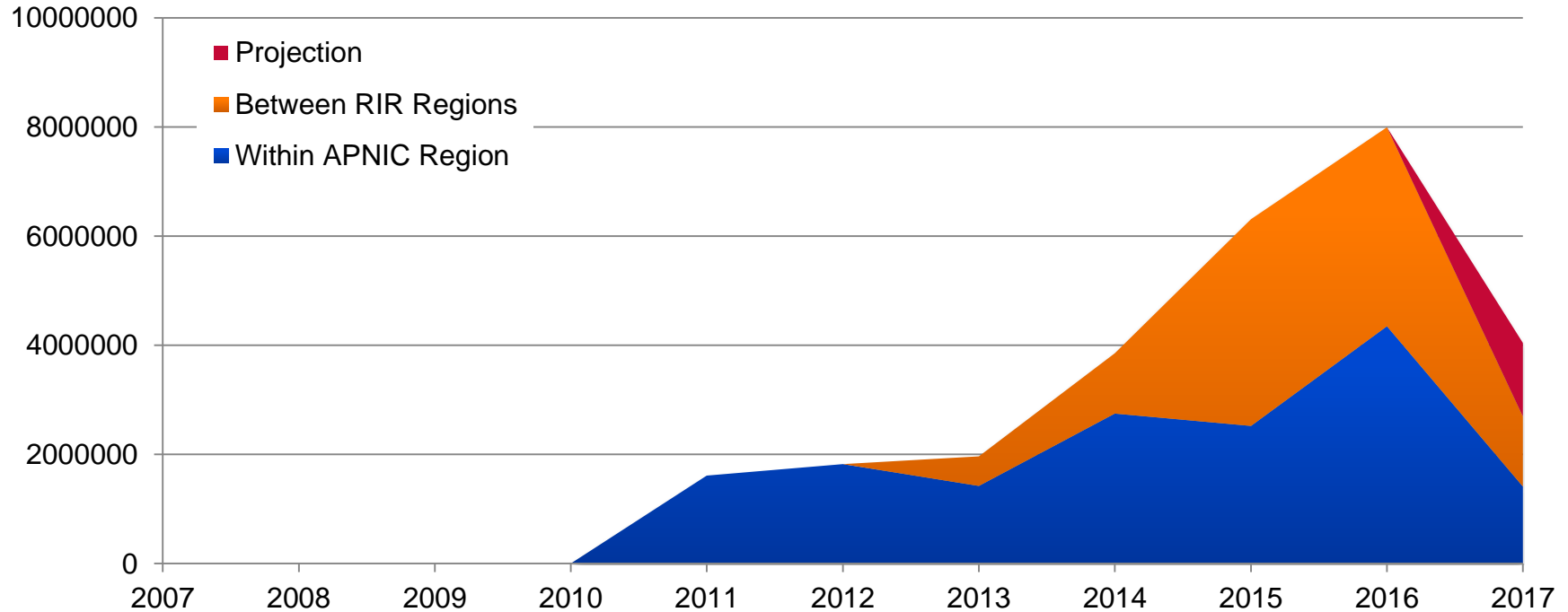
As at 1 Sep

ASN delegations
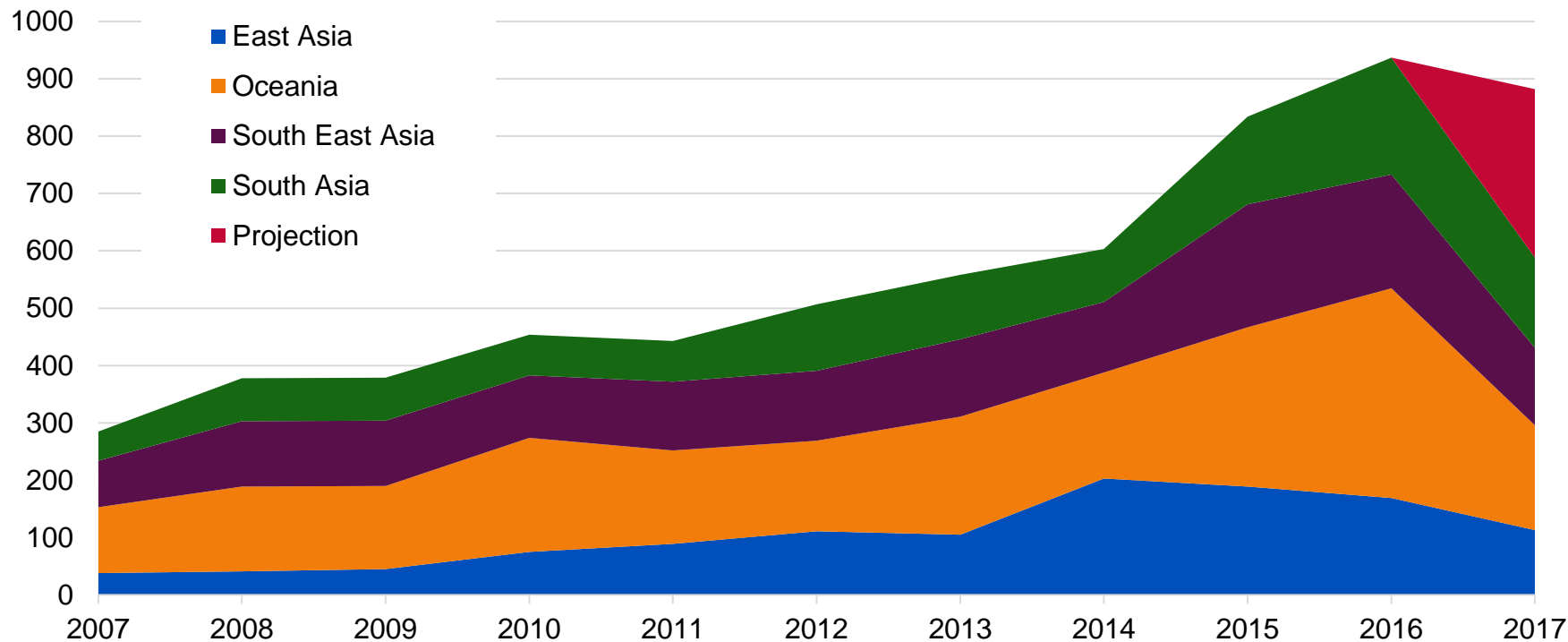
As at 1 Sep

Resource Holdings
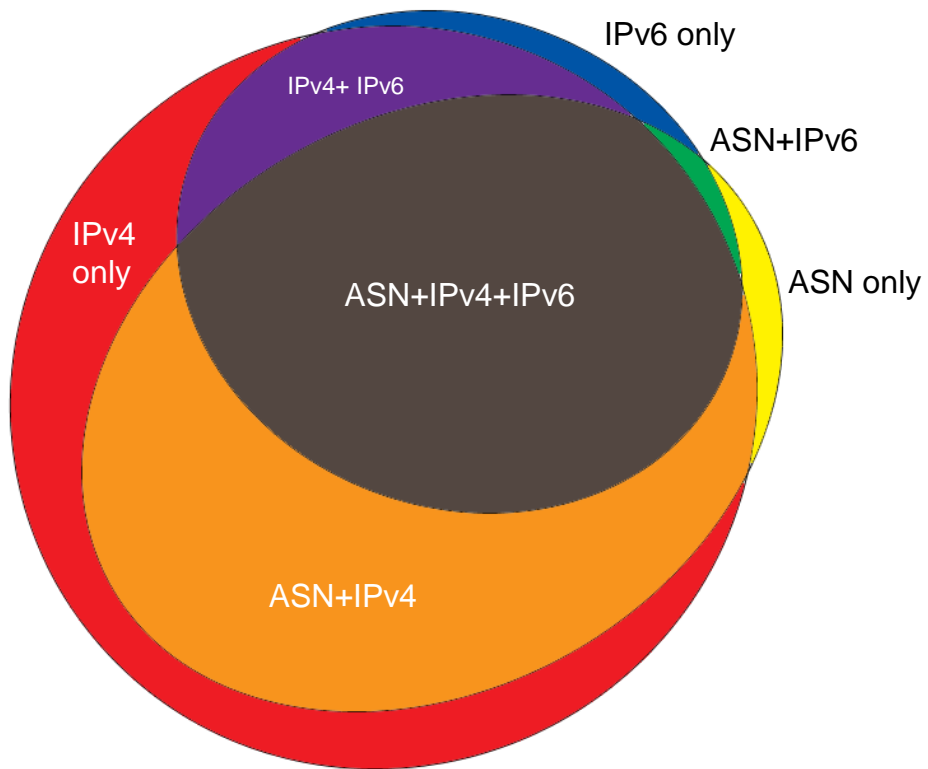
% of Members Holding	
ASN	74%
IPv4	96%
IPv6	55%

As at 1 Sep

Whois and Whowas

- Whois
  - Master server and query nodes upgraded to v4
  - RDAP integrated into RIPE codebase
  - Added a new object type: "organization object"

  apnic.net/whois

- Whowas
  - Improved interface
  - RDAP extensions
  - Draft spec @ IETF 99

  apnic.net/whowas

478 whois qps

Organization Object

- The object contains contact information for organizations holding resources in whois

- 42% of account holders have updated org details since July

- Organization objects first created in August

% of updates per economy
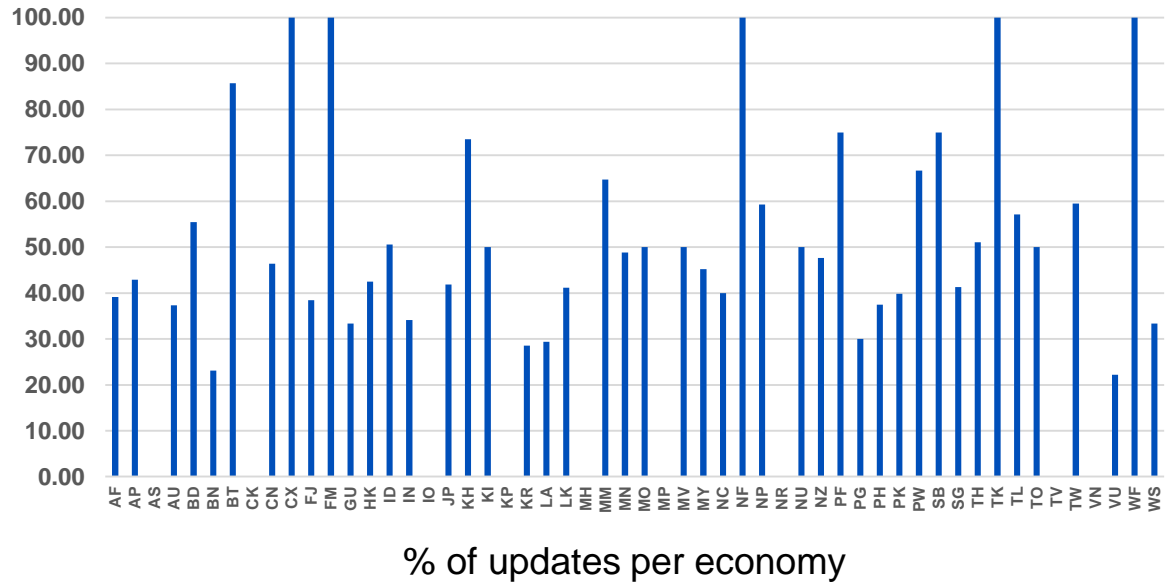
RPKI

- RIRs move to "all resources" Trust Anchor by 30 Sept 2017
- 8 "Ready to ROA" sessions since March 2017:
  PH, BT, CK, CN, ID, KH, NP and MN

- RPKI uptime 99.9995%
- 21 qps

ROAs	2017
ROA-enabled Members	785
Numbers of ROAs created	696
Number of IPv4 addresses under ROAs (/32s)	15,353,928
Number of IPv6 addresses under ROAs (/56s)	3,131,214,848
% allocated space under ROAs (IPv4)	1.78%
% allocated space under ROAs (IPv6)	0.37%

Infrastructure Services

Service	Progress
Network	Network transmission upgraded using CWDM; secondary VPN in use; network switching version upgrades and routing re-architecture completed
Office migration	In progress to RFC1918 space; IPv6-only wifi deployed
Network monitoring	LibreNMS (open source) selected
Remote sites	Vultr cloud hosting services tested and deployed for ccTLDs and non-APNIC zones; work continues on configuring similar service for APNIC zones
Network security	Requirement for stateful firewall identified – training, set-up and implementation to follow
Technical outreach	Technical team staff participated in training; provided seven presentations (three remotely) at various events

APNIC Online
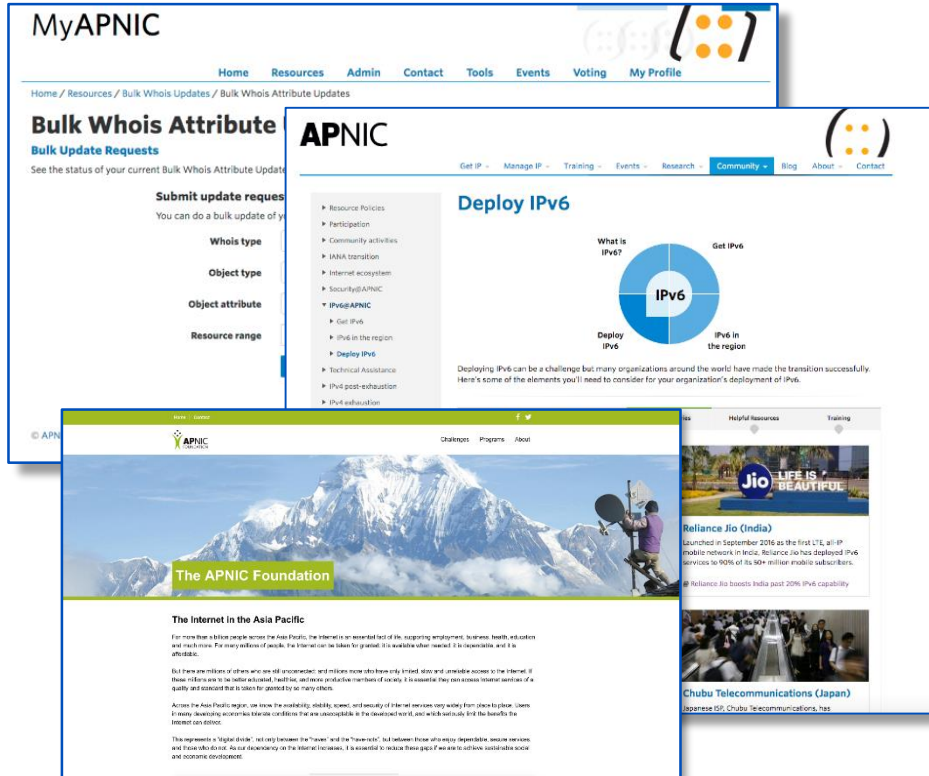
- MyAPNIC
  - Integrated route and ROA management
  - Improved feature for updating Organization object

- apnic.net
  - New IPv6 pages

- apnic.foundation
  - New CMS and content refresh

- Refined program design for APNIC Conferences

Activities

Serving APNIC Members

Supporting Regional Internet Development

Cooperating with the Global Internet Community

Policy

APNIC 43 Policy SIG

APNIC 43 Policy SIG

- prop-117 - Returned IPv4 address management and Final /8 exhaustion

- Two conflicting provisions resolved:
    - Recovered 103/8 space will be placed in 103/8 (Final /8) pool
    - Recovered non-103/8 space will be placed in the IPv4 Recovered pool

Training and TA

	2017
Face-to-face training	42
Locations	29
Trainees	1,375
Community Trainers	11
Courses	14
Locations	6
eLearning sessions	89
Trainees	473
Training YouTube videos	113
Views	506,411
Technical Assistance (TA)	10

Training, Laos

<u>training.apnic.net</u>

Updated Courses: IRM, IRR, Network
Security, MPLS, SDN, NFV

APNIC Academy
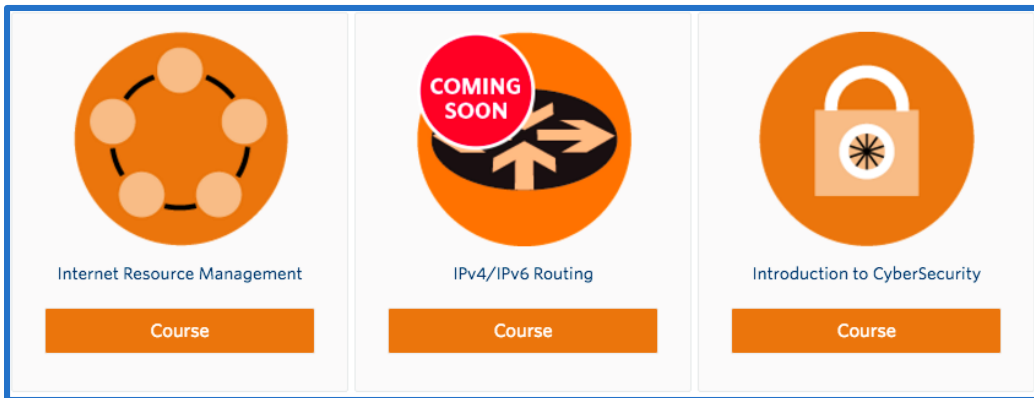
apnic.academy

- Launched April 2017 (Moodle)
  - Free public access
- 'Introduction to CyberSecurity' and 'Internet Resource Management' available
  - Registered: 1,306
  - Enrolled: 1,302
  - Certified: 350
- Coming:
  - IPv4/IPv6 Routing
  - More Security/CERTs

Community

PacNOG 30, FJ

- NOGs: 17 presentations, hostmaster consultations, tech support and sponsorship

- Root servers: J-root installed in NP

- Sponsorship of aggressive NSEC caching functionality in BIND – root servers are benefited

- RIPE Atlas: 5 new in Anchors in MM, MN, AU, NP, ID, VN
  - 270+ probes distributed

- MoUs: New - Sri Lanka CERT|CC, ISC; Renewed – KISA, APIA, Netnod

- 48 fellowships for APNIC 44

Security

Adli Wahid

- Training and participation at 20 NOG and CERT events, APSIG 2017, APrIGF 2017, ASEAN CSCAP Cybersecurity Workshop; KISA APISC; CNCERT, FS-ISAC

- LEA training and engagement with INTERPOL SG, Global Cybercrime Expert Group

- CERT.to: Hosted and trained two team members

- Ongoing CERT development in the Pacific

- MoU signed with FIRST

  - FIRST workshops and conference at APRICOT 2017 and APNIC 44

- Adli Wahid re-elected to FIRST Board

- Second security specialist recruited

- 34 security-tagged blog posts

apnic.net/security

IPv6

APNIC/ITU IPv6 Workshop 2017, Bangkok

apnic.net/ipv6

- Training: 15 face-to-face with 457 trainees
- eLearning: 15 sessions with 96 trainees
- IPv6 Promotion:
  - 8 presentations at regional events
  - Panel session at PTC'17
  - 5th anniversary of World IPv6 Launch – week-long promotion
  - 58 blog posts
- Joint APNIC/ITU IPv6 Infrastructure Security Workshop in Bangkok and Bhutan
- IPv6 Technical Assistance in PH
- New IPv6 web pages, 5 new case studies

IPv6 growth

	1 Jan 2017		1 Sep 2017
Members holding IPv6 addresses	50%	➡	55%
IPv6 capability in APNIC region	7.5%	➡	16.5%

APNIC Labs

Use of IPv6 for Asia (XD)
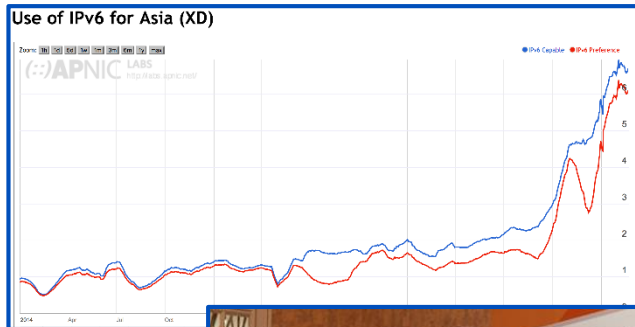
labs.apnic.net

Research to help the APNIC community make informed technical decisions

- Authored 19 articles and gave 16 presentations at various events (IETF, PTC, OARC, RIRs, NOGs)

- Research including
  - DNSSEC KSK rollover
  - IPv6 and large MTU settings
  - Latent QUIC capability
  - Dynamic behaviour of BBR

- Geoff Huston continues on ICANN SSAC, and contributing to ICANN GAC Public Safety Working Group

blog.apnic.net

Views
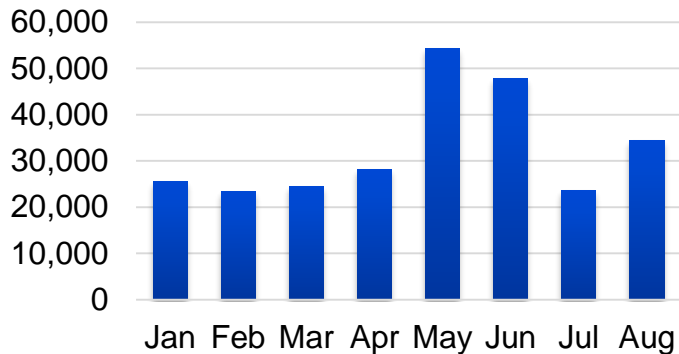
Average: 33k per month

Guest Bloggers

92

Total: 199 authors to date

Economies

Economies covered: 32

Topics

Top 5: IPv6, Security, Training, NOGs, IXP

As at 1 Sep

apnic.foundation

- Three Board members appointed: Edward Tian (CN); Sharad Sanghi (IN); Sylvia Sumarlin (ID)

- First grant of AUD 100k in July from Australian Government; continuing support from Canada's IDRC and ISOC

- Two full time staff seconded from APNIC.

- JICA-funded cyber security course launches the APNIC Academy

Activities

Serving APNIC Members

Supporting Regional Internet Development

Cooperating with the Global Internet Community

Global Cooperation

10th APT Policy and Regulation Forum

- FIRST Tech Colloquia
- APT PRF
- GSMA MWC
- Internet and IPv6 Workshop with ITU
- 'IPv6 is Live' at PTC'17, with ARIN
- IPv6 at APEC TEL 55, with LACNIC
- DNSSEC KSK Rollover, with ICANN
- ITU-WTDC prep process
- APrIGF, APSIG, PKSIG, PacIGF, NPIGF, IGFA
- APASA launch with ICANN, ISOC (AP hubs) and DotAsia

RIR collaboration

Geoff Huston at ARIN 39

- APNIC RDAP code in RIPE WHOIS v4
- RDAP batch extension proposal
- DNSSEC KSK rollover data with RIRs
- RPKI testbed conversion from single TA to five TA model
- Seed Alliance with AFRINIC and LACNIC
- ASO review
- World IPv6 Launch 5th anniversary
- Joint APNIC-AFRINIC Boards meeting at AFRINIC 26 / AIS'17
- NRO CGs: engineering, registry, comms, finance, HR, legal
- Participation at all RIR meetings

Next Conference

https://2018.apricot.net
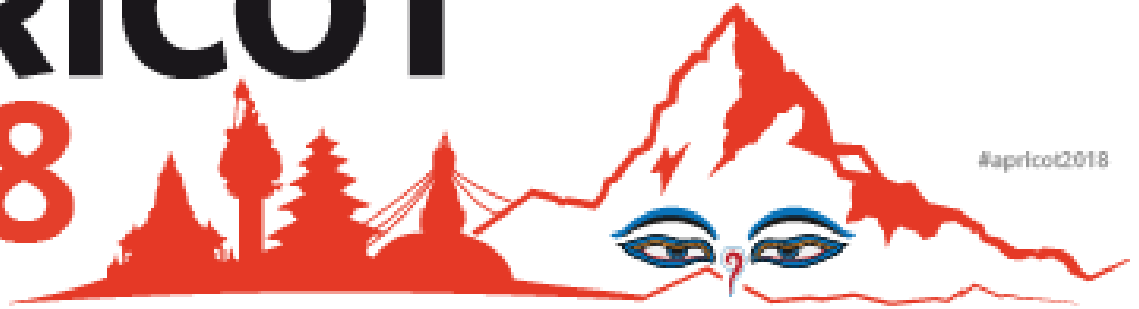
Later…

APNIC 46
Noumea, New Caledonia
6 to 13 September 2018

APRICOT 2019
Daejeon, Republic of Korea
19 Feb – 1 March 2019 (TBC)

Stay in Touch!
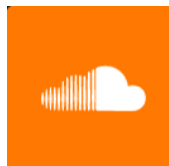
blog.apnic.net

apnic.net/social

Thanks!

APNIC Secretariat Report
September 2017

DRAFT 0.1
CONFIDENTIAL

Table of Contents

1   Introduction

This report is provided to the APNIC Executive Council for the quarterly face-to-face meeting in Taichung on 11 September 2017. It provides a summary of activities from Q1 2017 and 'to date' for the current quarter, Q3 2017, up to 14 August.

1.1   Executive Summary

Highlights:

- APNIC Service metrics continue to show high satisfaction and SLA results (2.1)

- Membership growth continues at around 70 members per month net, lower than during 2016 (2.2)

- Transaction volumes for all resources and registration services continue to increase (2.3)

- Remaining IPv4 stock is currently projected to last until mid-2020, at current consumption (2.3.1).

- APNIC has been active in promoting awareness of the DNSSEC KSK rollover (3.1.5 and 5.3)

- APNIC 44, in Taichung, promises to be successful in terms of attendance and sponsorship (3.2.1).

- There were no security incidents in this reporting period (4.5.5).

- APNIC now has a total of 10 Community Trainers (7.4.2).

- Three initial directors of the APNIC Foundation were appointed (8.1).

Notable project activities and developments:

- Implementation of whois "Organisation" object (2.3.7)

- Improvements to "member onboarding" processes (3.1.4)

- Renegotiation of APNOC MoU with APIA/APRICOT (3.2.4)

- Simplified route/ROA management in MyAPNIC (4.1.2)

- Implementation of Single-Sign-On backend for authentication of access to APNIC services (4.1.4)

- Planning and announcement of transition to 'RPKI 0/0 trust anchor' (4.1.8)

- APNIC office migration to private IPv4 addresses and IPv6-only wifi network (4.2.1)

- Migration of APNIC 'Office' applications and document management to 'Office365' (4.2.2)

- Salesforce CRM is now in operational deployment (4.5.1)

- Eight international engagements by technical team members (4.6), 16 by APNIC Labs (5.1), 11 by Security staff (6.1.2.3)

- Extension of CERT activities in the Pacific under APNIC Foundation funding (6.1.1.3)

- Contributions to ASO Review, completed August 2017 (6.1.2.1)

- Technical assistance for PNG IXP (7.5)

2   Services Area

The APNIC Services Area is responsible for the delivery of key services including:

▪   Membership administration and support

▪   Internet resources delegation and registration

2.1   Services SLA and customer satisfaction

2.1.1   SLA for service requests

The APNIC Services Area aims for a maximum two-working day turnaround to respond to external requests such as new Member applications, Member resource requests, IPv4 transfers, membership, and helpdesk support. The following chart shows the percentage of compliance with this SLA in 2017.
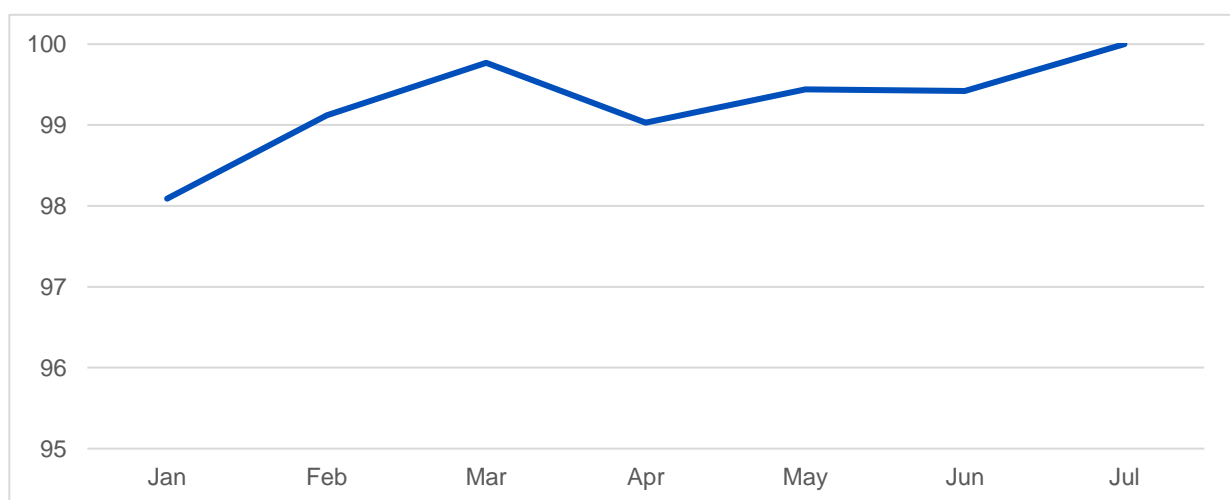
Figure 1 - Services requests SLA

2.1.2   Services satisfaction

An "Instant Feedback" invitation is sent out after every service interaction. The figure below shows feedback received for the following services:

▪   New Member application

▪   Helpdesk email support

▪   Membership administration

▪   Online chat

The relative areas of "patches" in the graph (and the number) represent the number of ratings of each type received.

Poor	Below average	Average	Above average	Excellent
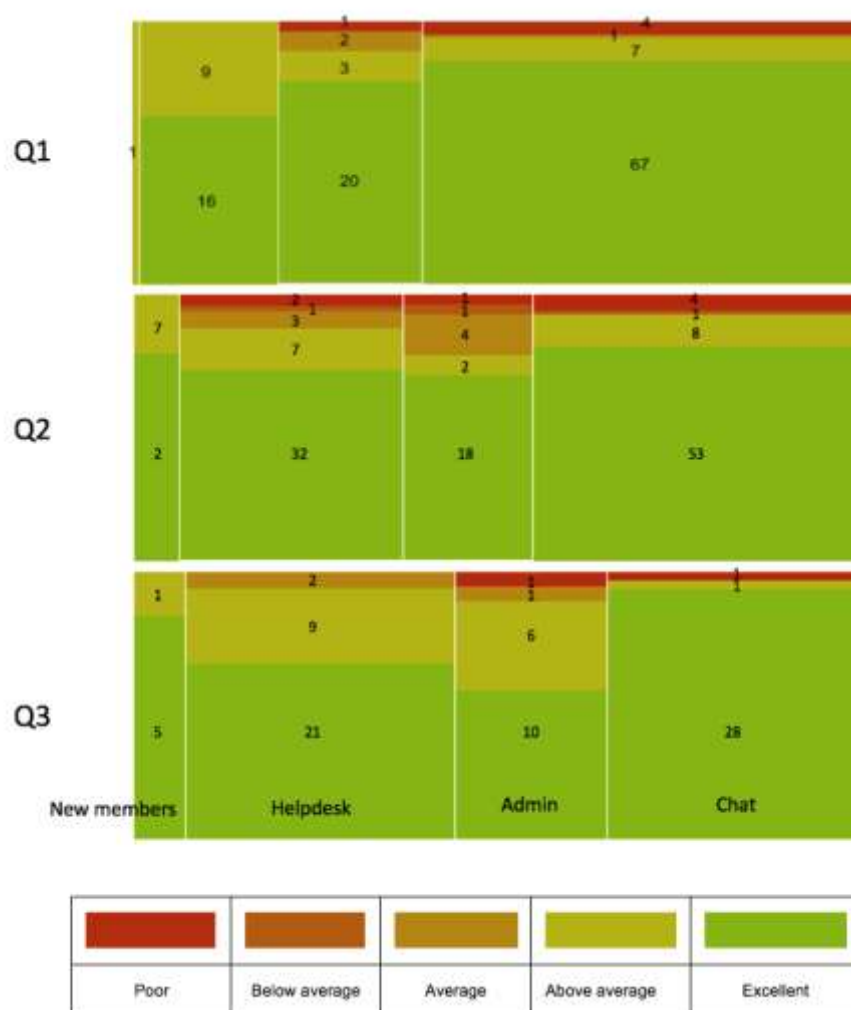
Figure 2 – Services satisfaction ratings

Services Area staff actively follow up on negative feedback received, to resolve outstanding issues and improve systems where possible.

2.2   Membership administration and support

2.2.1   Membership statistics

	Q1	Q2	Q3*
New Members	235	221	79
Closed Members	94	78	33

Reactivated Members	6	2	1
Total Members	6,145	6,288	6,335

Table 1 – Membership growth
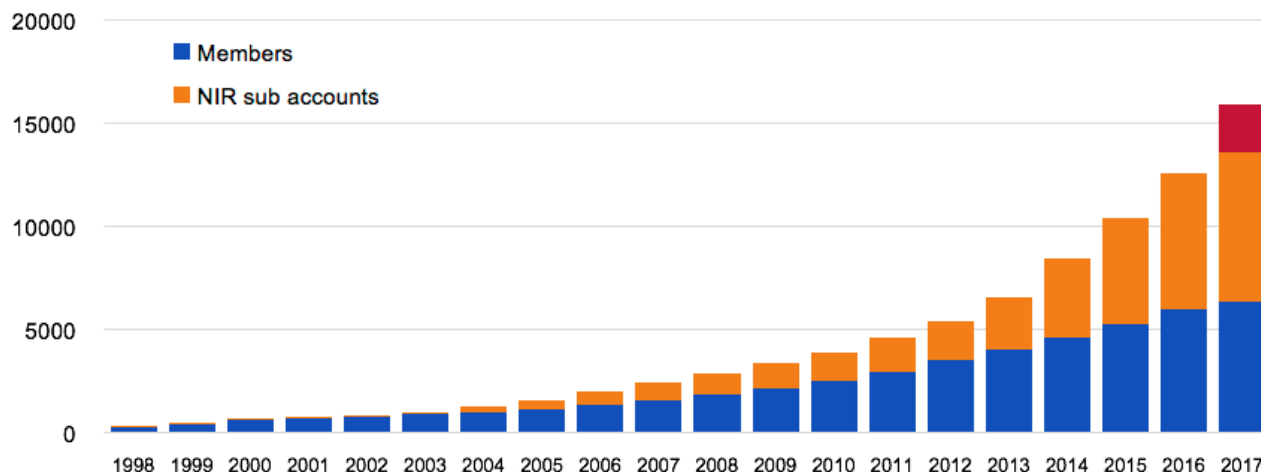
Figure 3 – Total membership

2.2.2 Membership industry type

Since implementing a set of standard "industry type" values, agreed with RIPE NCC, all APNIC members have now been classified accordingly. It is hoped to extend this to members of NIRs in future.
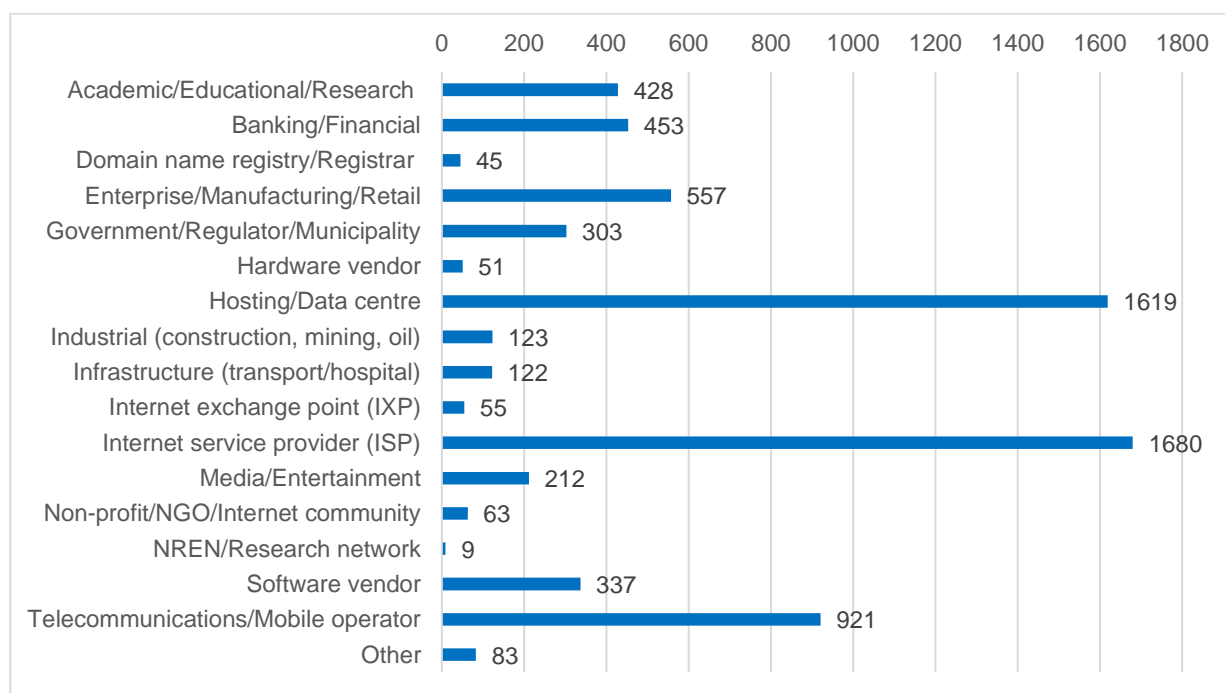
Figure 4 – Industry types

2.2.3   Fraud report

APNIC started sharing suspicious IPv4 transfer requests and fraud attempts starting from APNIC 42 and has been logging cases of fraud identified.

	Q1 2017	Q2 2017	Q3 2017
Identity theft	5	3	0
Fabricated documents	1	2	0
Fabricated needs	6	1	1
Total fraud attempts	**12**	**7**	**1**

Table 2 – Fraud attempts

2.3 Internet resource services

2.3.1 Available IPv4 addresses (103/8)

APNIC is delegating IPv4 addresses from its last /8 (103/8), and also from the 'recycled' pool. With justification, every Member is entitled to receive a maximum of a /22 from each of these pools.

Resource	Q1 2017	Q2 2017	Q3 2017
Delegations (/24)	2087	1925	696
Remaining	40.01%	37.41%	36.37%

Table 3 – Available IPv4 address space

At the current consumption rate of around 1% of a /8 per month, we would continue to allocate from the final /8 for the next 3 years.

2.3.2 IPv4, IPv6, and ASN delegation

The following table shows the number of delegations for each resource type.

Resource	Q1 2017	Q2 2017	Q3 2017
IPv4 (103 /8)	567	566	239
IPv4 (recycled space)	86	61	1
IPv6	328	376	146
AS numbers	336	353	142

Table 4 – Resource delegations
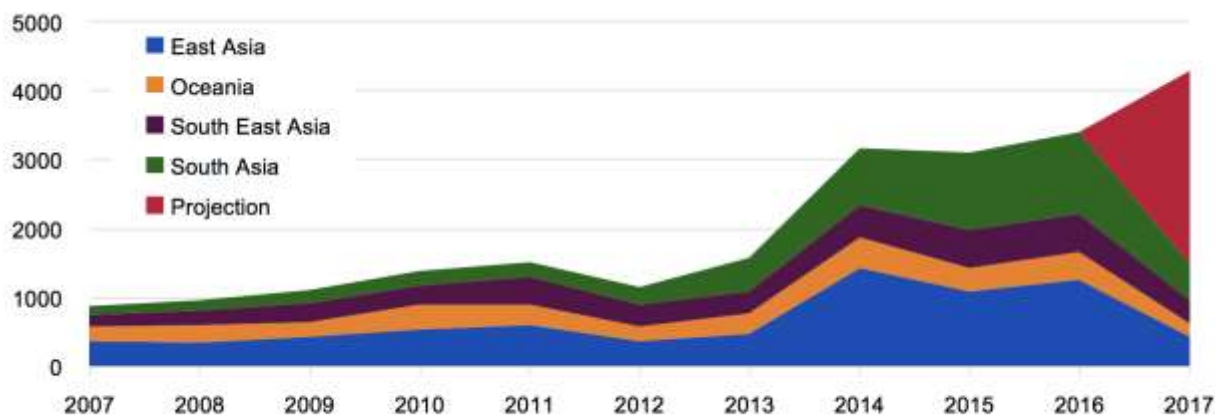
Figure 5 – IPv4 delegations
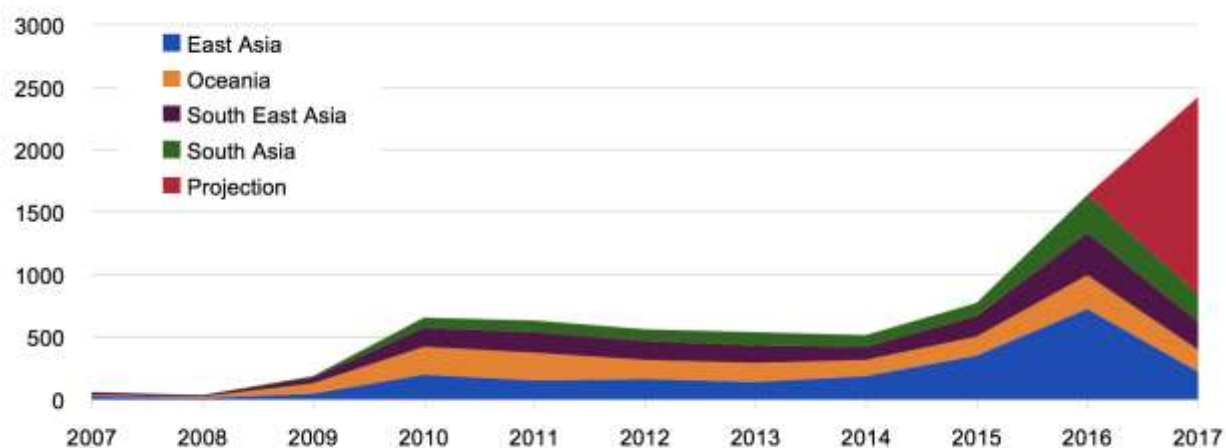
Figure 6 – IPv6 delegations
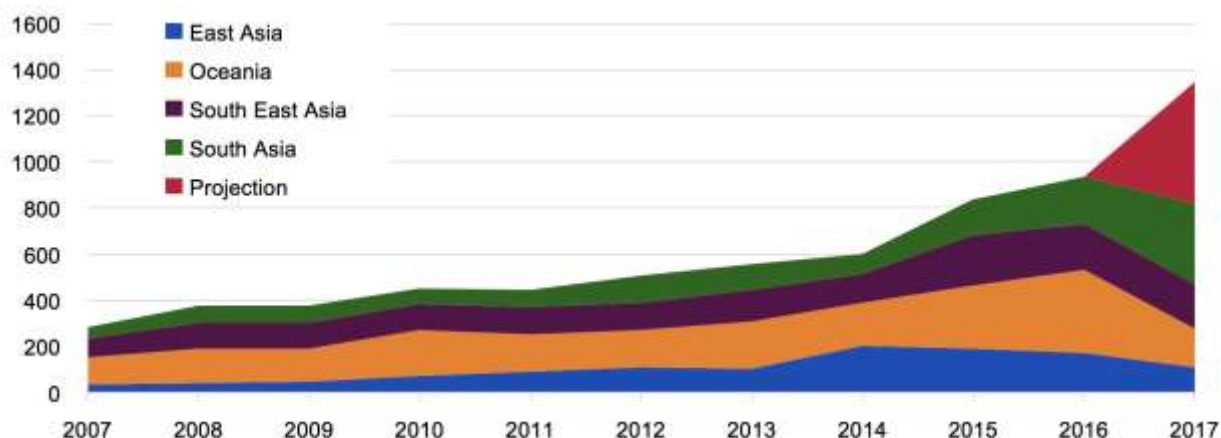
Figure 7 – ASN delegations

2.3.3 Member resource type holding

APNIC started tracking the proportion of Members holding specific resource types from Q3 2016. The percentage of APNIC Members holding IPv6 addresses has reached 54.96% to date.

Resource type	Q1 2017	Q2 2017	Q3 2017
IPv4 (103/8)	67.74%	68.90%	69.36%
IPv4 recycled space	25.87%	25.52%	25.24%
IPv6	51.98%	54.11%	54.96%

Table 5 – Member resource type holdings

2.3.4   Waiting list for IPv4 recycled addresses

Since 9 June 2016, requests for recycled IPv4 addresses have been put on the waiting list. Each week, terminated address space is returned to the recycled pool and requests on the waiting list are fulfilled accordingly.

As of 14 August 2017, there are 286 entries on the waiting list, for a total of 1,075 x /24 IPv4 blocks, an increase of 237 x /24 from February 2017.

2.3.5   IPv4 transfers and returns

Mergers/acquisitions and market transfers are two major IPv4 transfer activities. Permitted by APNIC policies, market transfers happen within the APNIC region, or to and from other RIR regions. Currently, ARIN and RIPE are the two regions that have the compatible IPv4 transfer policy.

Transfer type	Q1 2017		Q2 2017		Q3 2017	
	Requests	24s	Requests	/24s	Requests	/24s
Mergers/acquisitions	40	680	27	901	18	599
Market transfers	54	2,667	75	4,293	29	1,378
- **Intra-RIR**	*44*	*2,359*	*61*	*2,461*	*21*	*501*
- **Inter-RIR**	*10*	*308*	*14*	*1,832*	*8*	*877*

Table 6 – IPv4 transfers and returns

As of 14 August 2017, the total of IPv4 addresses transferred between APNIC and other RIRs are as below.

Inter-RIR transfer	Requests	/24s
ARIN to APNIC	156	36,133
RIPE to APNIC	9	1,472
APNIC to ARIN	17	420
APNIC to RIPE	9	474

Table 7 – Inter-RIR transfers

IPv4 transfers that involve the 'last /8' address blocks are tracked and may be reported in APNIC meetings. The following table shows the number of transfers.

	Q1 2017	Q2 2017	Q3 2017
Market transfers	18	14	11
Mergers/acquisitions	22	13	7

Table 8 – Transfers of 103/8 space

2.3.6   Resource certification (RPKI)

APNIC has a daily report tracking how many IPv4 and IPv6 addresses are signed using RPKI for APNIC's region. The following table shows the total percentage of IP addresses under ROAs out of the total IP addresses delegated by APNIC. Note the percentage for Q4 2016 was 0.91% (IPv4) and 0.29% (IPv6).

	Q1 2017	Q2 2017	Q3 2017
IPv4	1.04%	1.85%	1.85%
IPv6	0.33%	0.36%	0.36%

Table 9 – ROA coverage

2.3.7   Whois organization object implementation

The organization object is a newly created whois object type introduced as part of the recent whois software upgrade in June. This object contains contact information of the organizations that may hold Internet number resources. APNIC contacted all account holders in July to update their organization details. Within the last few weeks, over 36% of the accounts have updated their organization details. Organization objects were first inserted in the APNIC Whois Database on 9 August.
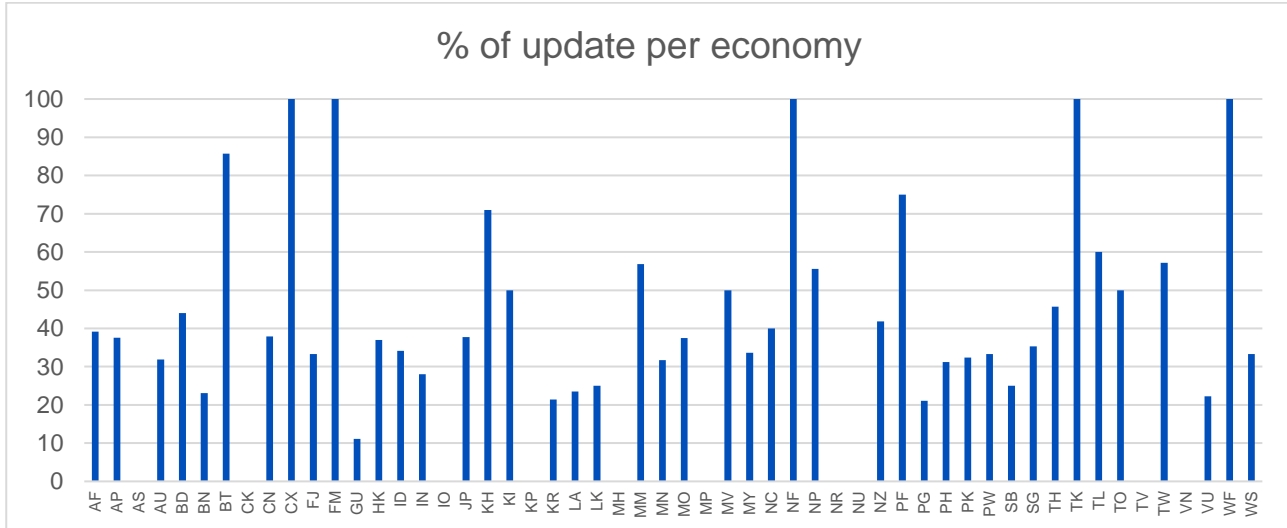
Figure 8 – Organization details update

3 Communications and Events

3.1 Communications

3.1.1 APNIC Blog

	Q1 2017	Q2 2017	Q3 2017
Views	73,451	130,114	33,753
Posts	83	105	46

Table 10 − APNIC Blog activity level
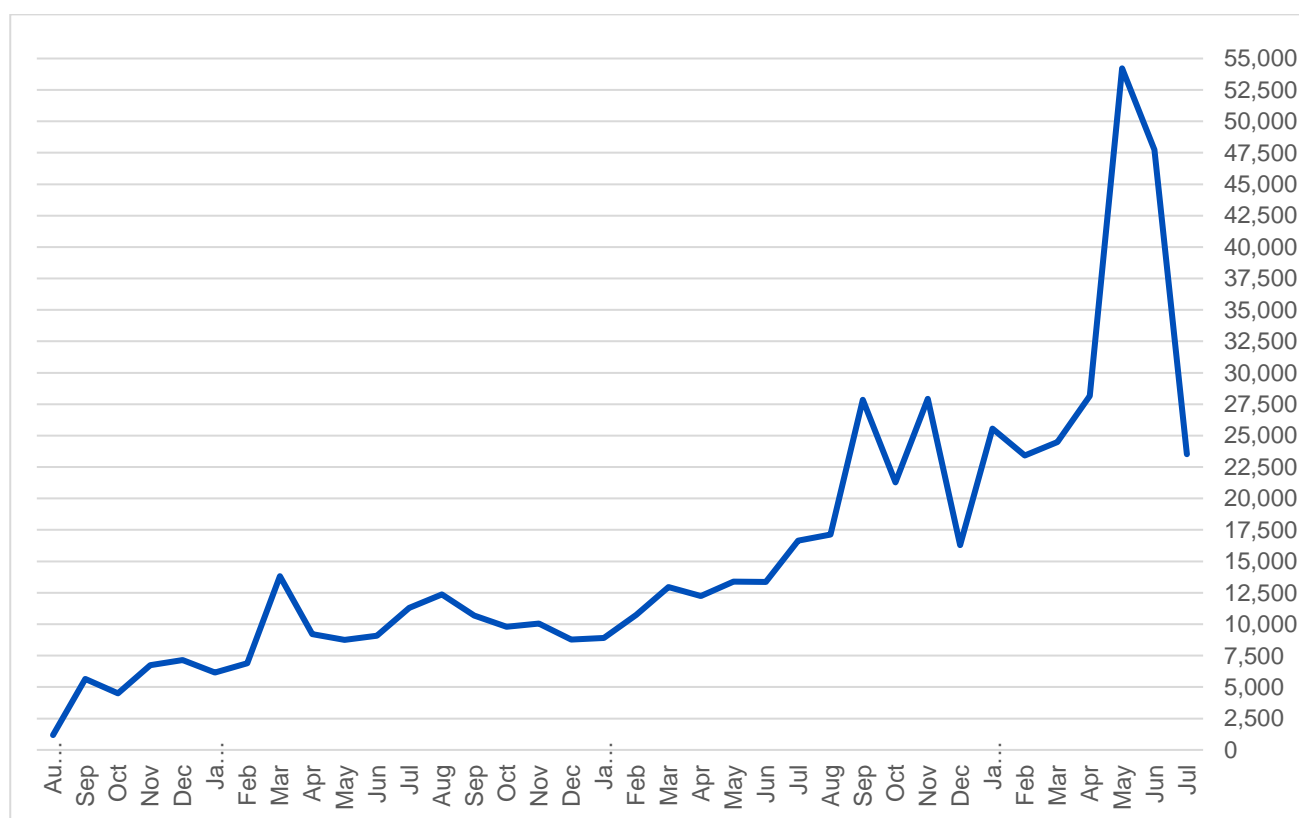
Figure 9 – Monthly APNIC Blog views

- APNIC Blog readership spiked in Q2 2017 with a record quarter of 130,114 views. This was driven by three technical posts in May and June, which were widely shared on social media and news aggregators. Average monthly views in Q2 were 43,371. In Q3 so far, the blog is returning to similar readership levels seen in Q1.

- At the end of June 2017, the blog had surpassed 2016's total annual views. Total views to date for 2017 (237,318) are 125% higher than the same period a year ago (2016: 105,361) and the 2017 monthly average of 32,440 is 49% higher than the final quarter of 2016 (21,831).

- There have been 87 Guest Posts so far in 2017. The blog is a forum for community articles and discussion, and the proportion of Guest Posts has steadily risen. In 2017, 37% of posts have been Guest Posts; this number was 23% in 2016.

- Significant content during the period included Geoff Huston's pieces on TCP control flow algorithms, George Michaelson's review of the last five years of IPv6, and a community guest post on network latency.

3.1.2   Social Media

	Q1 2017	Q2 2017	Q3 2017
Facebook			
- **Reach**	139,012	176,382	55,838
- **Likes**	26,247	26,421	26,527
Twitter			
- **Followers**	7,170	7,521	7,670
- **RT/Likes/Mentions**	2,244	1,859	966
YouTube			
- **Views**	12,839	5,910	2,565
- **Minutes**	93,600	29,244	14,440
Slideshare			
- **Views**	36,860	39,615	15,702
LinkedIn			
- **Reach**	45,559	67,700	28,305
- **Followers**	2,347	2,468	2,512

Table 11 – APNIC Social Media activity

3.1.3   IPv6 week activity

- The 5th anniversary of World IPv6 Launch on 6 June 2017 provided an opportunity to promote IPv6 and encourage Members without IPv6 addresses to request a delegation.

- A week of activities included seven blog posts (including Member IPv6 success stories from Cambodia and Malaysia), social media posts on Facebook and Twitter, coordination of an NRO video, and direct emails to all Members without IPv6 addresses.

- Sixty-nine APNIC Members requested IPv6 as a result of the campaign, lifting APNIC's IPv6 Member holding ratio by 1% during IPv6 week.

3.1.4   Member on boarding improvement project

- An analysis of the existing communications to new APNIC Members was completed in Q2. It identified improvements to improve the experience for new Members, better communicate the membership benefits, and encourage participation in APNIC community activities (such as policy development).

- Significant progress has been made on this project (due for completion in November 2017):
  - Improved our standard communication flow to new Members.
  - Developed new communications for the six-month period after resources are delegated.
  - Revamped welcome pages for new Members, updated FAQs, welcome video from Paul Wilson, and training promotion video.

3.1.5 DNSSEC KSK Rollover

- ICANN plans to rollover the DNSSEC Root Zone KSK (Key Signing Key) in October 2017. APNIC is supporting ICANN's efforts to raise awareness among operators performing DNSSEC validation.

- During Q2, a communication plan was launched. Activities to date include:
  - Identification of 'higher risk' network operators, according to APNIC Labs data.
  - Two KSK information emails sent to identified network operators and the wider membership.
  - Creation of resources web page.
  - Translation of ICANN materials (with the support of the NIRs).
  - Publishing of a Guest Post from ICANN's Matt Larson on the APNIC Blog.
  - Social media outreach including a Facebook Live video with ISC's Eddy Winstead.
  - Sharing plans and materials with ICANN and the NRO CCG, and sharing Labs research data with other RIRs for their use.

- A 45-minute information session is planned for 13 September at APNIC 44 with Geoff Huston and ICANN's Ed Lewis.

3.2 Events

3.2.1 APNIC 44

- APNIC 44 will be held in Taichung, Taiwan, from 7 to 14 September 2017, at the Splendor Hotel.

- Total registrations stood at 310 to date (this number excludes APNIC staff). Of the 50 fellowships offered, 48 fellows have confirmed their place.

- The conference program includes Cisco's Anand Oswal and APNIC's Geoff Huston confirmed as the keynote speakers. In addition, the technical program will feature 15 presentations and 4 BoFs.

- The opening social will be held at the National Taichung Theatre and the closing social will be held at the Landis Hotel.

- For more information, visit the APNIC 44 website.

3.2.2 APRICOT 2018

- APRICOT 2018 will be held in Kathmandu, Nepal, from 19 to 28 February 2018, at the Yak and Yeti Hotel.

- The event website was created in Q2.

3.2.3 Future conferences

- Chiang Mai, Thailand, was chosen as the location for APNIC 48 by the EC in June. APNIC has had initial discussions with the Thai ISP Association (TISPA) and the THNIC Foundation to become hosts for the conference (TBC). The location will be announced at APNIC 44.

- APRICOT 2019 will be held in Daejeon, Republic of Korea. The draft dates are 19 February 2019 to 1 March 2019. The location is due to be announced during APNIC 44.

3.2.4   APRICOT MoU

- Progress has been made on the development of the new APRICOT MoU between APNIC and APIA, with a final draft expected to be available to sign at APNIC 44.

4 Technical Area

4.1 Software

4.1.1 Core registry development

Work continues on separation of the core registry into front-end clients and an "event-sourcing" based back-end service.

- Existing code/systems have a number of additional integration points to be addressed before the event sourcing conversion can be completed.
- Historical resource maintenance and transfer, in particular, have proven complicated, due to how they were previously implemented.

4.1.2 MyAPNIC/ARMS development

The following features/improvements have been deployed or are currently being deployed:

- Legacy RPKI ROA interface deprecation was completed, simplifying the route management interface in MyAPNIC.
- Numerous bug fixes were implemented.

4.1.3 WHOIS development

The WHOIS master server is currently being upgraded to version 4.

- The master server and query nodes have been upgraded to version 4, and released to production.
- The Organization object type is currently being deployed (see Services Area report).
- Work on 'last-modified' attribute changes is ongoing, with dates TBA.

4.1.4 Single Sign-On

SSO will provide common authentication across all sites and services.

- Certificate enrolment, authentication, user administration, user registration, and theming are complete.
- The front-end code is complete and ready for verification.
- End-to-end user acceptance testing is to be completed by the end of August.
- A publicly-available 'beta' release is planned for the end of August. For MyAPNIC this will operate in parallel with the current system, with the existing authentication system available as a fall-back. The existing system will be deprecated after testing is complete.

4.1.5 Public APIs

This work provides an automated interface to MyAPNIC and other core services through public APIs.

- Following a draft specification that was presented at APNIC 43, no further Member and NIR feedback was received.
- A problem statement was also presented for discussion at IETF 99. The outcome was summarized in a recent blog post entitled, 'The CASM of API Needs'.
- APNIC continues to engage with its Members and the community to clarify requirements, ready to move forward when required.

4.1.6   Web interface to mailing lists

This work provides a more user-friendly web-based interface to APNIC's mailing lists, using the existing RIPE Forum software.

- A test instance of this system has been set up internally. Theming still needs to be done.

- Work on the mailing list search set up is ongoing. This code is very 'RIPE-specific' making it time consuming to adapt.

- This project is currently on hold until the '0/0 transition' project has been completed.

4.1.7   RDAP improvements

The current RDAP service does not perform as well as the port 43 whois service. The approach of the whowas service, involving the pre-generation of query responses, will be used for non-historical queries as well to address this problem.

- Updates to support non-historical queries for the existing object types are complete, but not yet deployed. Specific search operations such as 'find entity by name' remain to be implemented

- The separate redirection service is also complete, but needs to be deployed.

- Deployment date is at the end of Q3.

4.1.8   0/0 transition

This is a cross-RIR collaboration to address concerns around transient validation errors having serious effects on relying parties. It also simplifies the operation and management of the system.

- The current public RPKI testbed was converted from a single-TA model into a five-TA model, to match APNIC's production configuration.

- A high-level plan for the transition was developed, and the steps required to transition have been performed successfully against internal test systems. Further testing, as well as a transition of the public testbed and production, will occur during Q3.

4.1.9   Whowas interface

Further improvements to the demonstration whowas interface are in progress.

- User interface is being improved, and made more mobile-friendly.

4.2   Infrastructure Services

4.2.1   Network

- The transmission network is being upgraded using CWDM (Coarse Wavelength Division Multiplexing).
    - Links among the office and the two data centres have been upgraded successfully.
    - This provides two additional communication channels, increasing the bandwidth from 10Gbps to 30Gbps between the 2 sites. It will also provide R&D and the training team their own channels.
- Secondary VPN (Cisco AnyConnect VPN):
    - The secondary VPN has been deployed and is now in active use.
    - This provides travelling staff an additional option for VPN connection which is beneficial when travelling to countries where VPN protocols can be blocked or interfered with.
- Office migration to IPv6-only and RFC1918 address space:
    - The migration of LAN and Wi-Fi to private IPv4 space has been completed.
    - An IPv6-only Wi-Fi network was deployed on IPv6 day.

– The 203.119.42.0/24 and 203.119.99.0/24 blocks were freed from the office LAN and guest Wi-Fi respectively.

– Planning is underway to free additional blocks from within the current infrastructure such as VPN, office servers, and routing interfaces; to be completed in early 2018.

▪ Network monitoring improvements:

– Based on the requirements specification, various systems were evaluated. LibreNMS was selected based on its functional requirements. LibreNMS is also open source.

– Configuration and the addition of network devices were completed.

– Alerts, reports, documentation, and integration with other systems are currently being configured, to be completed by the end of Q3.

▪ Network switching and routing re-architecture:

– Data centre rack rearrangements to accommodate new core switches, upgraded routers, and cable management have been completed.

– Version upgrades to all access switches and routers have been completed.

– Spanning tree configuration reviewed and updated to current best practices.

4.2.2   Server infrastructure and services

▪ Email improvements:

– Successfully completed the Office365 migration, providing improved email client, web client and server functionality, reduced maintenance, and email archiving.

– Working on improving email flow through legacy system as identified during the Office365 migration

▪ Whois updates:

– The whois query nodes in Australia, Japan, USA, and the UK were upgraded to the latest application code running on CentOS7.

– The whois master was also upgraded, with work remaining to upgrade the whois NRTM server.

▪ Archiving improvements:

– Work is underway on increasing service reliability and scheduling.

– Work to set up a copy of archived data to a secure off-site location is in progress.

▪ Remote sites:

– The HK site was decommissioned.

– Anycast DNS service using the Vultr cloud hosting service has been tested and deployed for servicing ccTLDs and other non-APNIC zones.

– Work continues on configuring a similar service for APNIC reverse and forward zones, to be completed by the end Q3.

▪ Automation and deployments:

– Automating the configuration and initial setup of the Kubernetes cluster is in progress, to be completed by end Q3.

– Assisted the software team with configuring test and production environments for the SSO and RIPE Forum mailing list projects.

▪ Staff network backup appliance

- Currently implementing appliance to provide all staff easy backup capability of their laptops. Scheduled to complete by the end of Q3.
- Other:
  - Completed 350 NOC tickets.
  - Monitoring – numerous bug fixes and improvements to monitoring checks.
  - DMS – Ongoing effort supporting SharePoint implementation. Moved Alfresco documents to a new file-share location.

4.3 Web operations

4.3.1 Internet directory

Work as part of the next release includes:

- Back-end upgrade has been completed.
- Front-end improvement is in progress, due for completion at end of Q4.

4.3.2 Website and blog

The APNIC website is now fully hosted in-house.

- Both the APNIC and blog websites follow formal integration and deployment processes improving overall stability, security, and feature deployment times.
- The Web Style Guide is being improved, for release by the end of 2017.

4.3.3 Conferences

Implemented a new Content Management System (CMS) for all future conference websites starting with the APNIC 44 website, allowing editors to easily edit content and to more easily do future archiving of the websites.

Developed a Conference Manager application, allowing editors to manage the conference schedule without the assistance of the Webops team.

4.3.4 Improving online experience

APNIC is integrating its APNIC's online services to create a single point of access and improved experience for users of APNIC's services. The multiyear project, which encompasses various projects across departments is in the planning phase, with work focused on defining the current user experience.

- The first part of this project is to deliver SSO. For more information on the SSO project, please see 4.1.4.
- Completed the user requirements and created a Products and Service breakdown matrix, to be used for analysis of how users interact with our products and services, informing the types of journeys to build.
- Using this data, planning what solution will be delivered and building wireframes to be tested by end users is underway.

4.3.5 Other

- Fellowship system – Ongoing improvements to allow for more flexibility by event organizers.
- APNIC Foundation – Redesigned the website in WordPress, with new CMS and theme.
- APNIC Academy system – Developing a statistics dashboard for the training team by end of August.

4.4 Information analysis and visualization

4.4.1 'Whowas'

Whowas allows the retrieval of historical whois records.

- A draft RDAP specification supporting object collections (required by Whowas) was presented at IETF 99 for comments.
- The user interface is being further developed by the Software team. See 4.1.9.

4.4.2 Other

- Groundwork for an APNIC Elastic Search backed information repository has been laid, with initial data for BGP and delegation statistics from historical data dumps.
- RPKI information, combined with delegation data, is also now being collated for inclusion.
- A collaboration with Dean Pemberton (NZ) has included Mirai botnet data.
- The VizAS tool has been updated to include more information, and moved to an adopted service.

4.5 Information, Systems, Service and Security

4.5.1 CRM

- The initial roll-out and trial was completed at the end of Q1. Based on the results of this initial trial (which did not completely achieve the original project goals), a post mortem identified areas of improvement.
- Completed a re-evaluation of Salesforce as the CRM of choice. The team compared Salesforce with Microsoft Dynamics and SugarCRM, and confirmed that Salesforce, based on various criteria, was the correct option. The Salesforce licenses were upgraded to provide sufficient functionality.
- To increase the development team's knowledge in this area, a Salesforce Architect has been contracted to lead the team. An additional team member will be trained as systems administrator. Various integration partners have been identified, and will be engaged with if required.
- The development process has been completely changed towards a more Agile approach, with a formal development, test, and release method adopted.

4.5.2 Public services operational metrics

Public service	2016 Average annual query rates (queries/second)	2017 Average YTD query rates (queries/second)
Whois	463	478[1]
RDAP	2	4
rDNS	21000	17300[2]
RPKI	18	21
FTP	29	2.39[3]
MyAPNIC	1.5	0.165[4]

Table 12 – Public services operations metrics

1. The UK whois nodes experienced large increases in queries during May 2017.

2. ns4 was decommissioned at the end of May; ns1 and ns3 now have a lower percentage of total rDNS queries (now 2 of 6 as opposed to 3 of 7 servers), hence the drop.

3. The number in 2016 (29 qps) is skewed high due to an increase in traffic experienced in December 2016.

4. Previous reported numbers encompassed all requests including system health checks, which are the majority of the queries. The current number excludes system health checks and is more representative of external requests.

4.5.3 Information Security Management System (ISMS)

▪ Initial procedures and policies have been completed and signed off.

▪ First internal audit has commenced, scheduled for completion at the end of Q3.

▪ The internal audit simulates a certification (real) audit and is aimed at identifying procedural gaps and provides awareness and preparedness for certification.

4.5.4 Network security project

▪ As part of ongoing network security improvements, the requirement for a stateful Firewall, which provides an Intrusion Prevention System, was identified.

▪ Completed vendor evaluation, presented business case which was approved.

▪ For equipment deployment, additional network architectural adjustments around core switches need to be made. Training, planning and setup, and implementation to follow.

4.5.5 Security incident report summary

No security incidents occurred during this reporting period.

4.6 Technical outreach

This new activity for APNIC was introduced in March this year.

Four staff members from the Tech team participated, delivering a tutorial, three remote talks, and four Tech talks during Q2 and the first month of Q3.

Date	Event	Location	Engagement type	Topic
31 May	IRM + DNSSEC Workshop	Phnom Penh, KH	Remote talk	DNSSEC Key Rollover 31 May, Agenda
5 Jun	BTNOG4	BT	Remote talk	DNSSEC Key Rollover
12-13 Jun	CNNIC OPM	CN	Tech talk	IPv6 Overview

15 Jun	Network Security Workshop and Member Gathering	Ulaanbaatar, MN	Remote talk	DNSSEC Key Rollover
15-18 Jun	NPNOG 2	Kathmandu, NP	Tech talk, Workshop	APNIC IPv6 Deployment Workshop on IPv4/IPv6 Routing
21-22 Jun	TWNIC OPM/NOG	TW	Tutorial	Security + RPKI Tutorial
3-7 Jul	PacNOG 20	Suva, FJ	Tech talk, Workshop	IPv6 Deployment at APNIC Routing Workshop
24-28 Jul	IDNOG 4	Jakarta, ID	Tech talk, Workshop	IPv6 Deployment at APNIC Workshop on Advanced Routing Member Gathering IPv6 Workshop

Table 13 – Technical outreach

5   APNIC Labs

5.1   Presentations

To date, Geoff Huston and Joao Damas have delivered 16 presentations at various events:

- Why Dane? (PTC'17, NZNOG 2017 and NANOG 60)

- The State of IPv6 (PTC'17)

- Forensic Tracing in the Internet: an update (Europol workshop)

- An Introduction to the IoT (HKNOG 4.0)

- BGP in 2016 (APRICOT 2017 and IETF 98)

- ECDSA (APRICOT 2017)

- Network Forensics in 2017 (APRICOT 2017)

- The Death of Transit (APRICOT 2017)

- Explaining the Root Service (ICANN 58)

- IP Address report (APRICOT 2017)

- The State of IP Addresses (ARIN 39)

- An introduction to Internet of Stupid Things (RIPE 74)

- Scoring the root server system (OARC 26)

- Who's asking? (OARC 26)

- The Death of Transit and Beyond (ENOG 13)

- Implementing and Deploying IPv6 and DNSSEC in the Network from End User's Point of View (by Joao Damas, LACNIC 27)

5.2   Articles

Geoff has authored the following 19 articles during this period:

- Scoring the DNS Root Server System, Pt 2 – A Sixth Star?

- Leaving it to the Last Second

- Let's Encrypt with DANE

- Postscript to the Leap Second

- BGP in 2016

- Addressing 2016

- NANOG 69 Report

- The Root of the DNS

- The Gilded Internet

- IETF 98 Report

- ARIN 39 Report

- UP! (a review of satellite access technologies)

- BBR, the new kid on the TCP block

- RIPE 74 report

- OARC 26 report

- More Specifics in BGP

- IETF 99 Report (three separate articles)

5.3   Research

Current research activities include:

- KSK rollover, packet size and the impact on users

- IPv6 and large MTU settings (commissioned by Comcast)

- Measuring the extent of latent QUIC capability

- Defining a new set of Ad-based measurements on the failover time from IPv6 to IPv4

- DNS related research with ICANN (contract extended to 2018)

- Investigation into the dynamic behaviour of BBR (Google' s new TCP flow control algorithm) and comparing its end-to-end speeds across the Internet compared to conventional TCP flow control algorithms

- Ongoing activity with the ICANN SSAC and SSR2 Committees

- Some parts of the research were supported by Joao Damas

6   Strategic Engagement

6.1   External Relations

6.1.1   Select ER highlights

▪ All APNIC external engagements are reported in the APNIC blog and sometimes followed by extended blog posts about these events. The '[event wraps'](#), as the reports are called, are available on the APNIC Blog.

▪ A visualization of 2017 ER activities and planning can be found in 6.1.3 below.

Below are some highlights from April to August 2017

6.1.1.1   NOG engagements

Since April 2017, APNIC staff participated in eight NOG events in the region, half of them held in South Asia. In view of APRICOT being hosted in Nepal next year, there were outreach activities to promote active participation from South Asian NOG community members in next year's conference.

▪ [bdNOG 6](#) in Bangladesh

▪ ENOG in Russia

▪ [BhutanNOG 4](#) in Bhutan

▪ [npNOG 2](#) in Nepal

▪ [TWNOG 2017](#) in Taiwan

▪ [PacNOG 20](#) in Fiji

▪ [SANOG 30](#) in India

▪ [IDNOG 4](#) in Indonesia

▪ JANOG 40 in Japan (event wrap forthcoming)

APNIC provided sponsorship support for bdNOG, BhutanNOG, NPNOG, SANOG, and IDNOG.

6.1.1.2   IPv6

▪ In May, APNIC continued its partnership with the ITU Asia-Pacific Centre of Excellence (ITU ASP CoE), to deliver for the fifth consecutive year, an [Internet and IPv6 Infrastructure Security](#) workshop for 34 participants from 13 economies at the TOT Academy in Nonthaburi, Thailand. As in the last years, this training was organized jointly by APNIC, ITU and the Ministry of Digital Economy and Society (Thailand) and most of the participants, government and private sector, were also APNIC Members.

▪ APNIC also worked with the Regional ITU Office for Asia-Pacific on a Direct Country Assistance on IPv6 for Bhutan, which included training and work to develop an IPv6 Roadmap for the country. Work on the IPv6 Roadmap continues and the Ministry of Information and Communications from Bhutan has since then deployed IPv6 in their networks. Separately at this opportunity, APNIC staff took the opportunity to assist in preparatory work to establish an IXP in the country.

▪ APNIC was invited to conduct an IPv6 training and technical assistance with PLDT, the largest ISP in the Philippines. PLDT's commitment and investment in this effort could have a sizeable impact on the Philippines' IPv6 readiness levels.

▪ APNIC staff continued wide-ranging efforts to promote IPv6 across the region, which included IPv6 presentations at the China Internet Conference in Beijing, an ITU-GSMA conference in Bangkok called Asia's Digital Societies Policy Forum in Bangkok, and the Acceleration of IPv6 Implementation in Indonesia meeting.

6.1.1.3 Pacific CERT project

- As a part of APNIC's initiative to build capacity in the Pacific for incident response, APNIC welcomed delegations from Vanuatu and Fiji to Brisbane to discuss their national CERT plans and explore APNIC's support to these efforts.

- As part of this initiative, APNIC staff continued progress through engagements: during the APT-PRFP and ICANN GAC meetings in Fiji; through an organized session in the Solomon Islands; during the launch of PNG-IXP in Papua New Guinea; as well as extensive outreach in Samoa during the CTO Broadband Pacific Forum.

- APNIC brought together members of CERT.to (Tonga), BTCIRT (Bhutan), TWCERT (Taiwan), for a visit to Thai CERT during APrIGF 2017. During this event, a desktop incident response exercise was performed and a panel was conducted about "Supporting National Computer Emergency Response Teams for Improving Cyber Security'.

6.1.2 Other select developments

6.1.2.1 ASO review

- Since February 2017, ITEMS International, an independent consultant selected by the NRO EC, has been conducting a review of the effectiveness of the Addressing Supporting Organization (ASO) within ICANN. The final report was concluded by ITEMS in August and published on the NRO EC website. ICANN issued a call for public comments for a period ending in September. Each RIR will conduct regional consultations to consider the report's recommendations. A 90-minute session to discuss the ASO Review has been scheduled during the APNIC 44 Conference.

6.1.2.2 Internet governance

- Following the completion of the IANA oversight transition last year, there has been increased demand for Internet governance capacity-building initiatives in the Asia Pacific region. APNIC has partnered with the ISOC AP Regional Bureau, ICANN APAC hub and DotAsia, to create a coordinated framework for assessing funding and support requests for these emerging regional and local schools and academies. This is how the Asia Pacific Alliance for Schools and Academies of Internet Governance (APASA) was launched at the start of 2017.

- APNIC participated in two regional initiatives held in August, APSIG in Bangkok and APIGA in Seoul. APNIC also supported local initiatives with some sponsorship through APASA, and participated remotely in AfSIG (Afghanistan) and PKSIG (Pakistan).

- Paul Wilson finished his term as Chair of the Multistakeholder Steering Group for the APrIGF, at its meeting held in Bangkok in August. This meeting was joined by the Youth IGF, APNIC sponsored fellows and many members from the Asia Pacific Internet community.

- In both, APrIGF and APIGA, APNIC introduced IP addressing and network fundamentals, through a dynamic learning experience, based on an in-house designed card game called IPGO.

- APNIC also participated at the Pacific IGF in Vanuatu and NPIGF in Nepal. It participated remotely in the IGFA (Afghanistan).

6.1.2.3 Security outreach

- Since April, APNIC has participated in 11 regional security events and conducted 9 security-related trainings.

- This included participation at the FS-ISAC APAC Summit, INTERPOL Global Cybercrime Expert Group, and outreach to the ASEAN community through the CSCAP Workshop on Cybersecurity at the ARF Inter-sessional and Third Country Training Program on Cybersecurity for ASEAN Countries.

- Along with the ongoing Pacific CERT project, APNIC continues to engage with the incident response community, including the signing of a MoU with FIRST in July, participation in the KISA APISC training in Seoul, and the CNCERT Conference.
- APNIC's Senior Security Specialist, Adli Wahid, was also re-elected to the FIRST board in July.

6.1.3   APNIC external engagements

Completed & Planned External Engagements 2016-2017		
Subregion	2016	2017
S Asia	35	24 (33)
SE Asia	58	48 (62)
E Asia	23	17 (32)
Oceania	39	22 (33)
Global	34	22 (33)
Total	189	133 (193)

Completed & Planned External Engagements 2016-2017		
Category	2016	2017
APNIC	5	1 (2)
Coordination	19	10 (17)
Development	17	3 (5)
Foundation	n/a	7 (9)
Government	13	11 (12)
Internet Governance	10	5 (11)
Member Outreach	9	11 (13)
Membership Development	8	2 (5)
NOG	16	15 (23)
Security	27	15 (37)
Technical	8	8 (13)
Training	57	45 (56)
Total	189	133 (193)

7   Development

7.1   Policy SIG

7.1.1   APNIC 43

7.1.1.1   Elections

The Chair and Co-Chair election had the following results.

▪   Chair: Sumon Ahmed Sabir

▪   Co-Chairs (one-year term): Ching-Heng Ku and Bertrand Cherrier

7.1.1.2   Proposals

The APNIC Policy SIG considered three policy proposals and staged a Joint SIG meeting to consider a proposal to change the SIG Guidelines.

One proposal reached consensus and has been implemented (see 7.1.2):

▪   prop-117 - Returned IPv4 address management and Final /8 exhaustion

    –   Recovered 103/8 space will be placed in the 103/8 (Final /8) pool

    –   Recovered non-103/8 space will be placed in the IPv4 Recovered pool

The following policy proposals did not reach consensus and were returned to the mailing list for further discussion:

▪   prop-116 - Prohibit to transfer IPv4 addresses in the final /8 block

▪   prop-118 - No need policy in APNIC region

7.1.1.3   Confer

The Chair decided to stop using the Confer system following a complaint by a SIG participant, which led Secretariat staff to discover a large number of unlikely accounts.

The Secretariat asked the Policy SIG Chairs if they would like to continue using the tool and has recommended some changes to make the account creation more secure and improve the Administrator interface to enable Chairs to take control of the tool.

7.1.2   Policy implementation

On Friday, 4 August 2017, APNIC announced the implementation of prop-117 - Returned IPv4 address management and Final /8 exhaustion. As a result, two conflicting policy provisions were resolved by the community.

7.1.3   APNIC 44

7.1.3.1   Proposals

At APNIC 44 the Policy SIG will consider six policy proposals.

▪   prop-116-v004: Prohibit to transfer IPv4 addresses in the final /8 block

▪   prop-118-v001: No need policy in APNIC region

▪   prop-119-v001: Temporary transfers

▪   prop-120-v001: Final /8 pool exhaustion plan

▪   prop-121-v001: Updating 'Initial IPv6 allocation' policy

- prop-122-v001: Updating 'Subsequent IPv6 allocation' policy

Other agenda items are TBC.

7.1.3.2 Confer

Confer will be authenticated in the new APNIC SSO system. However, this does not make it much harder for an individual to create multiple user accounts. To avoid the Secretariat getting involved in assessment of account validity, the Policy SIG Chairs will be trained and asked to administer the tool themselves.

Although the Chairs expressed a willingness to continue using the tool, there was decision from the Chair or the community about future development of the system.

7.2 NIR SIG

7.2.1 APNIC 43

The APNIC 43 NIR SIG had presentations from the following NIRs: CNNIC, IRINN, KRNIC, TWNIC, JPNIC, IDNIC, and VNNIC.

7.2.2 APNIC 44

A call for presentations was issued to the list on Friday, 4 August 2017. However, the agenda for the APNIC 44 NIR SIG is not finalized at the time of writing.

Nominations for the Co-Chair(s) position will close at 23:59 (UTC +10) on Sunday, 10 September 2017. At the time of writing, only Zhen Yu has nominated.

7.3 Cooperation SIG

7.3.1 APNIC 43

The APNIC 43 Cooperation SIG meeting elected the Chair and Co-Chair to serve another term.

The Co-Chair agreed to a one-year term to provide for staggered elections.

The popularity of this SIG continued with six informational presentations and a good room turnout. Mailing list subscriptions continue to be low.

7.3.2 APNIC 44

A Call for Presentations was sent to the mailing list on Tuesday, 18 July 2017. This meeting's theme will be 'Trans-Border Cooperation on Cybersecurity'.

The Chairs received a number of proposals. Speakers will hopefully be limited in number to ease time constraints.

7.4 Training

7.4.1 Key metrics

Q1 2017	Face-to-Face	eLearning
Courses	15	33
Locations	10 cities in 10 economies	Online
Participants	402	264

YouTube	29,361 views + 398 subscribers

Table 14 – Training in 2017 (Q1)

Q2 2017	Face-to-Face	eLearning
Courses	14	43
Locations	13 cities in 12 economies	Online
Participants	463	158
YouTube	21,504 views + 261 subscribers	

Table 15 – Training in 2017 (Q2)

Q3 2017	Face-to-Face	eLearning	Academy
Courses	13	13	2
Locations	6 cities in 5 economies	Online	Registration total: 1,483
Participants	510	51	Enrolled Security: 1203 IRM: 110
YouTube	7,580 views + 118 subscribers		Certified Security: 241 IRM: 10

Table 16 – Training in 2017 (Q3 to date)

7.4.2   Highlights

7.4.2.1   Resource plan Q1

- The APNIC Academy was successfully launched with the 'Introduction to Cybersecurity' course. There was a very good response from the community, in particular, noting the quality of the output.

- The online Training Resource Plan wiki page was launched in 2017, providing training materials, and detailed session plans for individual training events.

- A new web class, 'Introduction to SDN' was launched.

- Tashi Phuntsho, Senior Training Officer, joined the team.

7.4.2.2   Resource plan Q2

▪ A new Community Trainer from the Philippines was recruited, bringing the total to10 Community Trainers.

▪ A new tutorial on 'Multihoming benefit with portable addresses' was developed. This tutorial can be useful during regular Member development events.

▪ An eLearning class on MPLS L3 VPN started.

▪ Five-day workshop materials for SDN was prepared.

▪ Anosh Khan, eLearning developer, has joined the team to develop online materials.

7.4.2.3   Resource plan Q3

▪ The APNIC Academy second course on IRM was successfully launched.

▪ The SDN Train-the-Trainer course is ongoing. The course is ready to be launched during APNIC 44.

▪ A new Community Trainer from the Fiji was included. There are currently 11 Community Trainers.

▪ The Lab upgrade with a Juniper router has been completed.

7.4.2.4   Event plan Q1

▪ Visited and delivered a three-day technical training course in Maldives for the first time.

7.4.2.5   Event plan Q2

▪ Visited and delivered a three-day technical training course in Macau for the first time.

▪ The Training and Member Service teams have started sharing resources to host Member development events during training events.

▪ The annual ITU Internet and IPv6 Infrastructure Security workshop was held in Bangkok and was attended by 34 participants from 13 economies.

7.4.2.6   Event plan Q3

▪ Arranged a high-level security seminar at the Solomon Islands during a training event.

7.5   Technical Assistance (TA)

7.5.1   TA summary

Q1 2017	Dedicated TA session	TA demo at conference	Email and Skype TA
Number of activities	1	1	2
Locations	Port Moresby, PNG	HCMC, Viet Nam	Port Moresby, PNG
Topics	PNG IXP set up	Routing registry; RPKI	Added two new Members to PNG IXP

Table 17 – TA in 2017 (Q1)

Q2 2017	Dedicated TA session	TA demo at conference	Email and Skype TA
Number of activities	1	0	3
Locations	Manila, Philippines	n/a	Port Moresby, PNG
Topics	IPv6 deployment planning session for PLTD	n/a	Added two new Members to PNG IXP

Table 18 – TA in 2017 (Q2)

Q3 2017	Dedicated TA session	TA demo at conference	Email and Skype TA
Number of activities	1	1	0
Locations	Kolkata, India	Myanmar	n/a
Topics	IXP Setup Optimization and IPv6 Deployment	Stakeholder discussion to support IXP setup	n/a

Table 19 – TA in 2017 (Q3 to date)

7.5.2   Highlights

- The TA team helped to set up the test case IXP for PNG.

- Assisted PNG IXP to set up their traffic graph (MRTG).

- Worked with all five IXP members to configure their peering router to connect to the IXP.

- Helped on the PNG IXP network design to prepare for Google and Akamai CDNs.

- The team conducted a three-day IPv6 deployment training and one-day IPv6 deployment TA session for PLDT, a large transit provider in the Philippines.

- The team conducted a three-day IPv6 deployment training and one-day IPv6 deployment TA session for PLDT, a large transit provider in the Philippines.

- The team visited relevant stakeholders and the local community in Myanmar to discuss an acceptable IXP model.

7.5.3   TA resource plan Q1 - Q3 2017

- Built a complete set of internal resources for the IXP set up and IPv6 deployment TA. These resources can be reused for similar TA sessions in other locations, with necessary customization provided for individual Members.

7.6   Security outreach

- In February, APNIC hosted the two Tonga National CERT team members for a two-day in-house training and one-day working visit to the CERT Australia office in Brisbane.

- At APRICOT 2017, APNIC worked with FIRST, APCERT and VNCERT to organize a one-day FIRST Technical Colloquium (FIRST-TC). A meeting with the APCERT Steering Committee was also held to discuss plans for 2017 and 2018.

- APNIC participated remotely on the cybersecurity panel at the Afghanistan Internet Governance Forum in March 2017. APNIC also delivered a session remotely on 'Introduction to Cybersecurity' at the Afghanistan School of Internet Governance (AFSIG 2017) in April 2017.

- At the end of March, the APNIC Academy's 'Introduction to Cybersecurity' course was launched. Various partners were contacted to promote the new course. A Facebook live session was also organized by the Communications team.

- APNIC presented at the Financial Information Security Analysis Center (FS-ISAC) APAC Summit in Singapore in (3-4 April 2017).

- A workshop was held in April on 'Introduction to Cybersecurity & Honeypots' at the University Malaysia Sabah (AS132874). In addition, a security talk for university staff and students was delivered at the International Islamic University Malaysia (AS45344).

- The APNIC Foundation applied to the Australian Department of Foreign Affairs and Trade's (DFAT) Cybersecurity Capacity Building fund to help support and expand APNIC's incident response capacity-building efforts in the Pacific. This project provides an opportunity for APNIC to support a community-led approach to CERTs in the Pacific. See 7.8.1 for more information.

- In May, APNIC participated and presented at the CNCERT Annual Conference and FIRST-TC in Qingdao, China.

- In July APNIC participated in the INTERPOL Cybercrime Expert Group meeting in Singapore.

- At the APrIGF in Bangkok, APNIC collaborated with National CSIRT representatives (ThaiCERT, Tonga CERT, Bhutan CIRT, Taiwan CERT) to do a panel session on the role of National CSIRTs in improving cybersecurity.

- In August, Adli Wahid was invited again as one of the instructors for the KrCERT/CC APISC training program. The program was attended by representatives from 20 economies.

7.7   Community development

7.7.1   NOGs

- APNIC provided its fellowship management system to SANOG, APRICOT, APrIGF, and APIGA. Following feedback received from these organizations, work is underway on making the system more dynamic to cater to individual requirements rather than being constrained to the APNIC way of running the fellowships.

- APNIC is also planning to or has sponsored the following NOG events:

    - npNOG 2016

    - HKNOG 4.0 & 5.0

    - SANOG 29 & 30

    - NZNOG 2017

    - bdNOG 6

    - IDNOG 2017

    - SGNOG 2017

- MMNOG 2017

- phNOG 2017

- BTNOG 4

- MYNOG 2017

- VNNOG 2017

- INNOG 2017

- PacNOG 21

7.7.2   Security-focused event sponsorships

APNIC has sponsored or supported:

- APNIC-APCERT meeting, Vietnam

- Global Honeypot Conference 2017, Australia

- RISE / Underground Economy Conference, Cambodia

- Networking, Systems and Security Conference (NSysS 2017), Bangladesh

- Sri Lanka Cert CC 2017, Sri Lanka

7.7.3   Organizational sponsorship and support

APNIC has sponsored or supported:

- AINTEC 2017

- APRALO

- APrIGF 2017

- APSIG 2017

- BKNIX Peering Forum

- MyIX Peering Forum 2017

- NetHui 2017

- NPIGF 2017

- PacIGF 2017

- Peering Asia 1.0

APNIC also provides annual membership contributions to APT, PTC, ISOC and PeeringDB.

7.7.4   Fellowships

Through an open process, APNIC selected 50 fellows for APNIC 44 from the working professionals, youth, and the new 'Returning' fellowship categories.

The fellows include 24 females and 26 males from 18 economies in the Asia Pacific region. This is the first time we have achieved close gender balance.

APNIC will provide a level 1 basic Linux Administration training workshop to the APNIC 44 youth fellows, following feedback received from the youth fellows at APNIC 42. We are also planning to have a Fellows BoF at APNIC 44.

APNIC contributed AUD 10,000 each to the APrIGF 2017 and PacIGF 2017 fellowship program with an emphasis on diversity from developing economies from the region.

7.7.5　Regional infrastructure

- Root servers

  – Coordinated with Netnod and Sri Lanka Telecom to replace the failed I root server equipment in Colombo.

  – APNIC assisted Verisign in the deployment of a J root server in Nepal.

  – An APNIC-sponsored F root node installation is in progress at the PNG IXP, in collaboration with NICTA.

  – The Brisbane F root node replacement is in progress.

  – APNIC launched an Expression of Internet (EoI) from the community to deploy more root nodes in the Asia Pacific region.

  – Received two EoIs, one each from Indonesia and Taiwan, and coordination with these two hosts is in progress to deploy the K root nodes.

  – Coordinating with Netnod to re-sign the outdated MoU with new terms. A new MoU is now in place with ISC.

- Secondary DNS Support for ccTLDs

  – APNIC is gradually stopping its support and we are not accepting new requests. This is because we have terminated the colo site in Hong Kong and we do not have large-scale anycast infrastructure which is needed by ccTLDs.

- IXPs

  – Supporting APIX meetings at APNIC 43 and APNIC 44, and their Steering Committee election.

  – Sponsored open peering event working group lunch at APNIC 43.

  – Successfully launched Islamabad IX and PNG IX with support from APNIC and ISOC.

    - Supporting PNG-IX continuously after its set up.

  – Discussions are underway to set up IXes in Afghanistan (Kabul), Maldives, Pakistan (Lahore), Myanmar, Cambodia, Fiji, and Bhutan.

  – Coordinating with APIX for their first open Peering Asia event.

  – Updating our presentation materials for upcoming new IXPs to understand the BCPs.

- Internet measurements

  – RIPE Atlas Probes:

    - Around five probes are distributed at every training workshop. To date, we have distributed 270+ probes in total in our region.

  – RIPE Atlas Anchors have been deployed in the following economies: Myanmar, Mongolia, Nepal, Indonesia, Australia, and Vietnam.

  – RIPE Atlas Anchor deployment is temporarily halted due to unavailability of servers from the supplier and possible closure of the Soekris business.

  – RIPE NCC is testing new servers for all future Anchor deployments. Testing and selection of the new server/s is estimated to be completed by the end of August 2017.

8 APNIC Foundation

8.1 Activities

- First three Foundation Board appointed: Edward Tian from China; Sharad Sanghi from India; and Sylvia Sumarlin from Indonesia.

- Three more candidates selected by the EC will be appointed by the end of 2017, to complete the first round of appointments (seven positions).

- The Foundation received its first grant in July from the Australian Department of Foreign Affairs and Trade (DFAT) for the APNIC project 'Raising Cyber Security Capability and Awareness: A secure and resilient Internet infrastructure for development in the Pacific'. Led by APNIC's Adli Wahid, the two-year, AUD 200,000 project is working initially with PNG, Vanuatu, Samoa and Tonga, with others to follow.

- The Foundation developed three new proposals during this period – to IDRC, ISOC, and a foundation in Singapore.

- Funding discussions also continued with DFAT and JICA.

- The following trips were also made:

  – Duncan and Sylvia travelled to Bangkok for the Asian Venture Philanthropy Forum; Duncan travelled to Myanmar for the Aid & Development Asia Summit; Duncan travelled to Beijing for the China Internet Conference. Duncan travelled to Indonesia and India to meet with the Foundation's new Board members.

- Sylvia has been invited and sponsored by NTT to speak at the ICT Disasters 2017 conference in the Philippine city of Cebu in September.

- The Foundation website and brochure were both reviewed and updated.

8.2 ISIF Asia

- The workshop proposal for IGF 2017 was developed and accepted.

- Under the ISOC grant, the video 'Introduction to CERTs', about the role of CERTs was produced and launched at APrIGF 2017 in Bangkok.

- The Seed Alliance website was fully migrated, with new application and full online reporting systems put in place. The ISIF Asia website was also migrated, with the online application and selection system updated. The new online reporting tool is finalized.

- The 2017 Grants and Award are open. Three Selection Committees are established for 2017 including a new cybersecurity committee.

- The 2015 grants are finally closed with all reports received and published. All nine grant progress reports for 2016 have been received and second disbursements are in process.

- Currently preparing the final Technical and Financial reports to IDRC and ISOC for the current grant. The new Cross-Community Working Group (CCWG) on gTLD Auction proceeds continued its work, with Sylvia Cadena taking part as the ASO NRO representative.

8.3 Foundation next steps

- Charitable registration and Board processes continue.

- Continuing fund raising and proposal development.

8.4 Fundraising

- The annual ITU IPv6 Infrastructure Security Workshop was held in Bangkok attended by 34 participants from 13 economies.

9 Business Area

9.1 Activity-based costing

All financial expenses are allocated to the defined activity codes set out in the 2017 budget submission.

The following chart illustrates spending to date under each activity code, as a percentage of total budget.
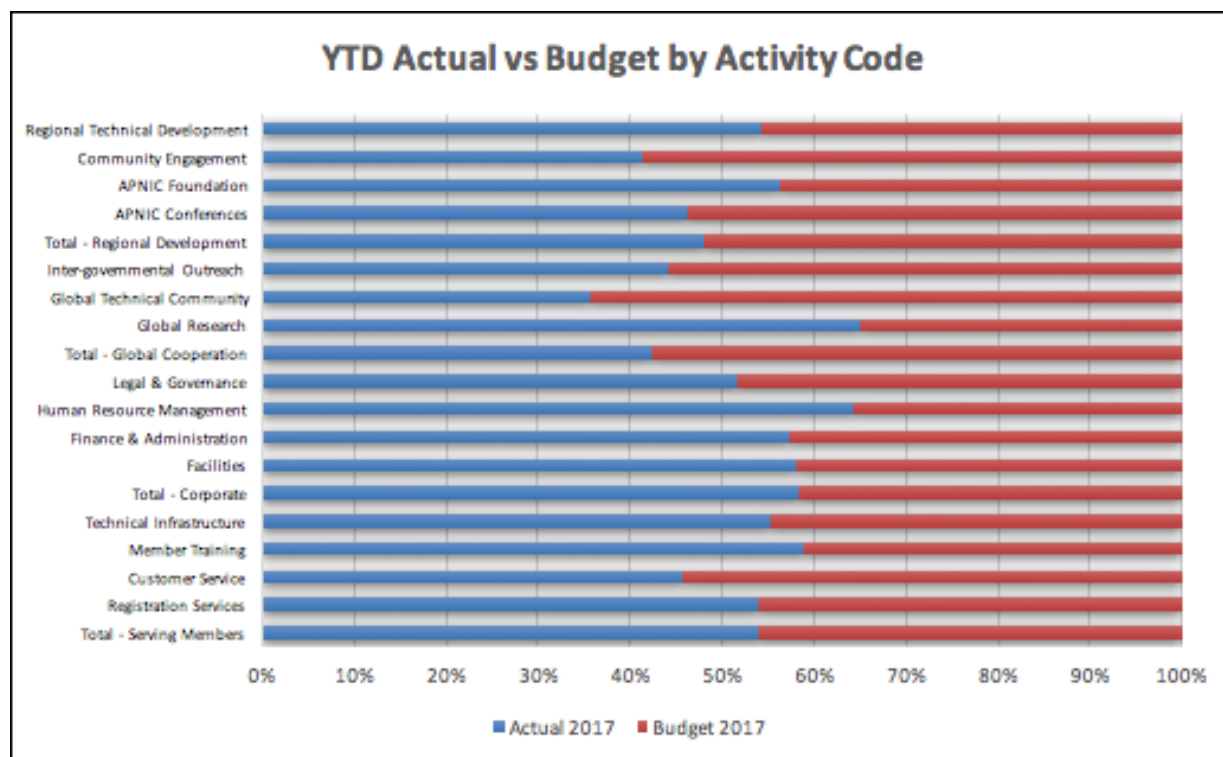
Figure 10 – Activity reporting YTD (as at 31 July 2017)

9.2 APNIC Survey

▪ Planning for the 2018 APNIC Survey is progressing well, with internal stakeholder consultations currently underway. A draft list of locations for the Focus Group consultations will be presented to the EC meeting in Taichung for consideration, with detailed planning to follow in Q 4.

9.3 Facilities review

▪ To accommodate increased staffing levels and to improve the functionality of the facilities at 6 Cordelia Street the following have been completed:

  – Increase in workstation numbers by reconfiguring existing layout.

  – Change of furniture in common areas, meeting rooms, general office, and outdoor areas to facilitate more informal collaborative workspaces.

  – Reconfiguration of new small private rooms and screen installation in small meeting rooms.

▪ Planning is currently underway to install a new media room facility to cope with increased demand for advanced media services.

9.4 ISO9001 annual audit

▪ The ISO9001 audit was successfully completed in early July.

9.5 Business Continuity Planning

▪ Business Continuity Plan activities continue, with quarterly scenario testing undertaken by the core BCP team on a quarterly basis.

9.6 APNIC Foundation

▪ A new standalone financial reporting solution has been implemented to manage the finance and administration functions of the APNIC Foundation. This was implemented using a free license supplied by NetSuite as part of their Corporate Social Responsibility program. This solution will enable scaling to planned increases in the Foundation activities.

9.7 Insurance program

▪ Working with APNIC's insurance broker we have implemented a broad range of improvements in APNIC's insurance, including cyber insurance and income protection. Insurance coverage is reviewed regularly as part of the risk management program, in particular, the changing needs of our travel insurance requirements.

9.8 Member feedback

▪ The Finance team is continuing to interact with Members following a pilot that commenced in April requesting feedback from Members. This activity aligns closely with the current tools used by the Services area, but response rates at this stage have been very low.

9.9 2017 mid-year forecast

▪ A high-level forecast of the forecast revenue and expenses will be presented at the EC meeting. This forecast is developed from a review of transactions to date and forecast for the remaining of 2017. This forecast also includes a very high level, indicative forecast for 2018.

9.10 Finance statistics to date

Number of	KPI Dashboard Finance Team YTD KPI (2017)				
	July-17	Avg/Mnth	YTD	2016	2015
Phones Calls (Outward)	247	266	1859	3500	
RTs Received (Total)	2285	2055	14388	21396	23275
E-Bill Queue	1431	1342	9392	15331	19603
Finance Queue	117	118	827	1328	1332
Accounts Payable Queue	108	101	707	1261	841
Bounce Queue	426	277	1940	1415	1496
Inward Payment Queue	203	187	1310	2061	3
Accounts Receivable					
APNIC Member Count			6324	5994	5268
New Members	57	73	513	1030	940
New Non-members	2	1	7	18	24
Receipts Processed	713	647	4528	7514	6645
Invoices issued	782	677	4740	7537	7271
Credit notes issued	93	52	363	529	575
Accounts Closed (Mem and Non-Mem)	26	30	209	322	358
Closure Notice sent	75	80	557	945	900
Reactivation Members	1	2	17	45	51
Reactivation fee waived	1	0	2	8	6
Refund Members (Duplicate and Over-payment)	6	6	39	68	46
Accounts Payable					
Asset Created	7	27	188	189	156
Asset Disposal	24	7	51	127	147
PO created by Finance	34	36	251	213	209
PO Billed	146	157	1098	1947	1980
Supplier EFT Payment	75	73	513	891	946
Nexonia Reimbursement Payments	33	32	223	386	388
Credit Card Payment	399	341	2386	3377	3050
Journals processed	54	72	501	888	1005
Cash Advance Request	0	2	13	18	28
Vendor Request	9	8	56	141	431

Figure 11 – Finance statistics

10 Human Resources (confidential)

[Please refer to the separate report]

APNIC 44 – APNIC Member Meeting – Agenda (Draft v4)

Time	Topic	Speaker
14:00	EC Chair welcome, introductions, and opening remarks	Gaurab Raj Upadhaya
14:05	APNIC Secretariat Report	Paul Wilson
14:25	APNIC EC Treasurer report	Kenny Huang
14:35	APNIC EC Report	Gaurab Raj Upadhaya
14:50	**Open Mic**	
15:00	NRO NC Election Results	Election Chair
15:10	Policy SIG Report	Sumon Sabir
15:20	NIR SIG Report	Shyam Nair
15:30	Afternoon Tea break	
16:00	NRO EC Report	TBC (German to confirm)
16:10	ASO Review Report	TBC
16:20	Cooperation SIG Report	Dr Govind
16:30	IPv6 Readiness Measurement Report	Shian-Shyong Tseng
16:40	APRICOT 2018 Update	Rupesh Shrestha
16:50	Welcome to APNIC 46	Gaelle Dos Santos
17:00	**Open Mic**	
17:10	Vote of Thanks	Paul Wilson
17:20	Final remarks and close	Gaurab Raj Upadhaya

Policy Proposal Summary

Policy Proposals to be discussed at APNIC 44

The Open Policy Meeting at APNIC 44 in Taichung, Taiwan, will be held across three sessions on 13 and 14 September 2017.

Community members interested in participating in the discussion of the following proposals, should participate in the Policy SIG Mailing List and attend the Policy SIG meeting – either in person or by remote participation.

prop-116: Prohibit to transfer IPv4 addresses in the final /8 block

This proposal would prohibit the transfer of Final /8 block addresses (103/8) for two years after their initial allocation/assignment. Until that time, 103/8 address blocks that are no longer needed must be returned to APNIC for redistribution. This restriction applies to both market and merger and acquisition transfers.

prop-118: No need policy in APNIC region

This proposal is to remove the requirement to demonstrate need when transferring IPv4 addresses into or within the APNIC region. There is an exception where the resources are from an RIR region that requires needs-based policies, in which case, recipients must provide a plan use of at least 50% of the resources within five years. This policy would not apply to AS number transfers.

prop-119: Temporary transfers

A proposal to create a mechanism for temporary transfers that would allow organizations to have resources directly registered under them while they are the custodians of these resources. This could apply to ''customer assignments' or to commercial leasing as an alternative to traditional ' market' transfer.

prop-120: Final /8 pool exhaustion plan

This proposal puts forward a planned approach to the exhaustion of the Final /8 pool. It involves reverting APNIC resource management to a single free pool. It does not alter the amount of address space Members may receive from APNIC, but it does give waiting list preference to new Members.

prop-121: Updating "Initial IPv6 allocation" policy

A proposal to alter the allocation of IPv6 space by not specifying the number of assignments an LIR should plan to make within two years. Also, where more than the minimum delegation is required, this proposal would remove the HD-ratio as the basis of assessment and allow requestors to justify space according to their structure or other factors.

prop-122: Updating "Subsequent IPv6 allocation" policy

This proposal is designed to bring subsequent IPv6 allocation policy in line with prop-121. Subsequent allocation size would not be set at doubling the size of the initial delegation and would allow an organization to provide documentation justifying its requirements based on structure and other factors. Attainment of an acceptable HD-ratio for assignments, would still be required to justify the additional allocation.

Useful Links

▪ Subscribe to the Policy Discussion mailing list

- https://mailman.apnic.net/mailing-lists/sig-policy
- Visit the APNIC 44 policy page
  - https://conference.apnic.net/44/policy

Agenda Item 9
ASO review report

Review of the ICANN Address Supporting Organization (ASO)

Final Report

3 August 2017

TOM MACKENZIE

TIMOTHY MCGINNIS

1.   Executive Summary

Established by Memorandum of Understanding (MoU) between the Regional Internet Registries (RIRs) and ICANN, in 1999, the ICANN Address Supporting Organisation (ASO), is one of the original and currently the longest-standing ICANN Supporting Organisation. The ASO's mission to coordinate with the ICANN Board of Directors on Internet number resources, and its original organisational structure have changed little over the years. The ASO MoU has only needed to been updated once, in 2004, following a restructuring of the ICANN organisation, and the creation of the Number Resource Organisation as a coordinating body for RIRs, and it is still considered by many to be a valid foundational document.

This report contains an assessment of the purpose, function and overall organisational effectiveness of the ICANN Address Supporting Organisation (ASO). Our findings indicate that the ASO Advisory Council (AC) operates in conformity with its mandate as defined by the ASO MoU, forwarding global policy proposals to the ICANN Board on the rare occasions when these come up, nominating individuals to fill seats 9 and 10 on the ICANN Board of Directors when required, and defining procedures for the selection of individuals to serve on other ICANN bodies. The core mission and administrative tasks for which the ASO was set up remain largely unchanged, and there is no pressing need for organisational reform.

However, our impression is that relations between the NRO and ICANN have evolved in recent years in a way that is bound to have certain implications for the operations of the ASO. We have heard that the ASO is facing increasing demands for engagement from ICANN that are currently being addressed on a case-by-case basis by the NRO EC, since they mostly fall outside the ASO AC's narrow mandate. The preparation of the IANA Functions Stewardship Transition and the establishment of the ICANN *Empowered Community* have been associated with an increase in the number and range of demands being put on the ASO.

We have noted that a number of grey areas have emerged within the ASO regarding the separation of powers and responsibilities between the ASO AC and the NRO EC. There are instances in which it is not immediately clear which branch of ASO leadership should assume responsibility, or even if the NRO (acting as the ASO) should engage at all.

Our report contains a series of recommendations many of which concern the need to clarify the separate roles and scope for action of the ASO AC and the NRO EC in connection with the operations of the ASO. We consider some possibilities for change to the structure of the ASO, and present three strategic options for the ASO going forward. These range from maintaining the status quo to the adoption of a two-house *Council*. However, we do not make a specific recommendation in this regard, leaving it to the NRO to determine the future of the ASO by means of a broad public consultation.

We believe the partnership between the NRO and ICANN, in connection with the function and operations of the the ASO, is rooted in mutual self-interest. However, it is equally apparent to us that the partnership risks coming under considerable strain if the administrative overhead that is associated with participation in ICANN processes, starts to outweigh the benefits of collaboration.

In order for the partnership between ICANN and the NRO to succeed we believe it is in the interests of both organisations to act decisively and pre-emptively to ensure the ASO remains focused on its core mission, and to guard against current and possible future pressures for the ASO to become involved in community-wide activities that may be out of scope.

2.   Methodology

This Review of the ASO was carried out by ITEMS International, over a six-month period, between late February and 31 July 2017.

2.1.   Baseline study: documentary research

The following documents relating to the role and function of the ASO were considered:

- ICANN Bylaws (2016)
- The ASO MoU
- The ASO Address Council Operating Procedures
- Related, non foundational documentation including the NRO MoU, ASO FAQs, the current SLA with IANA/PTI, the work
- CRISP Team report, ASO AC meeting minutes, NRO EC meeting minutes, RIR procedures for NC/AC election, etc.

2.2.   Face-to-face interviews & survey

Reviewers conducted face-to-face interviews during the ICANN-58 meeting in Copenhagen and the following RIR meetings:

- APRICOT-2017, Ho Chi Minh, 20 February - 2 March 2017
- ARIN-39, New Orleans, 2 - 5 April 2017
- RIPE-74, Budapest, 8 - 12 May 2017
- LACNIC-27, Foz de Iguaçu, 22 - 26 May 2017
- Africa Internet Summit 2017, Nairobi, 28 May - June 2, 2017

Reviewers targeted members of the Internet Number Community in the following main categories:

- Current ASO AC Members (x15)
- Current NRO EC Members (x5)
- Former RIR CEOs (x3)
- RIR Board Members (x20)
- RIR Staff (x19)
- ICANN Board of Directors (x6)
- ICANN Staff (x5)

2.3.   Interviews & survey: response data

In conjunction with interviews Reviewers conducted a data collection exercise using a survey format. Sixty-nine responses were collected.

The breakdown of respondents per organisational affiliation shows an expected distribution of respondents from the various segments of the Internet Number community that were targeted. This includes the 15 members of the ASO AC, the five members of the NRO EC, five ICANN Board Directors, five representatives of the other ICANN SOs and ACs, and a significant number of the RIR Staff.

Survey respondents per organisational affiliation
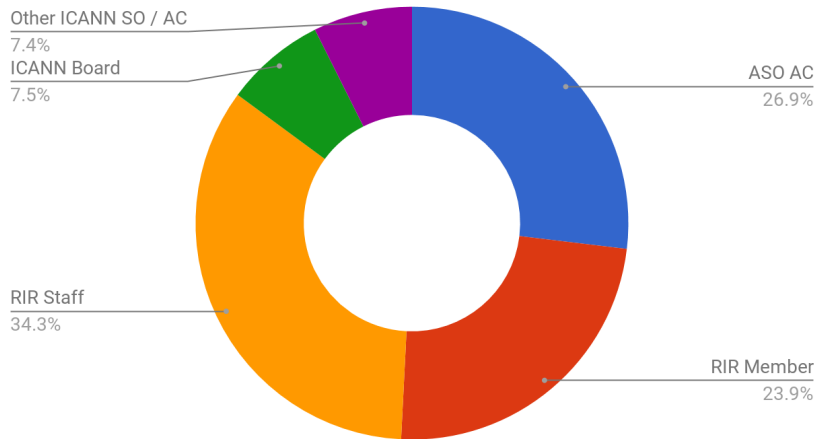
The breakdown of respondents per geographic region reveals a fairly even distribution of respondents around the world with a somewhat higher (but not unexpected) number of respondents from the North American region.

Figure 1: Map showing response rates per country (darker shades of blue corresponding to higher response rates)
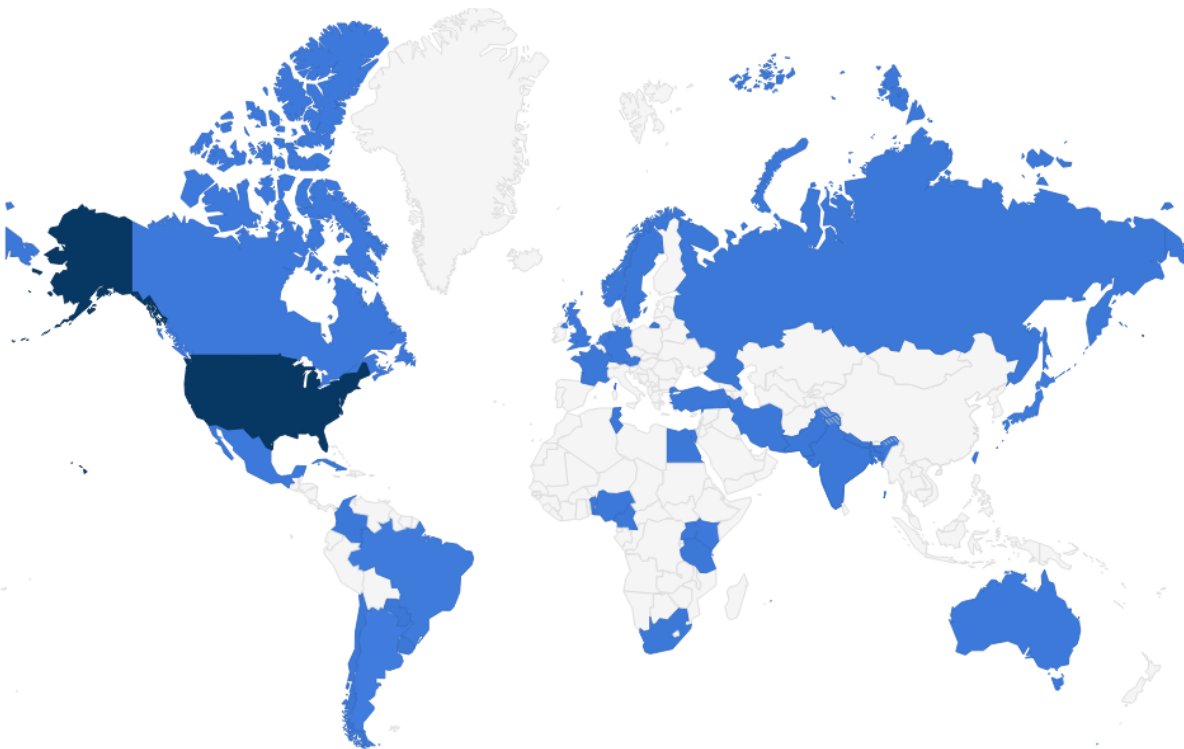
Finally, the breakdown of respondents per gender reveals a heavy (but again not entirely unexpected) dominance of male respondents, reflective of the current gender ratio in the global Internet Number community.

ASO Review global survey: Gender *im*balance of respondents
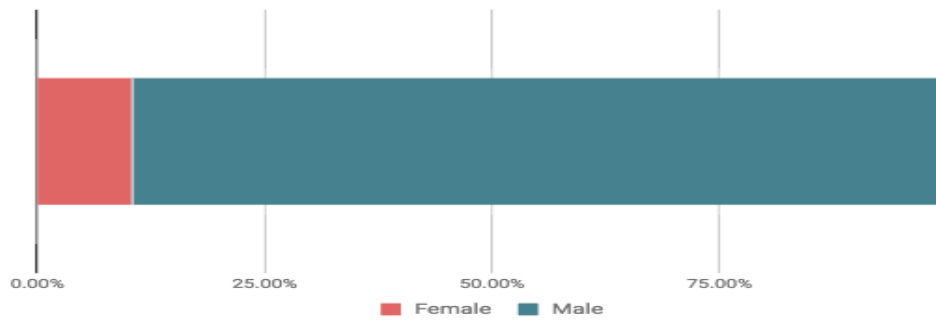
2.4. Chatham House rule

The **Chatham House Rule**[1] has been used to protect the identity of all contributors. Quotes included in this report are attributed by organisational affiliation only.

2.5. Editorial independence

The NRO was scrupulous in ensuring the independence of the review process. Reviewers are particularly grateful for the logistical support provided by the NRO Executive Secretary and thank the NRO and the RIR staff for their cooperation. We are also grateful for the joint statement on the review prepared by the ASO AC and the NRO EC and ASO AC[2].

2.6. Note on terminology

Throughout this report the following organisations, organisations or committees connected to the functioning of the ASO are referred to in full or abbreviated form.

- **Number Resource Organization** (**NRO**) – The coordinating mechanism of the RIRs which acts collectively on matters relating to the interests of the RIRs.
- **Number Resource Organization Executive Council** (**NRO EC**) **–** The NRO Executive Council consists of one person selected by the Board of each RIR.
- **Number Resource Organization Number Council (NRO NC) –** The NRO Number Council is responsible for the provision of advice to the NRO Executive Council concerning the ratification of proposed global IP number resource allocation policies.
- **NRO Secretariat** – The NRO Secretariat handles operational responsibilities of the NRO.
- **Address Supporting Organization** (**ASO**) **–** ICANN Supporting Organisation with responsibility for reviewing and developing recommendations on Internet Protocol (IP) address policy and to advise the ICANN Board, established by MoU between ICANN and the Number Resource Organization (ASO MoU).
- **Address Supporting Organization Advisory Council (ASO AC)** **–** As per the ASO MoU, the ASO AC consist of the members of the NRO NC. The ASO MoU also specifies that the ASO AC shall define procedures for the selection of individuals to serve on other ICANN bodies, in particular on the ICANN Board. In addition, this body may provide advice to the ICANN Board.

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[1] Chatham House rule: https://www.chathamhouse.org/about/chatham-house-rule
[2] Statement of the NRO EC and the ASO AC Regarding the 2017 ASO Review: https://aso.icann.org/statement-of-the-NRO EC-and-aso-ac-regarding-the-2017-aso-review/

- **Empowered Community** (**EC**) **–** The Empowered Community is the non-profit association formed under the laws of the State of California consisting of the ASO, the ccNSO, the GNSO, the ALAC and the GAC.
- **Decisional Participant** – Decisional Participants are the organizations (ASO, ccNSO, GNSO, ALAC, and GAC) comprising the Empowered Community.
- **Decisional Participant Representative –** Decisional Participants act within the EC through their respective chair or another representative that they designate.
- **Empowered Community Administration** (**EC Administration**) – The collection of Decisional Participant Representatives are referred as the Empowered Community Administration.

3. Historical context

The Address Supporting Organisation (ASO) came into existence in 1999 with the signing of a first Memorandum of Agreement (MoU)[3] between the recently formed ICANN and the three Regional Internet Registries (RIRs) in existence at the time - the Asia Pacific Network Information Centre (APNIC), the Réseaux IP Européens (RIPE Network Coordination Centre) and the American Registry for Internet Numbers (ARIN)[4].

According to original ICANN Bylaws, responsibility for policy development within ICANN was delegated to three supporting organizations (SOs) - the Address Supporting Organization, the Domain Name Supporting Organization (DNSO), and the Protocol Supporting Organization (PSO) - each with responsibility for developing and recommending policies and procedures for the management of identifiers within their respective remit. Originally it was intended that each SO would be financially independent from ICANN[5].

Following the formal recognition of the Latin America and Caribbean Network Information Centre as an additional RIR, in 2002[6], and the creation of the Number Resource Organization (NRO)[7] as a global coordinating body for the RIRs, in 2003, a second MoU[8] was signed in October 2004. This second MoU which specifies "*the roles and processes supporting global policy development, including the relationship between the Internet addressing community (represented by the NRO) and ICANN within the operation of this process*" remains the main foundational document of the ASO.

3.1. IANA Transition: CRISP Team

In the process leading up to the expiry of the IANA Functions contract between ICANN and the NTIA, November 2014, fifteen volunteers from the Internet Number Community were convened to form the CRISP[9] Team. Under the coordination of the NRO this team was tasked (inter alia) to describe:

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[3] ASO MoU (1999) https://aso.icann.org/documents/historical-documents/memorandum-of-understanding-1999/
[4] Resolutions Approved by the Board, Santiago Meeting (August 1999)
https://archive.icann.org/en/meetings/santiago/santiago-resolutions.htm
[5] Reviewers note that the ASO is, today, the only ICANN Supporting Organisation that is fully financially independent from ICANN, in conformity with the original designs for the ICANN organisation.
[6] IANA Report of Recognition of LACNIC as a Regional Internet Registry
https://www.iana.org/reports/2002/lacnic-report-07nov02.html
[7] NRO MoU (2003)
https://aso.icann.org/documents/memorandums-of-understanding/nro-memorandum-of-understanding/
[8] ASO MoU (2004)
https://aso.icann.org/documents/memorandums-of-understanding/memorandum-of-understanding/
[9] Consolidated RIR IANA Stewardship Proposal Team (CRISP Team): https://www.nro.net/nro-and-internet-governance/iana-oversight/consolidated-rir-iana-stewardship-proposal-team-crisp-team/

- The terms of the operational relationship of the RIRs with the IANA regarding the administration of Internet Number Resources.
- How policies under which IANA Numbering Services are developed within the Internet Number Community via an open, transparent and bottom-up policy development process,
- How the removal of NTIA oversight would affect the operational relationship between the RIRs and ICANN (as the current the IANA Numbering Services Operator).

The work of the CRISP team is an example of how the Internet Number Community is able to come together in response to requests from ICANN that relate to critical IANA functions, and indirectly to the operations of the ASO, but that are outside the ASO AC's narrow policy remit as described in the ASO MoU. It shows the adaptability and resourcefulness of Internet Number community. However, as discussed later in this report, it also raises the question of the types of activity carried out by the Internet Number Community that can be described as "ASO activities" and reviewed as such.

The final report of the CRISP Team was an opportunity for the Internet Number Community to reaffirm its satisfaction with and support for ICANN in its continuing role as IANA Numbering Services Operator:

> *"As noted in numerous NRO communications over the past decade, the RIRs have been very satisfied with the performance of ICANN in the role of the IANA Numbering Services Operator. Taking this into account, and considering the Internet Number Community's strong desire for stability and a minimum of operational change, the Internet Number Community believes that ICANN should remain in the role of the IANA Numbering Services Operator for at least the initial term of the new contract."[10]*

The preparation of the SLA was a further opportunity for the Internet Number Community to assert its commitment to supporting and enhancing the ICANN multistakeholder model:

> *"Shifting stewardship of the IANA Numbering Services to the Internet Number Community is an important step in acknowledging the maturity and stability of the multistakeholder governance model and in recognizing the success and de facto authority of that model under the current arrangement."*

3.2. Service Level Agreement (SLA)

On 29 June 2016, during the ICANN 56 meeting in Helsinki, the five RIRs and ICANN signed a service level agreement (SLA) for the IANA numbering services. This documents the arrangements for the provision by ICANN of IANA numbering services following the IANA stewardship transition. The SLA came into effect with the expiry of the IANA contract, on 30 September 2016.

With the signing of the SLA a contractual relationship was established between the RIRs and ICANN, as the IANA Numbering Services Operator (ICANN). This added a layer of contractual responsibility to the signatories of the ASO MoU. One current ICANN Board member went as far as to suggest that:

> *"The signing of the SLA has sort of replaced the ASO MoU as a foundational document for the relationship between the RIRs and ICANN"*

In operational terms, however, the SLA was established to ensure the continuity of the relationship between the RIRs and ICANN, as defined by the MoU, with minimal changes to:

- Services provided by the IANA Numbering Services Operator (currently ICANN);
- The function of the ASO in connection with the development of global numbering policies;
- Oversight and accountability mechanisms in connection with IANA services and activities;

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[10] NRO to the ICG RFP for proposals on the IANA from the Internet Number Community: https://www.nro.net/wp-content/uploads/ICG-RFP-Number-Resource-Proposal.pdf

- The entities that provide oversight or perform accountability functions (the RIRs);
- The consequence of failure to meet performance standards (i.e termination or non-renewal of the contract).

Although the SLA was not intended to alter the nature of the relationship between the Internet Number Community and the IANA Numbering Services operator, it established contractually that the Number Community could, in the future, determine that number resources should be transferred to a different contractor. In such an event, the Internet Number Community would be responsible for ensuring the selection of another contractor using a fair, open, and transparent process, *"consistent with applicable industry best practices and standards"*.

The SLA was drafted by the five RIR staff based on the "IANA Service Level Agreement Principles" developed by the CRISP Team. As the SLA came into effect a new *IANA Service Level Agreement Review Team/Committee* was put in place by the NRO as an oversight and accountability mechanism.

This "relationship by contract" is characteristic of the unique way in which the ASO operates within ICANN.

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4. Review of the ASO: Purpose & Scope

This is the second independent organisational review of the ICANN Address Supporting Organisation (ASO). The first was conducted between July and December 2011.

4.1. Scope of ICANN SO/AC reviews

Periodic review of the ASO is formally called for by ICANN Bylaws[11]. Section 4.4 paragraph A of the Bylaws states that:

> The Board shall cause a periodic review of the performance and operation of each Supporting Organization, each Supporting Organization Council, each Advisory Committee (other than the Governmental Advisory Committee), and the Nominating Committee (as defined in Section 8.1) by an entity or entities independent of the organization under review.

ICANN Bylaws further state that the goal of periodic reviews which are "*to be undertaken pursuant to such criteria and standards as the Board shall direct*", is to determine:

> (i) whether that organization, council or committee has a continuing purpose in the ICANN structure,
>
> (ii) if so, whether any change in structure or operations is desirable to improve its effectiveness, and
>
> (iii) whether that organization, council or committee is accountable to its constituencies, stakeholder groups, organizations and other stakeholders.

ICANN Bylaws indicate that the Government Advisory Committee (GAC) "*shall provide its own review mechanism*" although no specific arrangements are mentioned regarding the review of the ASO. The ASO Memorandum of Understanding, however, indicates that:

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[11] 'New' ICANN Bylaws (adopted May 2016)

> *With reference to the provisions of Article IV, Section 4 of the ICANN Bylaws, the NRO shall provide its own review mechanisms.*

Finally, the present review of the ASO, as called for in Article 8 of the ASO MoU, should not be confused with the periodic review of the ASO MoU, called for in Article 9 of the MoU, which states that:

> *"MoU signatories will periodically review the results and consequences of their cooperation under the MoU. When appropriate, the signatories will consider the need for improvements in the MoU and make suitable proposals for modifying and updating the arrangements and scope of the MoU."*

Although this report covers many aspects of the ASO MoU, its scope according to the Terms of Reference, is wider and includes:

> *"all functions undertaken by the ASO in support of ICANN, and in particular with regards to global number policy development and the appointment of individuals to various ICANN bodies including the ICANN Board. Additional known tasks undertaken by the ASO in support of ICANN [...] such as the development of procedures to make appointments to other ICANN bodies [are also covered].*

4.2. Comment on the ASO review process and timeline

ICANN Bylaws are clear about the need to conduct regular independent reviews of all of its Supporting Organisations and Advisory Committees. However, for the sake of clarity regarding the review of the ASO, ICANN should ensure that its Bylaws are fully consistent with the ASO MoU and state that the NRO will be responsible for providing its own review mechanism.

Recommendation # 1: ICANN should consider updating its Bylaws to reflect the fact that the NRO will, like the GAC, and according to the ASO MoU, provide its own review mechanism for the review of ASO.

Since the adoption of the New ICANN Bylaws, in May 2016, we a note that a small update needs to be made to the ASO MoU regarding the relevant sections of the ICANN Bylaws relating to the independent review process.

Recommendation # 2: The NRO should consider updating the ASO MoU to reflect the fact that the appropriate section of the New ICANN Bylaws regarding Organizational Reviews is Section 4.4 (previously Article IV, Section 4).

The present review required an extended period of travel to attend five five RIR meetings and two ICANN meetings in order to conduct interviews. This left a relatively short period towards the end of the review process to produce a draft report, engage in community consultation and produce this final report. For future reviews of the ASO we would urge the NRO to adopt a longer timeframe that is in line with other ICANN SO/AC Reviews. We would also urge the NRO to adopt a formal review process that can be used for future reviews.

Recommendation # 3: The NRO should adopt a procedure for conducting periodic reviews of the ASO in line with processes used by the ICANN Organisational Effectiveness Committee.

4.3.   1st ASO Review: implementation of recommendations

The previous review of the ASO was conducted by ITEMS International between July and December 2011. The final report[12], which contained twenty-six recommendations, was published on the ICANN website for public comment, in December 2011. The NRO subsequently produced its own considerations of the review recommendations which were submitted in the form of a letter to the chair of the ICANN Structural Improvements Committee, on 30 April 2012[13]. The ICANN Board of Directors resolved that the review process had been duly completed during a special meeting of the Board, on 17 November 2014[14].

As part of the present review we have considered the extent to which these recommendations were implemented, either directly or indirectly (i.e. using another course of action than the one specifically mentioned in the recommendation). We note that the NRO used a clear and consistent rationale for accepting or rejecting recommendations, and recognize that the NRO had no obligation to implement them.

1) **Recommendations regarding clarifications and updates to the ASO MoU**

Recommendation	Implementation status (Reviewers' determination)
Recommendation 1: Clarify the purpose, mandate and objectives of the ASO and distinguish between the ASO functions to be undertaken by the Address Council and those to be undertaken by the NRO EC.	**Partially implemented**. The ASO MoU has not been updated since the last review, although we note that there are additional resources on the ASO website including a Q&A which provides some clarification regarding the separate roles of the ASO AC and the NRO EC. This is consistent with the NRO's commitment, following the review, to increase awareness-raising efforts within the ICANN regarding the specific roles in the ASO.
Recommendation 2: Update Attachment A of the ASO MoU to ensure that it is consistent with the description of the GPDP in the ASO AC Operating procedures	**Not implemented**. Attachment A of the ASO MoU has not been updated. The NRO's consideration of this recommendation was that ASO procedures should be consistent with the ASO MoU and not the other way round. However this recommendation remains valid in our view.
Recommendation 3: The signatories of the ASO MoU should mutually agree on a procedure on how the ASO AC should deal with a policy proposal that has been objected or rejected by the ICANN Board.	**Not implemented**. The NRO originally committed to entering into conversation with the ICANN Board to agree on such a procedure. However, we are not aware that this has taken place.
Recommendation 4: The signatories of the ASO MoU should mutually agree on a mediation procedure should the ICANN Board reject a re-submitted global policy proposal for the second time.	**Implemented**. It appears that paragraph 15 of the ASO MoU, has a corresponding procedure (Para. 6.6.2.5) in the Operating Procedures.

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[12] ITEMS International (Dec. 2011): *Review of the ICANN Address Supporting Organisation (ASO).* *https://www.nro.net/wp-content/uploads/ASO-Review-Report-2012.pdf*

[13] NRO (Apr. 2012): *Response to the ASO Review Report of the ICANN Address Supporting Organisation (ASO).* https://www.nro.net/wp-content/uploads/ASO-AC-Response-NRO-FINAL.pdf

[14] ICANN (17 Nov. 2014): *Approved Board Resolutions. Special Meeting of the ICANN Board.* https://www.icann.org/resources/board-material/resolutions-2014-11-17-en#1.d

Recommendation 5: The signatories of the ASO MoU should agree on a procedure through which the recognition of the ability of the ICANN Board to request the Address Council to initiate a policy development process through the RIRs would be provisioned.	**To be implemented**. We have not found that such an agreement, as called for in Para. 16 of the ASO MoU has been executed, although we note that the ASO AC has agreed to develop procedures for this eventuality.
Recommendation 6: Update Section 6.6.1 of the ASO AC OP concerning the Address Council Review Segment to reflect the fact that the ICANN Board is now mandated to request advice from the Address Council on the merits of a forwarded global policy.	**To be implemented**. The ASO AC OP have not been updated in line with this recommendation, although currently this does not appear to us to be a high priority.
Recommendation 7: Section 6 of the ASO AC OP should contain a complete description of the GPDP, including attachment A of the ASO MoU and all the associated procedures requested by the ASO MoU.	**To be implemented**. Section 6 of the ASO AC OP does not currently contain a complete description of the GPDP including attachment A of the ASO MoU. We are making a similar recommendation to ensure that the descriptions of the GPDP in the ASO MoU and the ASO AC OP are consistent with each other.

2) Recommendations regarding the presence of the ASO during ICANN meetings

Recommendation	Implementation status (Reviewers' determination)
Recommendation 8: The in-person meetings of the Address Council held during ICANN meetings should be open to all registered participants, at least for most of the agenda.	**Not implemented**. Although the NRO formally accepted this recommendation, our impression is that most meetings of the ASO held during ICANN meetings are closed to non-ASO registered participants.
Recommendation 9: During ICANN meetings, the ASO should continue to organise, on an experimental basis, short joint sessions with interested SOs, ACs and GNSO constituencies.	**Implemented**. It appears that paragraph 15 of the ASO MoU, has a corresponding procedure (Para. 6.6.2.5) in the Operating Procedures.
Recommendation 10: The agenda for the NRO/ASO workshops at ICANN meetings should be enriched, avoiding presentations that are already available in the RIR, ASO and RIR websites.	**Partially implemented**. We note, however, that no presentations on the work of the ASO have been added to the ASO website since 2012.
Recommendation 11: The presentation of the ASO Report during ICANN meetings should always be delivered by the Chair of the Address Council.	**Implemented**. The NRO agreed to this recommendation insofar as the report consists predominantly of issues that are in scope for the ASO AC

3) Recommendations regarding enhancements to the ASO website

Recommendation	Implementation status (Reviewers' determination)
Recommendation 12: The ASO website as a whole, and especially the homepage, should clearly reflect the fact that the ASO is an ICANN SO whose functions are fulfilled by the NRO.	**Implemented**. There is still no specific mention of the NRO on the ASO website, although there is a prominent link to ASO MoU.

Recommendation 13: A detailed FAQ of the ASO should be added to the ASO website.	**Fully implemented**. The website now contains a comprehensive FAQ (although we note that this still contains very little information on the role of NRO EC in its capacity to conduct activities in the name of the ASO).
Recommendation 14: A fully researched, documented and referenced history of the ASO should replace the existing history page of the ASO website.	**Implemented**. We note that the website contains a fairly detailed history of the ASO, although this has not been updated since 2013.
Recommendation 15: The ASO should translate the ASO's constituent documents into the main languages in use within ICANN and the addressing communities.	**Implemented**. We note that the ASO MoU and numbering policy documentation is now available in Arabic, Chinese, English, French, Russian and Spanish.
Recommendation 16: The ASO website should be regularly checked for technical errors, broken links etc. For this reviewers recommend using the three W3C website validators.	**Implemented**. We note that the ASO website contains only a very small number of broken links, mostly to third party external sites.

4) Recommendations regarding enhancements to the ASO procedures

Recommendation	Implementation status (Reviewers' determination)
Recommendation 17: The procedures of the ASO should be labelled 'ASO' procedures, not 'ASO AC procedures'	**To be implemented.** Although the NRO agreed in principle to this recommendation, the operating procedures are still labelled ASO AC procedures.
Recommendation 18: A procedure for the appointment of NomCom members should be added to the ASO Procedures.	**Indirectly implemented.** We note that the ASO has developed a separate procedure to "Appoint Members to Various Bodies". We assume this covers the appointment of NomCom members.
Recommendation 19: A procedure for the appointment of members of the Affirmation of Commitments (AoC) Review Teams and any other ICANN bodies should be added to the ASO procedures.	**Not implemented.** The NRO agreed to this recommendation in principle, although given the evolution of the ICANN, notably since the termination of the IANA contract, this recommendation is no longer relevant.
Recommendation 20: A procedure for advising the ICANN Board on the recognition of new RIRs should be added to the ASO Procedures.	**To implemented.** To our knowledge such a procedure has not been developed. We understand that this is a low priority given the low probability of a new RIR being needed recognized.

5) Recommendations to the ICANN Board

Recommendation	Implementation status (Reviewers' determination)
Recommendation 21: The ICANN Board should be urged to request advice from the ASO on policy issues regarding IP number resources other than global addressing policies.	**Implemented**. It is our understanding that the ICANN Board feels free to seek advice from the ASO or NRO on a range of issues besides global addressing policies.

Recommendation 22: The ICANN Board should check if its Procedures for the Ratification of Global Addressing Policies are in conformity with the ATRT Report's recommendations in this regard.	**Implemented**. There do not seem to be any conflicts between the ATRT 1 report recommendations and ICANN Board Procedures.

6) Recommendations to the NRO Executive Council

Recommendation	Implementation status (Reviewers' determination)
Recommendation 23: The NRO Executive Council should help to empower the Policy Proposal Facilitating Teams (PPFT) in their facilitating role.	**Implemented.** The NRO is committed to clarifying the role of the PPFT in the ASO Procedures.
Recommendation 24: The NRO Executive Council should respond to the ICANN Board's request to react to the ATRT Report as soon as possible.	**Unverified.** A thorough search of the NRO archives has not revealed any documentation on this matter.

7) Joint recommendations to the ICANN Board and the NRO Executive Council

Recommendation	Implementation status (Reviewers' determination)
Recommendation 25: The ICANN Board and the NRO Executive Council should agree on the content of a FAQ of the ASO to be posted on the ASO website.	**Implemented.** The FAQ is now available on the ASO website.
Recommendation 26: The ICANN Board and the NRO EC are encouraged to agree on the content of a documented history of the ASO to be posted on the ASO website.	**Implemented.** A documented history of the ASO has been published on the website of the ASO.

4.4. Review assessment: 1st ASO Review

Our assessment is that the previous ASO Review process was conducted and followed up in a thorough, transparent and well-documented manner. The implementation or part-implementation of many of the recommendations have led to certain changes, notably to the ASO website and ASO AC Rules and Procedures, that can be said to have increased the ASO's overall accountability and transparency over the past six years.

5.   Purpose and Rationale of the ASO

In this section we consider the purpose and rationale of the ASO as defined in ICANN Bylaws and the ASO MoU.

5.1.   ICANN Bylaws: Function and purpose of the ASO within ICANN

Article 1, Section 1.1, Paragraph III of the Bylaws specifies that the mission of the ICANN organisation as a whole covers:

> *"[The] Coordination, allocation and assignment at the top-most level of Internet Protocol numbers and Autonomous System numbers. In service of its Mission, ICANN provides registration services and open access for global number registries as requested by the Internet Engineering Task Force ("IETF") and the Regional Internet Registries ("RIRs") and (B) facilitates the development of global number registry policies by the affected community and other related tasks as agreed with the RIRs."*

The role and advisory function of the ASO, as one of the three ICANN Supporting Organisations (SO), is described in Section 9.1 of the Bylaws:

a. *The Address Supporting Organization ("Address Supporting Organization" or "ASO") shall advise the Board with respect to policy issues relating to the operation, assignment, and management of Internet addresses.*

This is similar to the definition of the ASO's purpose as described on the ASO website;

> *The purpose of the ASO is to review and develop recommendations on Internet Protocol (IP) address policy and to advise the ICANN Board.*[15]

ICANN Bylaws emphasize the advisory as opposed to the policy development role of the ASO within ICANN. This sets the ASO apart from the other two ICANN Supporting Organisations (SOs) - the GNSO and the ccNSO - that are described as *"policy development bodies"* with responsibility for *"developing and recommending global policies"* to the Board.

The ASO also differs from the other two ICANN SOs since its global policy processes are almost entirely conducted at a regional level, under the coordination of the Regional Internet Registries (RIRs). Global policy proposals that need to be ratified by the ICANN Board of Directors, and the other tasks that the ASO AC performs, only come up on rare occasions.

In addition, the ASO is limited in scope to global policies regarding Internet number resources whereas the other bodies within ICANN are mainly concerned with Internet naming issues.

In 2015, ARIN requested an informative memo from their legal counsel regarding the makeup of the NRO and its role in acting as the ASO[16]. This stated that:

> *"The NRO is a stand alone body that will negotiate the ASO MoU with ICANN." Finally, the ASO MoU itself recognizes that the NRO and ICANN are distinct entities and disclaims that it imposes any special relationship or duty on either party, "including as an agent, principal or franchisee of any other party." Thus, the history and public pronouncements of the NRO plainly demonstrate that it is an independent legal entity, not simply a creature of ICANN's governance."*

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[15] ASO website: *About the ASO* - https://aso.icann.org/about-the-aso/
[16] Caplin and Drysdale (2015) *NRO's Status as an Unincorporated Association and Role as an ICANN Designator*
https://www.nro.net/wp-content/uploads/ARIN-Memo-re-NRO-Status-as-an-Unincorporated-Association.pdf

5.2. ASO MoU: Role of the NRO in the operations of the ASO

ICANN Bylaws and the ASO MoU are mutually defining. Whereas ICANN Bylaws state that the ASO shall be an entity established by MoU between ICANN and the NRO, for its part the ASO MoU establishes that the NRO will fulfil the role, responsibilities and functions of the ASO as defined in ICANN Bylaws.

The ASO MoU states that the ASO AC will be comprised of the members of NRO Number Council (NC) and that it will be responsible for the main organisational roles of the ASO, namely:

- Undertaking a role in global policy development;
- Providing recommendations to the Board of ICANN concerning the recognition of new RIRs;
- Defining procedures for the selection of individuals to serve on other ICANN bodies;
- Providing advice to the Board of ICANN on number resource allocation policy, and;
- Developing procedures for conducting business in support of their responsibilities.

The main function of the NRO Executive Council (NRO EC) in connection with the operations of the ASO, while not listed, can be summarised as:

- Providing Secretarial services to support the functions described in the MoU.
- Approving the procedures that are developed by the ASO AC for conducting business in support of their responsibilities.
- Coordinating with the ASO AC regarding the development and ratification of Global Policies in accordance with the Global Policy Development Process.
- In the event of a dispute with ICANN regarding the MoU, arranging arbitration via ICC rules.
- Providing its own Review mechanisms.

We have represented the separation of powers within the ASO between the ASO AC as follows:
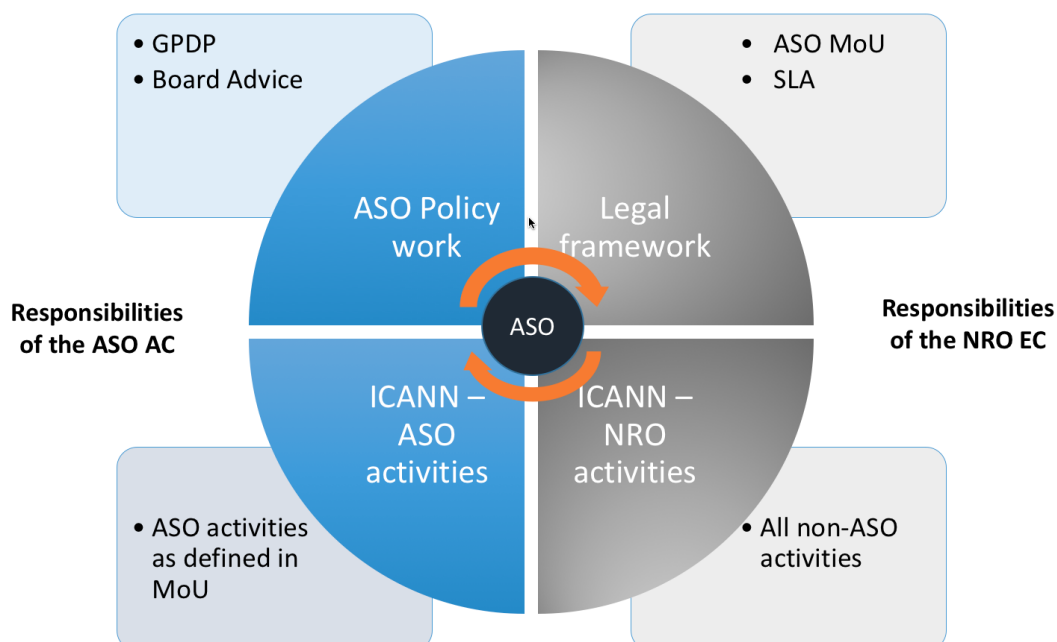
Source: ITEMS International

The ASO AC is the ASO's policy body with a largely advisory capacity, whereas the NRO EC has an oversight role with responsibility for all other types of business not covered in the ASO MoU.

5.2.1. Separate roles of the ASO AC & the NRO EC

Jointly, ICANN Bylaws and the ASO MoU have served as robust foundational documents for the ASO that have stood the test of time. Yet, within ICANN and parts in the Internet Number community itself there is considerable misunderstanding regarding the respective roles of the ASO AC and the NRO EC. There are those who see the ASO as essentially comprised of the fifteen-member Address Council (AC) with ancillary support and a critical oversight function provided by the NRO, and others who see the organisation more as a twenty-person, bicameral body (15 ASO AC + NRO EC) with a separate set of responsibilities for each "chamber".

These differences of perception regarding ASO leadership inevitably lead to different interpretations regarding the ASO's scope for action within ICANN.

- If the ASO is understood to be essentially composed of the ASO AC, its scope for action is very narrow and limited to global numbering policies, and a limited set of functions within ICANN.
- If the ASO is understood to be composed of the ASO AC and the NRO EC its scope for action is considerably larger since it is not limited to the ASO's main policy function and includes all tasks undertaken by the NRO in connection with ICANN.

In a joint statement from the ASO AC and the NRO EC, submitted during the review process, the following disambiguation was provided:

> "The numbering community is represented within the ICANN community by two different bodies, the ASO and the ASO AC. The NRO, when acting within ICANN, is referred to as the ASO, and the NRO's Number Council is referred to as the ASO AC."

A member of the ASO AC explained the separate organisational roles within the ASO as follows:

> "What's interesting is that the ASO AC sits within the ASO, and the ASO is not defined in the ASO MoU except for one line. One statement in the ASO MoU says that the NRO performs the role of the ASO. The NRO MoU says that the NRO consists of the NRO EC, the NRO NC and the secretariat." (Member of the ASO AC)

Our findings suggest that a certain confusion regarding the separate roles of the ASO AC and the NRO EC may have become exacerbated in recent months, notably since the establishment of the ICANN *Empowered Community* which has been associated with an increase in the demands being put on the ASO.

Our impression is that the separation of powers between the ASO AC and the NRO EC is likely to become further obscured in years ahead unless clear lines of responsibility are drawn at this juncture.

At some point, the NRO will need to decide whether it is in its best interests to maintain the status quo, or whether it takes pre-emptive steps

What about the profiles of the leadership of Supporting Organizations and Advisory Committees, ICANN Board members, and the ICANN organization?

The profiles of the ICANN Board can be found here:
https://www.icann.org/resources/pages/board-of-directors

The names or profiles of the Supporting Organizations and Advisory Committees leadership can be found here:

Address Supporting Organization (ASO)
https://aso.icann.org/advisory-council/address-council-members/

Country Code Names Supporting Organization (ccNSO)
https://ccnso.icann.org/about/council.htm

In this recent post ICANN posted information about all of its constituent bodies, including the ASO. Because only members the ASO AC are listed, a casual reader might be forgiven for thinking that the ASO is made up of the ASO AC members only.

to remove any questions regarding the mission and separate role of the ASO AC and the NRO EC. In Section 9 we propose three separate courses of action for the ASO in the medium to long-term, ranging from maintaining the status quo to the adoption of a two "house" ASO Council.

5.2.2. Interview and survey findings

When asked about the relevance of the ASO MoU, a majority of interviewees (52.7%) indicated that it still provides an accurate description of the role and function of the ASO, a non-trivial 21% per cent that it does not, and a slightly smaller number (19.7%) that they "don't know".

Survey Question [All respondents]: Does the ASO MoU adequately describe the role and function of the ASO within ICANN?

Other
6.3%

Don't know
19.7%

No
21.3%

Yes
52.7%
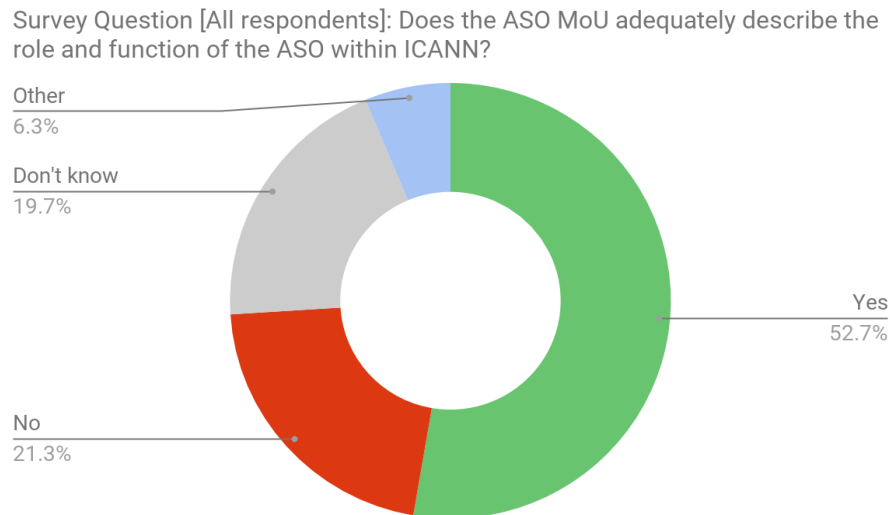
When asked whether the rationale for the ASO as spelled out in the ASO MoU needs to be updated post-IANA transition, notably in light of the creation of the ICANN *Empowered Community,* 50% thought that it should, 32% "maybe", and only 18% that it should not. This result and numerous subsequent conversations informed our thinking about the status of the current ASO MoU, and whether it is due for an update.

Survey Question [All respondents]: Does the rationale for the ASO as spelled out in the ASO MoU need to be updated post IANA transition in light of the

Maybe
32.0%

No
18.0%

Yes
50.0%
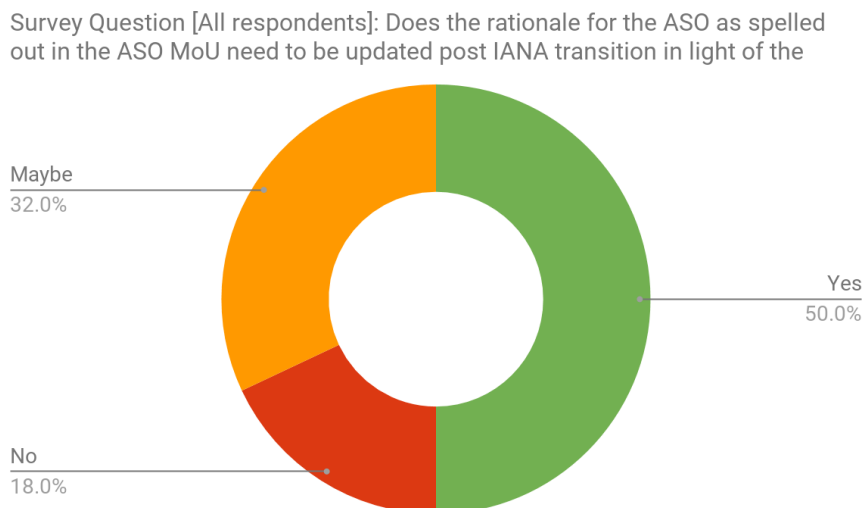
On the question of the independence of the ASO AC from the NRO EC a majority of respondents (66%) had little or no concern in this regard. However, a significant 23% expressed varying degrees of concern, and 11.5% that they "don't know".

Survey Question [All respondents]: Is there sufficient separation between the ASO AC and the NRO Executive Committee to ensure that the ASO AC remains independent in its decision making?

No, absolutely not
2.0%

No, not really
21.2%

Don't know
11.5%

Yes, somewhat
19.2%

Yes, absolutely
46.2%
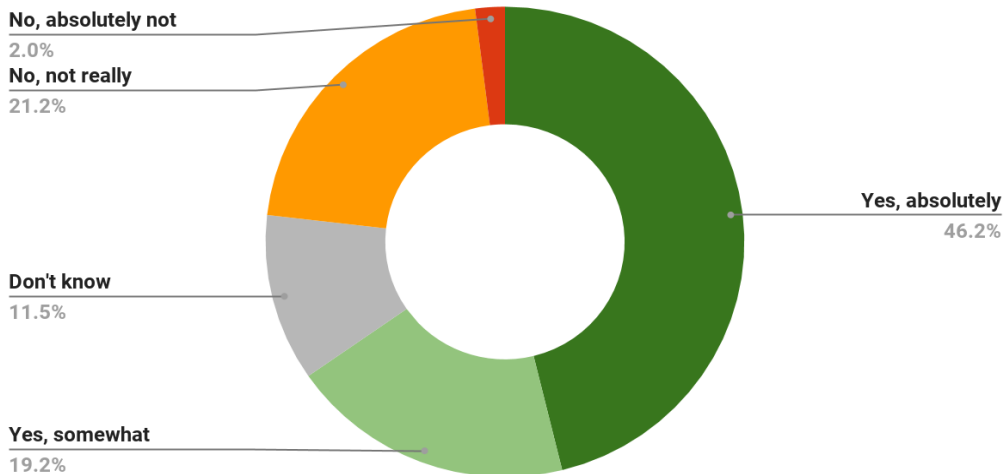
Here the number of negative replies was larger than expected. This may be the consequence of a recent Board selection process in which unusual circumstances meant that new procedures for the ASO AC were needed that had to be approved by the NRO EC. It was felt by some that the NRO EC had a larger role in the election process than the MoU envisions. In a follow up long form survey answer, one member of the ASO AC indicated that:

"It is occasionally difficult to get approval to procedure changes. There is some politics at play. This has not been an issue in our region, but some members of other regions have been pressured to vote a specific way. This is why we moved to ranked ballots."

While we heard from a number of respondents that the Board selection process has regional political influences, we trust that the new ranked ballot procedures will mean that future Board selection processes will run more smoothly.

5.3.   Review assessment: Status of the ASO MoU

Many of those interviewed, a majority of whom are closely associated with the operations of the ASO, indicated that they had limited knowledge of the ASO MoU, or that they had not consulted it in recent years. Nonetheless, for the most part, they felt that it was a useful and still largely valid foundational document for the ASO. If anything, a lack of knowledge regarding the ASO MoU, was seen as a positive sign that the relationship between ICANN and the NRO is strong and stable.

The ASO MoU, in its current form, has stood the test of time. It has served as an accurate description of the limited role and function of the ASO within ICANN, and the respective responsibilities of the NRO and ICANN. However, fourteen years after it was signed, and in view of recent changes in the organisational structure of ICANN, certain aspects of the ASO MoU may need to be updated.

These include:

- Addition of AFRINIC as a signatory;
- Updating of Appendix A of the MoU, to ensure that it is fully consistent with the description of the GPDP in the ASO AC Operating Rules and Procedures;
- Removal of Appendix B which no longer has any validity.

In addition, the NRO should consider whether the ASO MoU needs to be updated in light of the establishment of the ICANN *Empowered Community.* If so updates might concern:

- Responsibility for the selection of a Designated Representative of the ASO as a Decisional Participant in the *Empowered Community;*
- Exceptional circumstances (e.g. the removal of a Board Director) in which the the ASO AC and the NRO EC might be given joint decision-making powers.

Recommendation # 4: The signatories of the ASO MoU should consider updates to the MoU including i) the addition of AFRINIC as a signatory, ii) the removal of Appendix B. v) updates in connection with the responsibilities of the ASO as a Decisional Participant in the ICANN *Empowered Community.*

Upon completion of the present review process we are recommending that the NRO and ICANN initiate their own internal assessment of the ASO MoU, as called for in Article 9 of the MoU. This would be a good opportunity to discuss issues such as:

- The relevance of the current ASO MoU,
- Amendments to the MoU that may be necessary in light of organisational changes that have occurred since 2004, notably the creation of the ICANN Empowered Community,
- The problems in terms of accountability that result when the ICANN community changes its expectations of SOs and ACs (in this case the ASO),

Recommendation # 5: Upon completion of every independent review of the ASO, the NRO and ICANN should initiate discussions, as per Article 9 of the MoU, to examine results and consequences of their cooperation. The parties should determine if the ASO has a continuing purpose within the ICANN structure, and re-evaluate the MoU accordingly.

5.4. Continuing purpose of the ASO within ICANN

A key objective for ICANN Reviews is to determine whether each Supporting Organisation (SO) or Advisory Committee (AC) has a *continuing purpose* within the ICANN structure and, if so, whether any change in structure or operations is desirable to improve its effectiveness. The wording of ICANN Bylaws suggests that the question of *continuing purpose* can be addressed in much the same way for each ICANN SO or AC. In our view, however, the ASO's unique organisational structure, and key differences in the way it operates within ICANN, call for a different interpretation of this question.

For the other ICANN SOs and ACs that, for the most part, came into existence with the creation of ICANN, the question of their *continuing purpose* points to their ongoing relevance and operational effectiveness within ICANN. For the ASO, however, that came into existence as an ICANN SO following the signing of the first ASO MoU, and the integration of a pre-established and fully operational system of policymaking for address space, we would suggest that the question of its continuing purpose relates primarily to the strength and current validity of the ASO MoU.

In this section we consider whether the signatories of the ASO MoU continue to recognize their mutual interest in cooperation going forward (failing which it is understood that the NRO could ensure the ASO's primary policy function independently of ICANN, or in partnership with another international partner). Based on what we gathered during interviews, we also make a comparative assessment of the value that ICANN and the NRO perceive in maintaining the ASO in place, both in terms of the furtherance of ICANN's mission regarding Internet identifier systems, and the accountability function that is fulfilled on behalf of the NRO and global Internet Number community.

*5.4.1.   Purpose and value of the **ASO**: comparative analysis*

The following table presents a comparative analysis of the purpose and value of the ASO for ICANN and the Internet Numbers community. This is based on the tasks of the ASO AC as enumerated in the ASO MoU, and Reviewers' perceptions, derived from what we heard during interviews.

Table 1.   RESPONSIBILITIES OF THE ASO AC AS LISTED IN THE ASO MoU

ICANN	NRO
1) Advise ICANN with respect to policy issues relating to the operation, assignment and management of Internet Addresses	
- Since ICANN may be consulted on these issues by Governments (GAC) and/or other SOs/ACs it is in ICANN's interest to provide answers that are in alignment with the Internet Number community.	- One of the main benefits of participation in ICANN is to ensure that all other stakeholders are regularly informed of numbering policy issues.
2) Provision of recommendations to the Board of ICANN concerning the recognition of new RIRs.	
- ICANN has been delegated significant authority to recognize the creation of new RIRs.	- With ICANN responsible for recognizing new RIRs, the NRO can give the assurance of greater transparency and avoid Conflict of Interest and anti-trust issues in the recognition of new RIRs.
3) Defining procedures for the selection of individuals to serve on other ICANN bodies, in particular on the ICANN Board,	
- This provides ICANN with expert volunteers on the Board and for other roles across the Community.	- Despite mixed opinions, the needs of the community are well served by having 2 Board Members to educate and provide expertise.
4) Provide advice to the ICANN Board on number resource allocation policy	
- Advice provided to the ICANN Board by the Internet Number community benefits ICANN by offering expert advice regarding numbering issues.	- Such advice benefits Internet Number community since it ensures that ICANN has a full understanding of numbering policy issues.
5) Define roles and processes supporting global policy development	
- The inclusion of the ASO within ICANN, gives the ICANN organisation additional legitimacy as a global coordinator of policy regarding Internet identifiers.	- Whereas the Internet Number community could accomplish this role independently of ICANN, participation in ICANN offers opportunities in terms of transparency and accountability.

5.4.2.   Interview & survey findings

A majority of interviewees expressed confidence in the ongoing engagement of the Internet Number Community and continuing purpose of the ASO within ICANN. Yet many also felt that that the ASO representatives should only participate in ICANN processes that are directly in scope for the ASO.

Survey Question [All respondents]: Does the ASO have a continuing purpose in the ICANN structure?

Maybe
10.2%

No
6.8%

Yes
83.1%
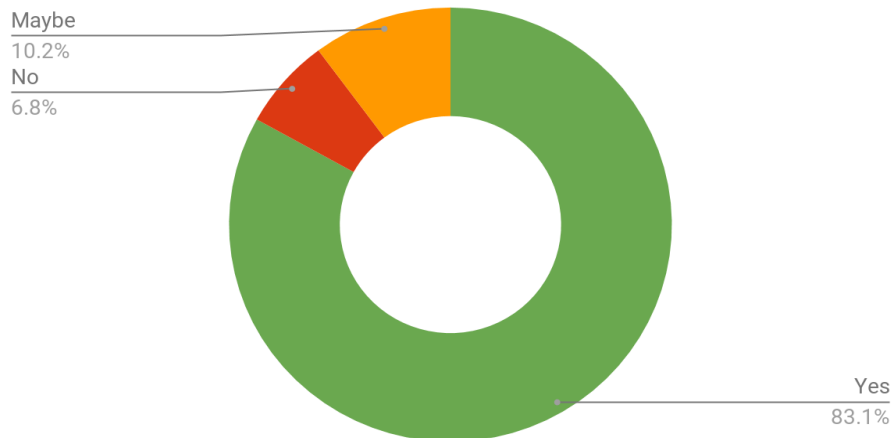
The minority view, however, should not be ignored. It is a view which we heard expressed on several occasions, including from senior, experienced members of the Internet Number Community, who believe that the operations of the ASO are a suboptimal use of volunteer time and resources, and that the numbers community could function perfectly well independently of ICANN. This comment from a senior member of the Internet Number community sums up this view:

> *When thinking about the ASO, its effectiveness and construction, we should first ask, "why does the RIR community need to participate in ICANN at all? How does network operations benefit from ICANN being at all involved in the work the RIRs perform?" ICANN was established in the late 1990s as part of an effort to decentralize and de-Americanize certain control points of the network, namely the activities of the IANA. It is almost 20 years later, and in the addressing community specifically, there is an argument that we don't need ICANN or even an IANA. Large allocations of IPv6 aggregates, AS number blocks, and even remnants of IPv4 aggregates, can easily be cooperatively managed by the five RIRs. The NRO is well built, has full-time staff, and is accountable to the addressing community. So bringing this back to the ASO, what is the real benefit of the ASO to the addressing community? Why do 15 people need to be on it - what is it they deliver that directly helps engineers and leaders operate their networks? The answer is there is no point to the ASO except to select ICANN board members, and there is no direct benefit that ICANN board members, or ICANN itself, provides to the addressing community.*

A non-trivial minority of people we spoke to about the value of the relationship between ICANN and the NRO suggested that changing the relationship may be desirable at some point in the future. However, most feel that due to the recent commitment to the *Empowered Community*, now is not the time to consider such a change.

A more nuanced minority opinion is that the other technical communities (IETF, TLG, DNS-OARC, etc.) interact with ICANN and help address technical questions of ICANN participants without being a Supporting Organization (SO). Why couldn't this be the case for the NRO? This minority feel that continuing as a fully-fledged ICANN SO may not be the best option for the ASO, and see the comparative advantages of switching to an ICANN Advisory Committee (AC) or other type of liaison body.

Similar proposals included:

1. Converting the ASO from an ICANN Supporting Organisation (SO) to an ICANN Advisory Committee (AC),
2. Moving the Internet Number community into a model that the IETF currently uses in ICANN (and various permutations of this model),
3. Severing the relationship with ICANN altogether.

However, our assessment is that these proposals do not have significant support across the Internet Number Community. We do we do not see the advantages of these alternative models over the status quo. More important to most respondents are the benefits of participation in a larger Internet Governance ecosystem.

5.5.   Review assessment: Continuing purpose of the ASO

Our findings suggest that the ASO is one of the lesser-known Supporting Organisations within ICANN. Yet, at the same time, it is widely perceived to be one of the better-organised and efficient parts of the ICANN system. A majority of interviewees, including ICANN Board Members, ICANN Executive Staff, NRO/RIR leadership and the ASO Address Council itself, expressed broadly favourable views regarding the way in which the ASO conducts its operations, and a high degree of confidence in its leadership structures.

Unsurprisingly, from the ICANN side, there is strong support for the ongoing collaboration with the NRO. In his public address at ARIN 39, ICANN CEO Göran Marby conveyed the organisation's appreciation for the engagement of the the Internet Number community within ICANN.

> *"Every time I go to someone outside our small world, I speak about the three different pillars that actually makes this part of the Internet working. And I say that we are three, equal partners in this one. You have the protocol community, you have the numbers community, and you have the names community. And we have to work together.[17]"*
>
> Göran Marby, ARIN 39, April 2017

The majority view within ICANN and Internet Number community leadership is that the ASO has a critical function within the ICANN system, and that its operations should be maintained going forward.

We did hear of concerns within the Internet Number community regarding the increasing amount of volunteer time that ICANN engagement seems to require, much of which is of marginal direct interest to the Internet Numbers Community. The NRO will need to regularly evaluate these concerns, and act pre-emptively, if necessary, to ensure that the benefits of the ICANN system are not perceived to be outweighed by the "costs" of engagement.

In the meantime, there is a mutual commitment on the part of ICANN and the NRO to maintain the ASO, and a broadly shared view that the ASO has a solid basis and continuing purpose within ICANN.

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[17]You https://www.youtube.com/watch?v=PHXRaAy-mYw
Transcript: https://www.arin.net/vault/participate/meetings/reports/ARIN_39/ppm2_transcript.html#anchor_11

6.   Organisational effectiveness of the ASO

In this section we consider how effective the ASO has been in respect of its core mission to *"review and develop recommendations on Internet Protocol (IP) address policy and to advise the ICANN Board"[18]*. We also consider a range of activities carried out by the NRO in connection with the operations of the ASO but which extend beyond this narrowly defined remit. As we have learned, the NRO EC branch of the ASO, including RIR staff, regularly conducts activities in connection with the ASO's basic function and/or status as an ICANN Supporting Organisation, that should also be taken into account.

6.1.   Coordination between the ASO AC and the NRO EC

The ASO AC and the NRO EC jointly form the ASO leadership structure. Coordination between the two bodies regarding the ASO's primary policy advice function is conducted according to established procedures. Typically, coordination efforts take the form of a joint remote participation or face-to-face meeting to ensure that due process has been followed in the five RIR regions in the elaboration of a global policy proposal. In practice, however, this type of coordination work is rarely conducted due to the exceptionally rare occasions on which global policy proposals rise to the level of the ASO.

In recent years, it appears the bulk of coordination work between the ASO AC and the NRO EC has concerned organisational matters that are not specifically defined in the ASO MoU. These include matters related to the transition of IANA Functions Stewardship, and various responsibilities connected to the ASO's role as an ICANN Supporting organisation. In the absence of formal organisational guidelines, this type of coordination activity has been conducted informally, in joint meetings of the ASO AC and the NRO EC and on the mailing lists.

The question that is raised, here, is whether such ASO AC / NRO EC coordination meetings should be encouraged as an efficient means of dealing with ICANN-related matters that are unrelated to the ASO's policy function, or whether, on the contrary, they are symptomatic of the way in which ASO leadership is increasingly being drawn into ICANN concerns, and away from the ASO's core mission.

In Section 9 we propose three non-prescriptive options the ASO might consider going forward. These range from maintaining the status quo to establishing a two-house 'ASO Council' in which the separate roles of the ASO AC and the NRO EC would be more clearly presented.

6.1.1.   ASO Address Council

As stated above (Section 5.2) ICANN Bylaws state that *"the ASO shall have an Address Council, consisting of the members of the NRO Number Council"*. The two main functions of the ASO AC are:

- To advise the Board with respect to policy issues relating to the operation, assignment, and management of Internet addresses, and,
- To nominate individuals to fill Seats 9 and 10 on the Board.

The ASO MoU specifies that ASO AC shall be responsible for:

1. Undertaking a role in the global policy development process as described in attachment A of the MoU.
2. Providing recommendations to the Board of ICANN concerning the recognition of new RIRs.
3. Defining procedures for the selection of individuals to serve on the ICANN Board, and other ICANN bodies, and implementing any roles assigned to the Address Council in such procedures.

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[18] ASO Website: "About the ASO" https://aso.icann.org/about-the-aso/

4. Providing advice to the Board of ICANN on number resource allocation policy, in conjunction with the RIRs.
5. Developing procedures for conducting business in support of ASO AC responsibilities, in particular for the appointment of an Address Council Chair, and definition of the Chair's responsibilities.

The first, second and fourth of these roles are rarely carried out since they are a function of the frequency with which global policies, new RIRs and advice to the Board regarding IP address policies are actually required. The last global policy to be ratified was in 2012[19], and the last RIR to be recognized was AFRINIC in 2005[20]. Hence, the main operational responsibility of the ASO AC in recent years has been to appoint individuals to the ICANN Board of Directors and Nominating Committee (NomCom), and to develop their own procedures.

All operational responsibilities of the ASO AC have been conducted in strict accordance with their operating rules and procedures. We simply note that, to date, the ASO AC has not defined the responsibilities of the ASO Chair, as required by the MoU (See Section 7.3.1).

6.1.2. NRO EC and RIR Staff

As noted (Section 5.2) the NRO EC has a well-defined set of responsibilities in connection with the ASO's primary policy function within ICANN. In addition to these, there are a range of activities that are routinely undertaken by the NRO EC and RIR staff, that are not specified in ICANN Bylaws or the ASO MoU. Examples of these are:

- Work of the CRISP Team.
- Other IANA related issues with IANA / PTI staff
- Participation of RIR staff in ICANN Cross-community working groups (CCWG)
- Participation of RIRs in ICANN activities / plenary sessions to promote awareness of numbering issues among GAC, ICANN Board, ALAC, SSAC, RSSAC.
- Liaising with other ICANN bodies on various cooperative activities including, outreach, communications and capacity building (e.g. GSE team).
- Work at regional levels in coordination with ICANN regional offices (e.g. APAC, EMEA, LAC)

What we have found is that the range of activities in which representatives of the Internet Number Community are regularly involved within ICANN is significantly wider than the narrow scope of the ASO as described in ICANN Bylaws and the ASO MoU. The rationale that we have heard for conducting these activities is sound: insofar as IP addressing questions and issues are raised by ICANN stakeholders within the ICANN environment, it is important that the RIRs are available and present in order to provide accurate and authoritative answers. However, since these activities are, for the most part, conducted outside of a formal organisational framework there are no metrics to assess whether they are relevant or consistent with the needs of the Internet Number community within the ICANN context.

In other words, how does the NRO decide how much and what type of work they agree to undertake? Formalizing the list of agreed tasks between ICANN and the Internet Number resource community would serve to better define the relationship as one that is based on clearly identified needs as opposed to the dynamics of the multistakeholder system.

6.2. Interview & survey findings

Interviewees were asked if the support provided by the NRO was sufficient and consistent with the needs of the ASO. With an 81% positive and only 5% negative response rate, it is clear that the Executive Secretary, the NRO EC and RIR staff are seen as doing a greatly valued job in support of the ASO.

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[19] Global Policy for Post Exhaustion IPv4 Allocation Mechanisms by the IANA (Ratified 6 May 2012)
[20] ARFINIC MoU (May 2005): https://aso.icann.org/documents/memorandums-of-understanding/AFRINIC-memorandum-of-understanding/

Survey Question [All respondents]: Is the support provided by the NRO and the RIRs to the ASO-AC sufficient and consistent with the needs of the ASO?

Don't no
16.0%
Not, absolutely not
1.0%
No, not really
2.0%
Yes, somewhat
10.0%

Yes, absolutely
71.0%
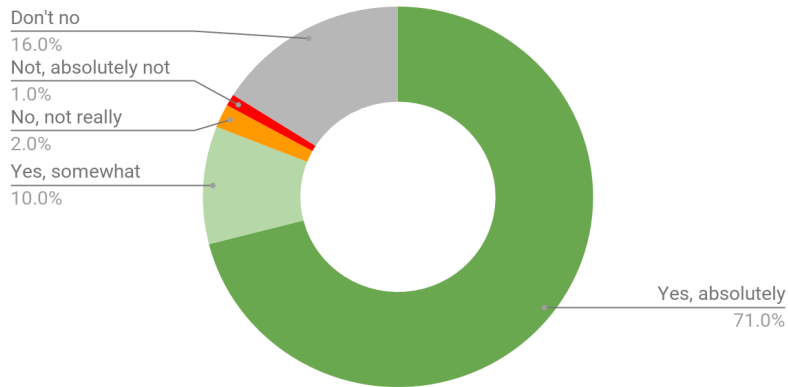
When asked if the ASO AC has been effective in its role in the global PDP as described in the ASO MoU, over three quarters of respondents responded positively. While a 25% negative response rate may seem high, many of these respondents added that it was because there have not been any global policies in several years. Their answer was meant to imply *"no, there haven't been any policies to ratify, so how could they be effective at a job they/we aren't doing".*

Survey Question [All respondents]: Has he ASO been effective in its role in the Global PDP as described in the ASO MoU?

Don't Know
13.4%
No, not really
10.4%
Yes, Somewhat
13.4%

Yes, Absolutley
62.8%
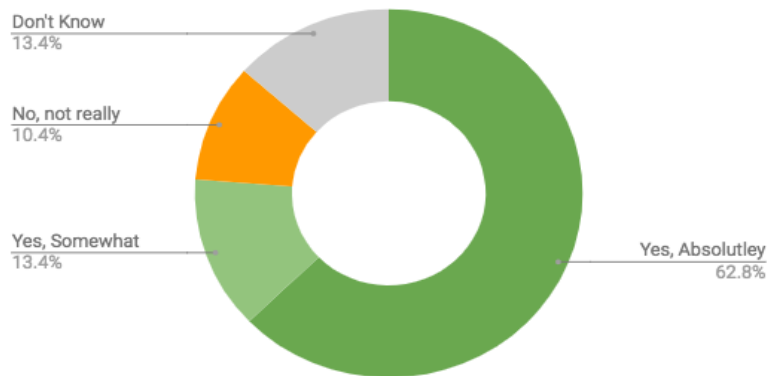
A similar pattern was seen in other questions about these rarely performed roles. In response to the question about how effective the ASO has been in providing advice the ICANN Board on number resource issues, number of negative replies can be attributed to the fact that the Board almost never asks for advice from the ASO AC or the NRO EC. Over seventy four percent of respondents responded positively to this question, while 21% responded that they "didn't know".

Survey Question [All respondents]: Has the ASO been effective in providing advice to the Board of ICANN on number resource issues per the ASO MoU?

Don't Know
21.2%
No, absolutely not
1.5%
No, not really
3.0%
Yes, Somewhat
16.7%
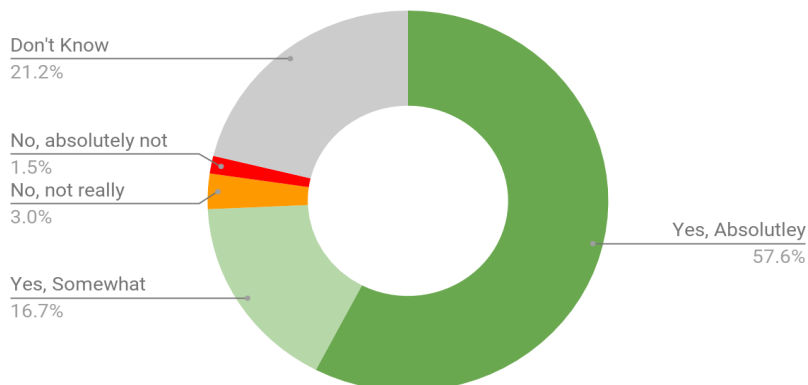
Yes, Absolutley
57.6%

On the question: *"Has the ASO been effective in providing recommendations of the Board of ICANN concerning the recognition of new RIRs?",* 59% of respondents replied positively ("yes, absolutely" or "yes, somewhat"), while only 13% reacted negatively, and 27% responded "don't know".

Survey Question [All respondents]: Has the ASO been effective in providing recommendations of the Board of ICANN concerning the recognition of new RIRs?

Don't Know
28.0%

Yes, Absolutley
53.0%

No, absolutely not
4.0%

No, not really
9.0%

Yes, Somewhat
6.0%
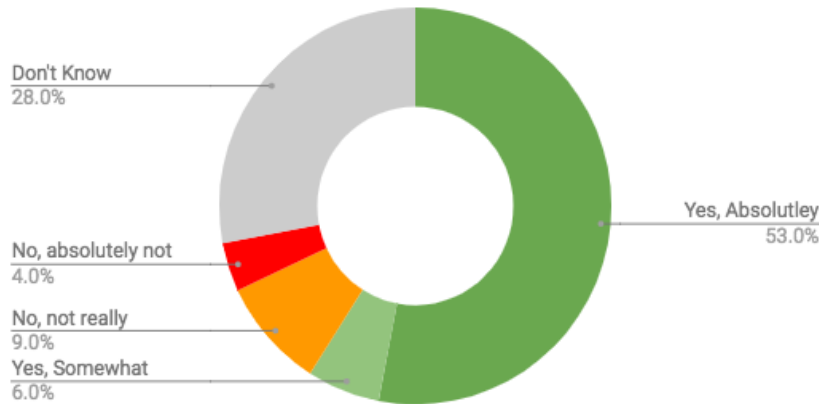
On the last role regarding the selection of individual to serve other ICANN bodies, (which ASO AC regularly carries out), the response is much more positive, with 95% responding positively overall, and less than 5% with negative responses. So the perception is that the ASO AC is very effective in carrying out the one responsibility they are required to fulfil on a regular basis.

Survey Question [All respondents]: Has the ASO been effective in defining and implementing procedures for the selection of individuals to serve on other ICANN bodies?

No, not really
2.4%

Yes, somewhat
21.8%

Yes, absolutely
74.5%
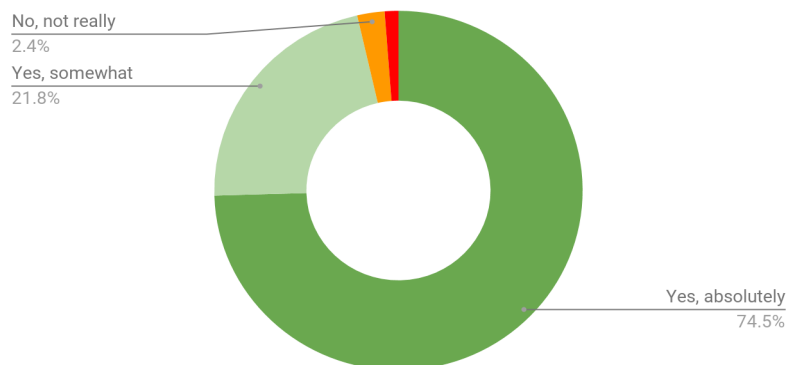
In summary, the ASO AC is seen as effective in the limited set of activities that it is charged with performing.

6.3.   Review assessment: Organisational effectiveness

In terms of overall organisational effectiveness, our assessment is that the ASO has a limited core mission. The ASO's leadership structures, as they were originally conceived, are appropriately tasked for this mission, and the main responsibilities of the organisation have been conducted in an efficient manner.

However, there are evidently concerns in parts of the numbering community that the ASO is increasingly required to engage in activities that, while useful to the ICANN multistakeholder system, have little to do with the ASO's original mission. A non-trivial number of people within the Internet Number community, including current ASO leadership, openly question the merits of maintaining an ICANN SO that does conduct any policy related work most of the time.

Our advice to the Internet Number community is that it needs to guard itself against the risks of

excessive involvement in ICANN processes that might, in the long run, have negative consequences for the viability of the ASO. To do so the NRO can choose to maintain the status quo and make it clear that it has the power to reject ICANN demands for increased engagement in its processes ("just say no"), or decide to clarify the role and function of the two leadership structures within the ASO, in order to clearly specify what is in or out of scope. We develop these strategic options in Section 9, *Options for the ASO going forward*.

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7. Operational effectiveness of the ASO

In this section we consider how effective the ASO has been from an internal, procedural perspective. As noted, the ASO conducts all activities in relation to the roles and responsibilities of the ASO AC according to well established operating rules and procedures. The activities of the NRO EC in connection with the operations of the ASO are less formalised with established rules and procedures.

7.1. Operating Procedures of the ASO AC

A comprehensive and regularly updated set of ASO AC Operating Procedures is maintained on the ASO website[21].

We understand that new ASO AC Operating Procedures are being developed in connection with the ICANN *Empowered Community*, and the role of the ASO as one of the *ECs* Decisional Participants. We were not able to examine these during the course of the review. Nonetheless, we have considered some of the implications for the ASO of the transition to the *EC*, which we present in Section 7.5.

7.1.1. Global Policy Development Process (GPDP)

The Global Policy Development Process (GPDP) describes the roles and processes supporting global policy development, including the relationship between the Internet addressing community (represented by the NRO) and ICANN within the operation of this process.

For reasons that remain unclear to us, official ASO documentation includes two separate and slightly different descriptions of the GPDP. These are included in:

- Attachment A of the ASO MoU[22] (this version is also used on the ASO website[23])
- Operating Procedures of the ASO AC[24]

7.1.2. ASO MoU - Attachment A

Attachment A of the ASO MoU is a twenty-step description of the Global Policy Development Process followed by the ASO. It was developed and published online at the same time as the ASO MoU, on 29 October 2004. It has not been updated since.

Reviewers have considered each step of the PDP and determined that it is still a valid and useful PDP. However, certain sections lack a formal procedure and/or may require updating. We have identified three stages in the GPDP as described in the MoU that still require a formal procedure:

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[21] Operating Procedures of the ASO AC: https://aso.icann.org/documents/operational-documents/operating-procedures-ASO AC/

[22] ASO MoU Attachment A: https://archive.icann.org/en/aso/aso-mou-attachmentA-29oct04.htm

[23] ASO website: https://aso.icann.org/global-policies/global-policy-development-process/

[24] Operating Procedures of the ASO AC: https://aso.icann.org/documents/operational-documents/operating-procedures-ASO AC/#A_6._Global_Policy_Development

Step 12: [When a global policy has been rejected or objected by the ICANN Board, then]*The ASO Address Council, in conjunction with the RIRs and working through agreed procedures, shall consider the concerns raised by the ICANN board, and engage in a dialogue as appropriate with the ICANN Board.*

Step 15: *If the resubmitted proposed policy is rejected for a second time by ICANN, then the RIRs or ICANN shall refer the matter to mediation using an agreed procedure to resolve the matter.*

Step 16: *Through the provisions of an agreement to be executed between the RIRs and ICANN, it is recognized that the ICANN Board has the ability to request that the ASO Address Council initiate a policy development process through the RIRs,*

To our knowledge these procedures or agreements still need to be developed. While they may never have been needed, it may be useful to formalise such agreements or procedures with ICANN as part of an updated MoU. Alternatively, they may be removed from the MoU altogether.

Recommendation # 6: The ASO AC should ensure that procedures are developed for Steps 12, 15 and 16 of the GPDP as described in Attachment A of the ASO MoU.

7.1.3.   GPDP description in ASO AC Operating Procedures

A separate and longer description of the Global Policy Development Process is given in Section 6 of the *Operating Procedures of the ASO AC*. This duplication of the GPDP, and the fact that there are a number of inconsistencies between the two descriptions might seem odd to anyone unacquainted with the ASO.

We have identified the following additions to the GPDP as described in the ASO AC Operating Procedures document that are not reflected in the ASO MoU:

Table 2.   GPDP AS DESCRIBED IN ASO OPERATING PROCEDURES AND THE ASO MOU

ASO Operating Rules	Attachment A - ASO MoU
Section 6.3 concerning the role of Policy Proposal Facilitator Teams (PPFT)	No corresponding role for PPFTs
Section 6.4.1 concerning global policy proposals that are submitted directly to an RIR forum.	No corresponding stage in Attachment A
Section 6.4.2 concerning global policy proposals that are submitted directly to the ASO AC.	No corresponding stage in Attachment A
Section 6.4.3 concerning global policy requests that are submitted directly by the ICANN Board to the Address Council.	Procedure appears to be inconsistent with Consideration 1 of Attachment A which states that "*the ICANN Board has the ability to request that the ASO Address Council initiate a policy development process through the RIRs*".
Section 6.5 concerning the discussion phase of global policies at the level of the RIRs.	No corresponding stage in Attachment A
Section 6.6.1 concerning the Address Council Review of global policies.	No corresponding stage in Attachment A

Although we note that the Operating Procedures are updated on a more regular basis, Attachment A is supposed to be the authoritative version of the GPDP. The ASO AC sees the text in the ASO AC procedures document as a more descriptive version of the PDP than the one in the ASO MoU. We are of the view that an identical description should be used in both documents.

Recommendation # 7: The ASO should consider the adoption of a single, authoritative description of the GPDP for global numbering policies. The same description of the GPDP should appear in Attachment A of the ASO MoU and the relevant section of the Operating Procedures of the ASO AC (Currently Section 6).

7.1.4.   ASO MoU - Attachment B

Attachment B of the ASO MoU is a short description of the temporary procedure for the appointment of ASO AC members in the transition period between the old and the (then) new Address Council. This document no longer serves any purpose and may be archived. (See Recommendation # 4 regarding proposed modifications to the ASO MoU).

7.1.5.   GPDP infographic

In the course of research Reviewers came across the following draft infographic representing the stages in the ASO GPDP. Apparently produced by ICANN staff, this seems to be consistent with the GPDP as described in the ASO AC Operating Procedures.

We view such graphic representations of complex processes as helpful to the communities/stakeholders concerned. They are also effective ways of identifying and addressing procedural inefficiencies within an organisation.

If it is accurate, we would encourage the NRO to publish it (or a similar infographic) prominently on the ASO website.
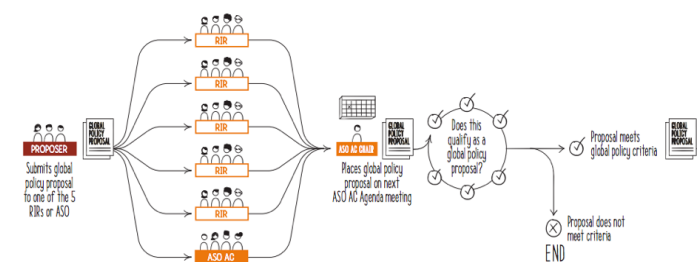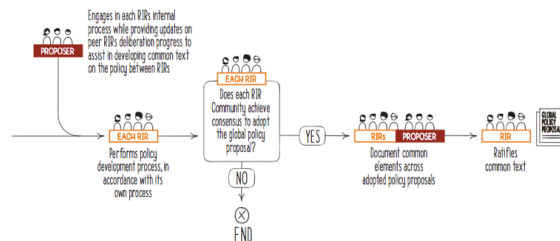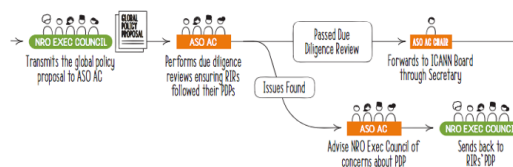
Source: ICANN

Recommendation # 8: With a view to increasing awareness regarding the mission, main operations, and separation of roles between the ASO AC and the NRO EC within the ASO, the NRO should consider the use of more infographics on its website.

7.2. Interview and survey findings

During interviews, we heard that the ASO is a well-administered, reliable and effective Supporting Organisation that gets appropriate support from the RIRs and the NRO. We spoke to many active ASO members about ways to improve operational effectiveness.

One suggestion made to us is that the ASO Chair and Vice Chair roles should rotate on an annual basis, as do the NRO EC roles. In addition to providing the benefits of term limits to the ASO Chairs, this model of operation allows the spreading of the workload amongst a larger group of people. One long-serving ASO AC member related that in the original ASO, there was no Chair, and that since the introduction of a Chair, communication from other parts of ICANN and the ASO had become excessively channelled, to the detriment of overall communications. He said;

"The AC could be more efficient if we were not so reliant on the management function of the Chair and Vice-Chair. This function adds resilience to communicate with the outside, but creates a tendency for the other members of the AC to sit back. Eliminating the Chair and Vice Chair could reduce this tendency within the ASO AC. The Chair creates a focal point."

While we see the merits of this idea we do not consider the removal of the Chair and Vice Chair roles to be a viable option for the ASO. Instead, we think the idea of rotating the Chair (and Vice Chairs) on a more regular basis has merit and should be part of the consultation process following the submission of this report. We suggest no more than three terms in a row for the ASO AC Chair and vice Chair roles.

Recommendation # 9: The ASO AC should implement term limits for the positions of Chair and Vice-Chair

7.3. Review assessment: ASO AC Operating Rules

7.3.1. Duties of the Address Council Chair

We note that the duties of the Chair/Vice Chairs have not yet been specified in the ASO AC Operating Procedures.

Since this is a requirement of the ASO MoU we recommend that the Operating Procedures document be updated accordingly.

4.2. Duties of the Address Council Chair

To Be Published.

4.3. Duties of Vice Chairs

To Be Published.

Recommendation # 10: The ASO AC should ensure that the duties of the Address Council Chair and the Address Council Vice-Chairs need to be added to the ASO AC Operating Procedures.

7.3.2. Procedure regarding the removal of an ICANN Board Director

We note that new ICANN Bylaws contain provisions for the removal of an ICANN Director which may be inconsistent with Section 8 of the ASO AC Operating procedures on the removal of ASO appointed members. Since the Internet Number Community has formally accepted the establishment of the ICANN *Empowered Community,* the ASO AC should ensure that this provision is updated accordingly. We understand that work has already begun in this regard but have not had a chance to review draft documentation.

Recommendation # 11: The ASO AC should ensure that its internal procedure for the removal of an ICANN Board Director is consistent with Section 7.11 of the New ICANN Bylaws.

7.3.3.   New election procedures for seats 9 and 10

The latest changes to the ASO AC election rules were approved in June 2017 in reaction to the previous board seat election. This is an example of the ASO AC doing one of the MoU-prescribed roles, specifically; *"defining procedures for selection of individuals to serve on other ICANN bodies, in particular on the ICANN Board…."*. While we have no basis upon which to judge these new rules (implementing a Schulze method of ranked voting, amongst other changes), we do see this as an example of a healthy, functioning ASO AC doing its job according to its mandate.

7.3.4.   Executive Secretary of the NRO as PoC for the ASO

We have considered the role of the Executive Secretary of the NRO and suggest that the Point of Contact for all ASO business should be this person. Procedures will need to be developed by the ASO AC to direct the Executive Secretary on the forwarding of communications to the appropriate parties within the ASO.

While there is currently a single email address Aso-chairs@icann.org, which has multiple subscribers from the ASO, this is not the same as having a single POC.

Currently there are multiple people (ASO AC Chair, ASO Vice Chair, NRO EC Chair, NRO Executive Secretary) subscribed to the above email address that ICANN participants can and do use to contact the ASO folks. This has led in the past to confusion about who was required to take action on certain issues.

We think that a single Point of Contact for the entire ASO should be established and communicated to all branches of ICANN to eliminate confusion around who to reach for which responsibility, and that the NRO Executive Secretary team be the sole subscriber for this role account.

This single POC could also act as the required Point of Contact for the Empowered Community, so it would fulfil a Bylaw requirement and hopefully improve communications at the same time.

Recommendation # 12: The ASO should establish the NRO Executive Secretary as the ASO Point of Contact (PoC). The ASO AC should establish procedures for forwarding communications to appropriate parties within the ASO.

7.4.   Collaboration with other ICANN SOs & ACs

Unlike the ccNSO or the GNSO, the ASO is not formally required by ICANN Bylaws to coordinate with the other Supporting Organisations (SO) and Advisory Committees (AC). Likewise, the ASO MoU contains no specific provisions in this regard. As a result, the ASO is largely passive in relation to the main coordination mechanisms in place within ICANN. It places no demands on other ICANN constituencies to engage in ASO processes, but responds to requests from the ICANN Board and other constituencies whenever they arise.

ICANN has sought through various means to encourage inter-SO/AC coordination as a means of combating the spread of "silo culture" within the organisation, creating synergies between stakeholder groups and increasing the overall effectiveness of the organisation. Coordination between the various bodies that make up the ICANN multistakeholder system is seen as essential if the system is to endure and prosper. Recent cross-community work on accountability (CCWG-Accountability) is an example of successful coordination involving all the main constituencies within ICANN.

Historically, the NRO has been supportive of the ICANN model as the most appropriate model to ensure the growth and evolution of the Internet. However, beyond occasional public statements of

support, the NRO has avoided making a formal commitment to mirror the coordination mechanisms that other SOs and ACs have created, rightly so in our opinion.

7.4.1. Interview and survey findings

Interviewees were asked about the level and suitability of communication and collaboration mechanisms in place between the ASO and the other ICANN SOs and ACs. Not surprisingly ASO/NRO members' impressions were significantly more positive than other respondents, many of whom declared a lack of awareness regarding the ASO. We also note that among ICANN Board and SO / AC member there is a considerable demand for reinforced collaboration.

Survey Question [Selected respondents]: Are there regular and suitable communication and collaboration mechanisms in place between the ASO and other ICANN Supporting Organisations and Advisory Committees?
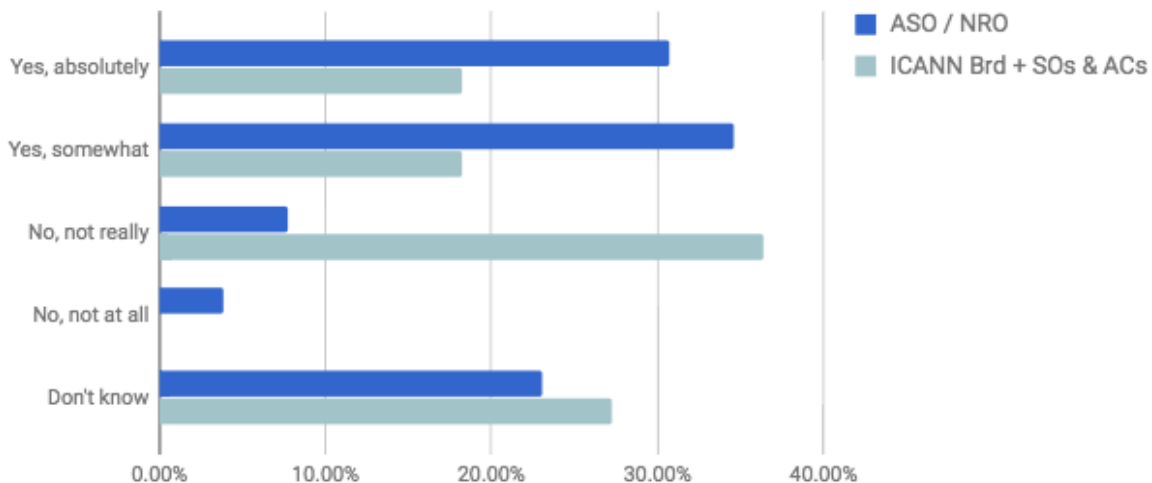
We heard that previous seat 9 and 10 ICANN Board Directors and ASO AC Chair have worked hard to raise awareness about Internet Number issues within ICANN, notably by attending fora with other SOs and ACs, giving updates to all concerned and making themselves available to answer basic questions about the role and function of the ASO. The current Board Directors and ASO AC chair continue to build on on that work which will need to be strengthened further if all of our recommendations are implemented.

We heard from several members of the ASO AC about ongoing efforts to engage in open sessions and joint meetings with the ICANN Board and other ICANN SOs and ACs, to raise awareness about numbering issues.

We do open mic. We have a face-to-face meeting. We meet with the Board, the ICANN Board, and that's actually a public session. So the world can see us interacting with the ICANN Board. They will have questions for us. We will pose questions to the Board, and then they will pose questions to us. And the community can see the type of interactions that go on in that regard.

Member of the ASO AC

7.4.2. Review assessment: Collaboration with other SO/ACs

The following tables contain a partial list of ICANN Working Groups/Teams that the ASO has been asked to provide volunteers for in recent months, and the number of Internet Number community volunteers that have been assigned in each case.

We note that, for the most part, these activities fall outside the ASO AC's narrow remit to provide advice in connection with Internet number policies. They are activities that the NRO has agreed to

undertake as part of its commitment to the ICANN multistakeholder system, in addition to the ASO's policy advice remit.

Table 1: Cross Community Working Groups

Cross-Community Working Groups (CCWG)	ASO volunteers
Enhancing ICANN Accountability (CCWG-Accountability)	5
Internet Governance (CCWG-IG)	3
New gTLD Auction Proceeds (CCWG-Auction Proceeds)	3
ICANN Academy working group	1
Use of Country and Territory Names as TLDs (CCWG-UCTN)	0

Table 2: Special Review Teams

Specific Review Teams	ASO volunteers
Root Zone Evolution Review Committee	3
Security, Stability, and Resiliency (SSR2)	3
Accountability and Transparency (ATRT3)	0
Competition, Consumer Choice, and Consumer Trust (CCT)	0
Registration Directory Services (RDS)	0

Table 3: GNSO PDP Working Groups

GNSO Policy Development Process Working Groups:	ASO volunteers
Curative Rights Protections for IGOs/INGO	0
New gTLD Subsequent Procedures	0
Next Generation gTLD Registration Directory Services	0
Review of All Rights Protection Mechanisms in All gTLDs	0

Table 4: Other working groups and committees

Other (Various)	ASO volunteers
RSSAC Liaison to ICANN Board	1
Budget Working Group	2
Empowered Community/Empowered Community Administration	1
Multistakeholder Ethos Award Community Selection Panel	2
Nominating Committee	1

Under the MoU, the NRO EC has discretion to decide which activities it undertakes on behalf of the Internet Number Community. They also have the option to just say "no". In the course of this review, as discussed elsewhere in this report, we heard from many within the Internet Number community

with concerns about increasing demands from ICANN, and the effective powers of the NRO to dismiss them.

- Is the investment of Internet Number Community members' time in non-policy related ICANN work worth it?
- Is the financial and time commitment to ICANN commensurate with the benefit that is derived by the Internet Number Community?
- What actual obligations does the ASO have in relation to the other ICANN SOs and ACs?
- Can the ASO, as a member of the ICANN Empowered Community, refuse to become involved in additional work?

Our assessment is that the way in which the ASO is currently set up and operates within ICANN gives the NRO considerable latitude to decide whether or not it takes on additional work that is not directly related to the ASO's core policy advice mission.

According to ICANN Bylaws and the ASO MoU, the only firm obligations of the ASO concern the transferal to the ICANN Board of global numbering policies, defining internal operating rules and procedures, and overseeing the appointment of individuals to serve on the ICANN Board of Directors and "other ICANN bodies". Other activities, related to the ICANN Community by not specified by the Bylaws or the MoU, would appear to be less binding.

In the absence of formal guidelines regarding the types and amount of work that the NRO should undertake within ICANN in addition to the ASO's policy advice mission, it is the responsibility for the NRO EC to determine what its commitment should be.
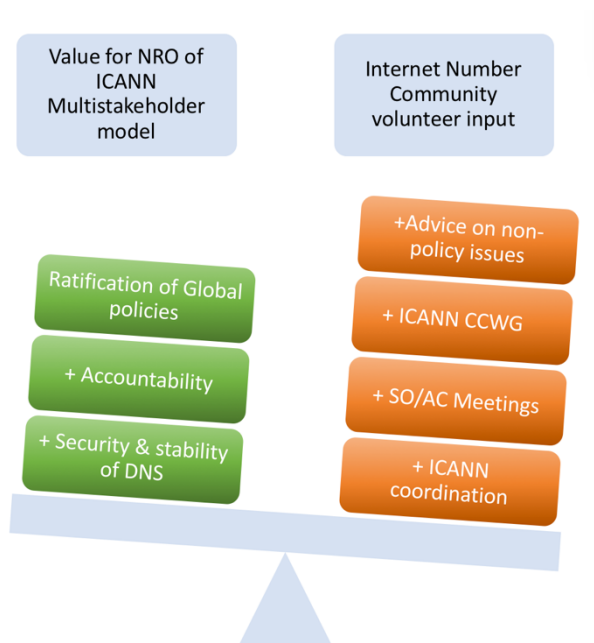
7.5.   ICANN *Empowered Community*: implications for the ASO

Section 6.1 of ICANN Bylaws on the composition and organisation of the *Empowered Community* states that each Decisional Participant shall adopt procedures for exercising the rights of such Decisional Partners pursuant to the procedures set forth in Annex D. These include:

1. who can submit a petition to a Decisional Participant,
2. the process for an individual to submit a petition to such Decisional Participant, including whether a petition must be accompanied by a rationale,
3. how the Decisional Participant determines whether to accept or reject a petition,
4. how the Decisional Participant determines whether an issue subject to a petition has been resolved,
5. how the Decisional Participant determines whether to support or object to actions supported by another Decisional Participant, and
6. the process for the Decisional Participant to notify its constituents of relevant matters.

We understand that legal analysis work is ongoing on *Empowered Community* issues and that the NRO EC in particular is waiting for this report to inform some of the *Empowered Community* questions. Reviewers feel that the details of these answers are out of scope for this review and should be left to representatives of the Community, or to the RIR Communities themselves.

Recommendation # 13: The ASO MoU should be updated to reflect the new reality of the *Empowered Community* and specify the roles and responsibilities within the ASO must be clearly defined.

7.5.1.   Scope of work for the ASO

Given the increasing demands on the NRO EC and the ASO AC from the rest of the ICANN Community (Section 7.4.2), the establishment of the *Empowered Community* may be an ideal opportunity to limit the scope of activities that the ASO bodies participate in within the ICANN context. If the scope of activities is not delineated now, our assessment is it will probably need to be done at some point in the future due to potential conflicts of interest.

One example of this type of potential conflict is the participation of representatives of the Number Community being active in the new gTLD Auctions Proceedings Working Group. This is just one current example of naming issues being worked on by numbering people that may be problematic in the future.

We have considered a few changes in method of operation that may ease the ICANN workload of the NRO EC branch of the ASO. Most of these changes involve a tighter scoping of the issue areas that the ASO should work on (just as the ASO AC roles are tightly scoped in the MoU).

A few areas that we suggest may be in scope are:

- **ICANN Budget**: Since the NRO contributes to ICANN financially this is an issue area that should be monitored by the NRO.
- **Accountability**: This is a debatable issue area for ASO consideration since the ASO is accountable to its own community in a variety of ways. There was a strong suggestion made by several interviewees that it does not need to concern itself with the Accountability of ICANN writ large. We note many ASO appointees to the current WorkStream 2 of the CCWG-Accountability are active. So perhaps allowing them to complete their work and then disengaging from this issue area is a good solution.
- **WHOIS**: Many attempts have been made over the years to revamp WHOIS. Since the Internet Number community registries use WHOIS as a core part of their work, we suggest the ASO representatives monitor all working groups that pertain to new versions of the protocol, but not participate in groups whose focus is WHOIS in the naming context.
- **Issues that affect rDNS** - Since the RIRs are responsible for much of the reverse DNS tree, they have a vested interest in the utility of the DNS. While the NRO as a larger entity than just the ASO has their own Inter-RIR Working groups whose members are involved in DNS operations and DNS protocol development, any global policy work touching on the reverse tree might be in scope for the ASO.

7.5.2.   Designated representative of the ASO as Decisional Participant

Section 6.3 of ICANN Bylaws on the EC Administration states that the Decisional Participants in the *Empowered Community*:

> *"shall act through their respective chairs or such other persons as may be designated by the Decisional Participants. Each Decisional Participant shall deliver annually a written certification from its chair or co-chairs to the Secretary designating the individual who shall represent the Decisional Participant on the EC Administration.*

Accordingly, one of the first priorities for the ASO should be to have a procedure in place for the appointment of a "Representative" or "Associate" to act on its behalf and in accordance with processes. According to ICANN Bylaws:

> *"In representing a Decisional Participant on the EC Administration, the representative individual shall act solely as directed by the represented Decisional Participant and in accordance with processes developed by such Decisional Participant in accordance with Section 6.1(g)."*

There are no specific ICANN guidelines regarding the appointment of this individual and it is our understanding the NRO EC has provisionally established that the acting Chair of the NRO EC will serve in this capacity.

If the NRO confirms that the Chair of the NRO EC will continue to serve in this capacity this removes the need for a new appointments procedure. However, if the NRO considers that another individual (e.g. the chair or other member of the ASO AC) could serve in this capacity, the ASO AC should be tasked with developing a new appointments procedure. In this case we recommend the appointment to be made on an annual basis, rotating between the five global regions.

Either way this will require the delivery of an annual certification according to the ICANN bylaws Section 6.3. EC Administration.

Recommendation # 14: The ASO AC should either confirm that the designated representative of the ASO on the Empowered Community Administration will be the Chair of the NRO EC, or adopt a procedure for appointing another representative.

7.5.3.   Review assessment: Empowered Community

Since the ASO has agreed to be a member of the *Empowered Community* there are a number of community-related tasks that ICANN has requested of the ASO. Deciding who should take these tasks on, if they should be taken on at all, is significant work itself.

We understand it is difficult to "just say *no*" to ICANN staff and other SO/AC Chairs when they make requests for participants, and that certain members of the ASO AC may be interested in the wider issues beyond those of the naming community. However, If the ASO is to participate in any ICANN process, this must be a positive decision by the ASO, not an imposed obligation from the ICANN Community.

We also see the potential for conflicts of interest that was described to us by some in the Internet Number Community in sending representatives to ICANN bodies that deal with naming and other non-numbering issues. RIR Members pay their RIR for numbering services and many of these Members also have interests in naming issues. These organisations adequately represent their own interests in ICANN without having any potentially conflicting representation by those involved in the numbering communities.

This was discussed at length with a range of people inside ICANN and the Internet Number community. The opinions we heard suggest that the Internet Number community representatives should adhere to a tightly scoped set of issue areas that affect their work due to this very real potential conflict of interest. In other words, we feel that ICANN Working Groups that touch on naming issues are probably outside the scope of the ASO.

8. Accountability & Transparency of the ASO

ICANN's commitment to accountability and transparency, in all of its operations, and across all its constituent bodies is well documented[25]. The principles of accountability and transparency are often presented as a cornerstone in the organisation's efforts to ensure that its multistakeholder model remains effective.

Likewise, the Internet Number community is also firmly attached to the principles of accountability and transparency and, in this regard, the NRO website contains a comprehensive *RIR Accountability Q&A*[26].

Conversely, the standards of accountability and transparency to which the ASO should be held are not immediately obvious. There is no ASO document or statement outlining its commitment to the principles of accountability and transparency, and very little or no mention of these principles in the following documents:

- ASO MoU (one reference to transparency in the selection of Board Directors).
- ASO AC Operating Procedures (no reference)
- Procedures to appoint members to various bodies (no reference)
- Procedures for the election of AC Chair and co-Chairs (no reference)
- The ASO website - ASO FAQ (no reference)

Besides, we note that the ASO website contains no web links to either the ICANN or NRO declarations on accountability and transparency. As a result, it is not clear whether it is ICANN or NRO principles, or a combination of both, that apply in the case of the ASO.

In the absence of a discernible ASO statement on accountability and transparency Reviewers determined that the ASO should act in accordance with both ICANN and NRO principles.

8.1. ASO AC & NRO EC: Individual lines of accountability

ASO leadership consists of twenty people (15 ASO AC + 5 NRO EC) each of which may be considered to be answerable to the community that appointed them to their role.

8.1.1. NRO Executive Committee (EC)

There are five members of the NRO EC. According to the NRO MoU these individuals could be anyone from the RIR communities. In practice, however, the NRO EC has always been made up of the CEO of the five RIR. These five individuals are hired and can be dismissed by the respective RIR Board of Directors, so they are answerable (accountable) to the Board that hired them. The boards are in turn accountable to the community that selected them. These are clear lines of accountability.

If in future, non-CEO RIR staff are designated to sit on the NRO EC, the same type of accountability (employer-employee) relationship would still be in place.

8.1.2. ASO Address Council (AC)

Two members of the ASO AC are elected by each RIR community. These elections seem to be conducted in line with the principles of bottom-up, open and transparent processes that the RIR communities espouse. Anyone, who attends the RIR meeting where elections are held is eligible to vote in these elections. There are no RIR membership criteria for enfranchisement. These ten Members are, therefore, accountable to the larger community of Internet number policy makers in

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[25] ICANN website: *Accountability and Transparency* https://www.icann.org/resources/accountability
[26] RIR Accountability Question and Answers: https://www.nro.net/about-the-nro/rir-accountability/

each region. They can be replaced at the next election, and thus their accountability (answerability) is ensured.

The five selected ASO AC Members (one per region) are chosen by the RIR Board Members to sit on the ASO AC. As with the NRO EC Observers, these individuals are accountable to the Boards that appoint them (another person can be selected to fill the ASO AC role at expiration of their term). Frequently these individuals are RIR Board Members, but are not always. When they are from a Board they are answerable to that Board and to the larger community which has elected them (they can be voted out of office at the next election or otherwise removed by that region according to 3.D of the ASO Rules of Procedure). So we see full accountability from this role.

One NRO Secretariat staff and multiple RIR staff work on ASO issues. These individuals are hired by the RIR CEO (in theory and can be dismissed by them as needed, so they are answerable (accountable) to the RIR that hired them. This is a clear line of employer-employee accountability.

8.2. Accountability & transparency practices

8.2.1. ASO face-to-face meetings

The ASO has traditionally held face-to-face meetings during annual ICANN meetings. However, in recent years, it would appear that the ASO has held most face-to-face meetings in closed session.

One long-time member of the ASO AC explained how, in the early days, meetings had always been closed until someone pointed out that there was no reason for this. Meetings were subsequently opened up in line with Internet Number community and ICANN practices and, for a while, anyone could attent. Then, at some point, the need to discuss individual suitability for certain ICANN roles led to their closure again.

Reviewers feel that, with the exception of discussions that need to be held in private (e.g. regarding the CVs and suitability of individuals for ICANN appointments) ASO AC face-to-face meetings should be open to the larger ICANN community. We do not anticipate the opening up of meetings will lead to a large influx of attendees due to the high level of specialisation regarding numbering issues that is required.

Recommendation # 15: ASO AC meetings should be open to the public, except for discussions regarding the selection of individuals for ICANN roles.

We note that, since 2013, the ASO maintains complete face-to-face meeting attendance records[27]. These are made publicly available on the ASO website. This is a useful accountability and transparency measure that should certainly be continued.

8.2.2. ASO mailing lists

The ASO has three active mailing lists listed on the ASO website, each with different levels of accessibility and posting rights[28]:

- **aso-announce:** (open to all, publicly archived) used to make announcements relating to ASO news, policy developments, meetings and calls for comment.
- **aso-policy:** (open to all, publicly archived) used to provide a forum for public discussion on matters related to the ASO.
- **aso-council:** (restricted access, publicly archived) used for discussion by the ASO, mostly in connection with policy matters.

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[27] ASO AC Meeting Participation Records: https://aso.icann.org/meetings/ASO AC-meeting-participation-records/
[28] ASO Mailing Lists: https://aso.icann.org/contact/aso-mailing-lists/

However, the ASO mostly uses the AC-COORD internal coordination mailing list. We made several requests to access the archives of this list but the ASO AC is eager to keep these discussions private. There does not appear to be a publicly available list archive for the AC-COORD list. This list should also appear on the ASO webpage: https://aso.icann.org/contact/aso-mailing-lists/

While we appreciate that there may be issues (e.g. procedures for the appointment of ICANN Board and NomCom positions) that the ASO may wish to keep private, for the most part we are of the view that discussions within the ASO should be conducted in a manner that is as open and transparent as possible.

Hence, we recommend that the AC-COORD mailing list only be used sparingly, for the most sensitive issues that cannot be discussed in public, while the majority of of issues relating to the operations of the ASO are discussed in public, via the open subscription *aso-council* list, and publicly archived.

Recommendation # 16: For its internal communications, and for most matters related to the operations of the ASO, the ASO should favour the use of a publicly archived mailing list. In exceptional circumstances, for issues (e.g. Board appointments) that cannot be discussed in public, a non-publicly archived list should be used.

8.2.3. ASO website

The ASO website contains a large amount of information on the origins, mission, operating procedures, global policies and other achievements of the ASO. The site is a vital means of ensuring that the operations of the ASO are conducted in as transparent a manner as possible and, generally speaking, we have found it to be well-organised (intuitive navigation), with up-to-date, accurate and relevant information.

Notable improvements in terms of enhanced transparency and accountability, that have been made to the site since the last ASO review, include:

- **Translations to the ASO MoU and Global Policy documentations:** In 2013 translations were made available in Arabic, Chinese, French, Russian and Spanish. This is consistent with Recommendation # 15 of the previous review.
- **ASO AC work plan:** The site now includes a link to an annual work plan. Such plans are useful for internal purposes, and for outside reviewers, to check the capacity of the ASO to operate according to a clearly defined mission and shorter/longer term objectives.
- **ASO FAQ:** This provides answers to many questions that outsiders may have regarding the ASO. However, we note that the FAQ does not include any questions on the specific role of the NRO EC as part of the ASO. We would recommend an additional question on the specific role and scope for action of the NRO EC.
- **History of the ASO:** A more detailed history of the origins and mission of the ASO is now included on the site.
- **Glossary of Terms**: The site now includes a comprehensive and useful glossary of terms and acronyms used by the ASO.

However, we consider that there is still room for improvement. In particular:

- **Better synchronization of information between ASO and NRO sites:** We see the advantages of a more systematic synchronisation of the ASO and NRO sites regarding the operations of the ASO. For example, paragraphs 19 and 20 of the ASO MoU indicate that

"All global policies adopted will be published in the NRO and the ICANN web sites", yet the two sites currently contain different information regarding global numbering policies[29].

- **More direct reference to the NRO:** Currently the site contains little information on the role and scope for action of the NRO EC in connection with the ASO. This could be made much more explicit, notably with more links to the website of the NRO and a presentation of the members of the NRO EC. A record of the activities carried out by the NRO in connection with the operations of the ASO (currently available on NRO site) should be included on the ASO site.

- **ASO presentations:** The ASO site contains a useful link to presentations that have been made, in various forums, on the activities of the ASO. However, this page has not been updated since 2012. A more regular updating of this page, notably in view of recent organisational changes within ICANN, would be welcome.

- **ASO Historical documents**: the "Historical Document" page on the website (https://aso.icann.org/documents/historical-documents/) is currently empty. This would be a useful resource to have on the site.

- **Contact info:** The site could include more direct means for members of the public to get in contact (email, phone), name of the point of contact person.

Recommendation # 17: In the interests of transparency, the ASO website should be updated with recent presentations, contact details and an archive of the activities of both the ASO AC and NRO EC.

8.2.4.   ASO Social Media

The ASO does not have an official Facebook Page or Twitter account. Nevertheless, during the review process, we were able to observe how the NRO Secretariat, several members of the ASO AC and NRO EC, as well as the ASO-appointed members of the ICANN Board of Directors, often use both of these social media platforms to communicate about the activities of the ASO. There is a strong community awareness of the effectiveness of social media to communicate broadly, and related benefits in terms of accountability and transparency

8.2.5.   ASO Independent Review

As noted (Section 4.2) regular Independent reviews are a key component of ICANN and the Internet Number Community's strategy regarding accountability and transparency.

This review was conducted over a six-month period between late February and 31 July 2017. Reviewers were given access to all relevant documentation regarding the ASO, and generally found the representatives of the organisation to be open, knowledgeable and frank about its operations.

Given the number of meetings that needed to be attended during this period, we did feel that a slightly longer timeframe would have been preferable.

8.3.   Interview & survey findings

A large majority of interview and survey respondents expressed a high degree of satisfaction regarding the accountability and transparency of the ASO.

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[29]The NRO site (https://www.nro.net/policies/global-policies-development-process/) lists three global policies, whereas the ASO site (https://aso.icann.org/global-policies/global-policies-2/) lists four.

Survey Question [All respondents]: Does the ASO operate in a manner that is accountable to the global Internet number community?
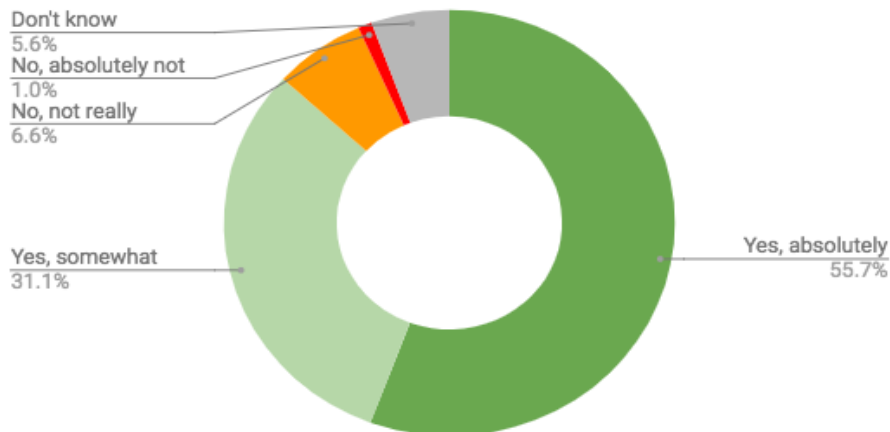
While nearly 87% of respondents felt that the ASO operates in a manner that is accountable ("Yes, absolutely" + "Yes, somewhat"), a small minority (7%) felt that they were not really accountable and 6% said they "didn't know". Hence, the general consensus is that the ASO (ASO AC and the NRO EC) have established lines of accountability to their communities either directly or indirectly.

While there are a variety of ways to define "accountability", in the context of the Internet Number Community, it seems to be defined as "*can these people be removed from their role in cases where they do not act according to the wishes of the community body which has chosen them*." The consensus view is that there are well established and well-functioning mechanisms throughout the numbering community that establish and maintain good accountability.

8.4.   Review assessment: Accountability & Transparency

In the following table we identify some of the main tasks undertaken by the ASO and evaluate them in terms of their contribution towards the objective of greater accountability and transparency.

Table 3.   ASO ACCOUNTABILITY & TRANSPARENCY PRACTICES

Type of activity	Reviewer's observations
ASO AC monthly calls	**Low A&T**: Closed calls for the members of the ASO AC only.
ASO AC policy mailing list	**High A&T**: Public mailing list available on the ASO website.
NRO EC monthly call	**Moderate A&T**: the minutes of the monthly NRO call, in so far as they concern the ASO, should be linked on the ASO website.
ASO face-to-face meetings during ICANN meetings	**Low A&T**: Whereas the ASO opened up many of its meetings, in recent years there has been a marked tendency to make them private again.
Activity reports on the ASO during RIR meetings	**High A&T**: During the course of the review we attended several public presentations on ASO activities during RIR meetings.
ASO website	**Moderate/high A&T**: The ASO website contains a significant amount of information on the origins, mission and achievements of the ASO. However, a large number of 'non-policy' activities carried out by the NRO in connection with the ASO are not referenced on the ASO website (they appear only on the NRO site).

Translation of key ASO documentation into main UN languages	**Moderate A&T**: Since the last review the ASO MoU and global policy documentation has been translated into Arabic, Chinese, French, Russian and Spanish.
Interpretation during ICANN meetings	**High A&T**: While interpretation is not systematically provided during ASO meetings, it is provided for high level public meetings with the Board (and was provided for the public presentation of interim review findings).
Implementation of periodic review recommendations.	**High A&T**: Once the Board of ICANN accepts recommendations resulting from review processes, the implementation of these recommendations is publicly tracked with periodic status reports posted.
Liaison with the ICANN Board Organisational Effectiveness Committee (OEC)	**High A&T**: Reviewers noted that the NRO maintained regular contact with the ICANN Board OEC during the review process. Members of the OEC participated in the public presentations of interim findings.

Other issues discussed in regards to accountability were the number and make-up of the ASO AC. Currently the ASO AC consists of ten elected members (two per region) and one member selected by the RIR Board in each region. A small minority of people we spoke to suggested that all fifteen ASO AC Members should be elected and that this would increase accountability to the Internet Number community at large.

While there is a numerical balance in the ASO currently (10 x AC elected members + 5 x selected by RIR Boards + 5 NRO EC Members), the proponents of this idea pointed out that all 15 ASO AC Members should be directly accountable to the Internet Number community (i.e. elected). However, the practice of the RIR Boards selecting one ASO Member per region allows for the identification and retention of dedicated professionals.

We spoke to a variety of people about the size of the ASO AC and while some felt it was too big, they were in a small minority. Most felt that a fifteen-member AC was the right size. We have seen evidence in the recent history of the ASO that points out the utility of this practice and we find it to be of value to the Internet Number Community. We make no recommendation on this issue.

In general, our view is that the ASO operates with a high degree of accountability to its constituencies, stakeholder groups, organizations and other stakeholders. However, as highlighted in the table above, we also note some minor issues where this can be improved.

9.   Options for the ASO going forward

One of the main findings of this review is that the ASO continues to function in line with its policy mandate as defined by ICANN Bylaws and the ASO MoU. Yet, at the same time, in many parts of ICANN, including at the level of the Board, there is still considerable misunderstanding regarding the precise scope for action and separate roles of the ASO AC and the NRO EC. There is also a growing potential for mismatched expectations between the two parties given the number of additional tasks that Supporting Organisations have been expected to take on in recent years.

With this in mind we have considered three options for the ASO going forward weighing up, in each case, the advantages and disadvantages for the Internet Number community. Ultimately, it will be up to the NRO to organise a public consultation to decide on the ASO within ICANN.

9.1.   Options for reform

Taking into account feedback following the publication of the draft Report, we have considered three options along a spectrum of choices for the ASO going forward:

1) Status Quo, and *"Just say no"*. In other words, the NRO EC must tightly scope ASO activities to those consistent with the interests of the global internet number resource community.
2) Status Quo +. Increased coordination between the ASO AC and the NRO EC to ensure that entire ASO (ASO AC + NRO EC) formally meet at least once a year, or more often as needed for critical *Empowered Community* decisions.
3) Replace the current ASO with an *ASO Council* consisting of two houses, a Policy House (current ASO AC) and a Registries House (current NRO EC).

9.1.1.   Status quo and *"Just say no"*

The ASO is widely perceived to perform its narrowly-defined policy function within ICANN in an organised and efficient manner, and many stakeholders still consider the ASO MoU to be an accurate description of the mission and scope-for-action of the ASO. ICANN Bylaws and the ASO MoU have served as a solid and enduring definitional basis for the operations of the ASO and, as such, this suggests a strong case for maintaining the status quo.

In the status quo, with minimal roles outlined in ICANN Bylaws, the ASO AC has been able to focus on a limited number issues. Whenever issues have arisen that do not relate to the narrow mandate of the ASO AC, the NRO has had the flexibility to decide, on a case by case basis, what is in scope, and to determine which body should take up a certain task or set of tasks.

Since the MoU states that the NRO fulfils the roles and responsibilities of the ASO, the NRO's flexibility to determine what is in scope for the ASO AC and what is in scope for the NRO is a valuable mechanism, and one that should not be changed without significant consideration.

One potential drawback to maintaining the status quo is that the current misperceptions regarding the ASO by some within ICANN will also be maintained. This will mean that misalignment of expectations will continue with ICANN expecting to be able to task the ASO with additional duties related to its status as a Supporting Organisation, while the numbering communities expect the ASO to be accountable (and tasked) by them alone.

In addition, it does not address the problem we have identified that the status quo tends to conceal from public view the procedures and decision-making processes of NRO EC in connection with the operations of ASO (since these tend to be archived on the website of the NRO).

Under the increasing workload that the ASO has seen in recent years, the status quo means that the NRO EC will be tasked with continuing to make decisions on an ad hoc basis, which is a significant source of work that several in the ASO discussed with us.

The status quo with a tight scope option is the path of least resistance for the NRO. It is an organisational model that has allowed the ASO to operate in a stable, effective and sufficiently accountable manner and, if no structural changes are made as a result of this review, there is enough evidence to suggest that it will continue doing so in years to come.

9.1.2. Status quo +: increased ASO AC / NRO EC coordination

Increased coordination between the ASO AC and the NRO EC is a relatively straight forward option to overcome a number of procedural grey areas within the ASO that have been identified in the course of this review, notably regarding non-policy related matters in connection with the ASO and the wider ICANN system.

While there is already significant coordination and cooperation between the ASO AC and the NRO EC, it may be useful to formalise the joint annual meeting. Currently, there is an annual joint meeting of the ASO AC and the NRO EC held during one of the three ICANN meetings. However, this is not a requirement from the Bylaws or MoU and should perhaps be documented as an essential meeting of the ASO as a whole.

One point of having a joint meeting, in addition to discussing the status of current topics, could be to jointly plan for the year ahead as well as determining which body should be taking on which tasks for the foreseeable future.

In addition, there are many who feel that extraordinary issues such as removal of an ICANN Board Member should have the input of the entire ASO leadership, so a joint session could provide the formal opportunity to make such decisions. Obviously, decisional procedures would need to be updated if this option was desired. However, this option would require no structural changes to Bylaws or the ASO MoU.

If this (open) meeting were advertised to the rest of ICANN as a joint meeting of the ASO AC and the NRO EC, it may help in dispelling misunderstandings about the ASO. One of the main effects of this option is to highlight the role of the NRO EC within the ASO.

9.1.3. Adoption of a two-house ASO Council

The adoption of a two-house *ASO Council* model is a possible solution for removing common misconceptions about the mission and functional aspects of the ASO. By establishing that the ASO is composed of two houses, a 'Policy House' (currently the ASO AC) focused on global policy and the appointment of individuals to the Board and other other bodies within ICANN, and a 'Registries House' (currently the NRO EC) with responsibility for contractual, coordination (ASO MoU) and other operational matters with ICANN, the aim of the *ASO Council* is to highlight the two main channels through which the Internet Number Community engages with the ICANN community.

The *ASO Council* is not intended to alter the way in which the NRO fulfils the role, responsibilities and functions of the ASO. Rather it is intended to take into account the fact that the NRO, when acting as the ASO, routinely conducts activities (e.g. coordination of the CRISP Team, SLA Review Team, seating of Internet Number Community volunteers on ICANN CCWG etc.) that were not originally planned when ICANN Bylaws were drafted and the current version of the ASO MoU was signed.

By more clearly delineating the separate roles of the ASO AC and the NRO EC, as two 'houses' within a single *ASO Council*, it could be argued that this will lead to increased efficiencies within the ASO, and the ICANN organisation as a whole, as well contributing towards the goal of greater transparency and accountability. The main motivations for establishing such an *ASO Council*, include:

- **Operational effectiveness**: a better description of the respective roles of the ASO AC and the NRO EC in ICANN Bylaws and the ASO MoU is likely to lead to more streamlined relations with ICANN. Internally, the adoption of a single set of Operating Rules and Procedures for the ASO Council as a whole is likely lead to improved operational effectiveness, and remove grey areas where the separation of powers between the ASO AC and the NRO EC are unclear.

- **Accountability and transparency**: a more complete description of the role and function of the NRO when conducting activities in conjunction with the ASO's policy function, as well as other activities in connection with the ICANN Empowered Community. All actions undertaken by the ASO AC and the NRO EC should be recorded on the ASO Website (unlike the current practice of recording NRO-EC activities on the NRO site).

- **Internal and external review of ASO performance**: a better scoping of the ASO AC and the NRO EC will make it easier for the Internet Number Community, and future reviewers of the ASO, to make qualitative assessments of the work output of the ASO. Currently it is difficult for reviews to make a qualitative assessment of the work of the NRO EC since it is not conducted within a specific framework, according to established guidelines.

9.2. Status quo or reform? Implications of proposed options

The following table identifies some of the changes to ICANN Bylaws, the ASO MoU and other ASO documentation resulting from the adoption of one of the three proposed options.

Table 4. IMPLICATIONS OF PROPOSED OPTIONS

	Option 1: *Status Quo & "Just Say No"*	**Option 2** *Status Quo + increased coordination*	**Option 3** **Adoption of two-house "*ASO Council*"**
ICANN Bylaws	No change	No change	Bylaws to state that the ASO shall have an *ASO Council* with two "Houses"; a Policy House current (ASO AC) and a Registries House (NRO EC).
ASO MoU	No change	No change	Update to include more details on the scope for action of the NRO EC (Registries House)

ASO AC Rules of Procedure	No change	Formalise joint annual meeting as needed	Rules of Procedure to be renamed "ASO Rules of Procedure".
ASO website	No change	More information on role/scope for action of the NRO EC	The ASO website to include record of all activities of the NRO EC in connection with the ASO.

9.3. Internet Number Community public consultation

As part of this review we are not making a recommendation in favour of one of the three options described above. We do think, however, that recent organisational changes within ICANN, as discussed elsewhere in this report, call for a community-wide reconsideration of the role and function of the ASO within ICANN. In discussion with NRO leadership, the members of the ASO AC members, and members of the wider Internet Number Community, we have heard compelling arguments for and against the options presented here.

For this reason, we think that the time is right and that it is in the NRO's best interests to initiate a public consultation to determine the need for organisational reform within the ASO.

Recommendation # 18: The NRO should initiate a public consultation, involving the five RIR communities, to determine the future structure of the ASO.

10. Review recommendations

10.1. Recommendations in order of appearance in report

Recommendation # 1 (p.11): ICANN should consider updating its Bylaws to reflect the fact that the NRO will, like the GAC, and according to the ASO MoU, provide its own review mechanism for the review of ASO.

Recommendation # 2 (p.11): The NRO should consider updating the ASO MoU to reflect the fact that the appropriate section of the New ICANN Bylaws regarding Organizational Reviews is Section 4.4 (previously Article IV, Section 4).

Recommendation # 3 (p.11): The NRO should adopt a procedure for conducting periodic reviews of the ASO in line with processes used by the ICANN Organizational Effectiveness Committee.

Recommendation # 4 (p.21): The signatories of the ASO MoU should consider updates to the MoU including i) the addition of AFRINIC as a signatory, ii) the removal of Appendix B. v) updates in connection with the responsibilities of the ASO as a Decisional Participant in the ICANN *Empowered Community.*

Recommendation # 5 (p.21): Upon completion of every independent review of the ASO, the NRO and ICANN should initiate discussions, as per Article 9 of the MoU, to examine results and consequences of their cooperation. The parties should determine if the ASO has a continuing purpose within the ICANN structure, and re-evaluate the MoU accordingly.

Recommendation # 6 (p.30): The ASO AC should ensure that procedures are developed for Steps 12, 15 and 16 of the GPDP as described in Attachment A of the ASO MoU.

Recommendation # 7 (p.31): The ASO should consider the adoption of a single, authoritative description of the GPDP for global numbering policies. The same description of the GPDP should appear in Attachment A of the ASO MoU and the relevant section of the Operating Procedures of the ASO AC (Currently Section 6).

Recommendation # 8 (p.31): With a view to increasing awareness regarding the mission, main operations, and separation of roles between the ASO AC and the NRO EC within the ASO, the NRO should consider the use of more infographics on its website.

Recommendation # 9 (p.32): The ASO AC should implement term limits for the positions of Chair and Vice-Chair.

Recommendation # 10 (p.32): The ASO AC should ensure that the duties of the Address Council Chair and the Address Council Vice-Chairs need to be added to the ASO AC Operating Procedures.

Recommendation # 11 (p.33): The ASO AC should ensure that its internal procedure for the removal of an ICANN Board Director is consistent with Section 7.11 of the New ICANN Bylaws.

Recommendation # 12 (p.33): The ASO should establish the NRO Executive Secretary as the ASO Point of Contact (PoC). The ASO AC should establish procedures for forwarding communications to appropriate parties within the ASO.

Recommendation # 13 (p.37): The ASO MoU should be updated to reflect the new reality of the *Empowered Community* and specify that the roles and responsibilities within the ASO must be clearly defined.

Recommendation # 14 (p.38): The ASO AC should either confirm that the designated representative of the ASO on the Empowered Community Administration will be the Chair of the NRO EC, or develop a procedure for appointing another representative.

Recommendation # 15 (p.40): ASO AC meetings should be open to the public, except for discussions regarding the selection of individuals for ICANN roles.

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Recommendation # 17 (p.42): In the interests of transparency, the ASO website should be updated with recent presentations, contact details and an archive of the activities of both the ASO AC and NRO EC.

Recommendation # 18 (p.48): The NRO should initiate a public consultation, involving the five RIR communities, to determine the future structure of the ASO.

10.2. Categorised

10.2.1. Recommendations for the NRO

Recommendation # 3 (p.11): The NRO should adopt a procedure for conducting periodic reviews of the ASO in line with processes used by the ICANN Organizational Effectiveness Committee.

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10.2.3. Recommendations for ICANN & the NRO

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Recommendation # 13 (p.37): The ASO MoU should be updated to reflect the new reality of the *Empowered Community* and specify that the roles and responsibilities within the ASO must be clearly defined.

10.2.4.   Recommendations for the ASO AC

Recommendation # 6 (p.30): The ASO AC should ensure that procedures are developed for Steps 12, 15 and 16 of the GPDP as described in Attachment A of the ASO MoU.

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Recommendation # 14 (p.38): The ASO AC should either confirm that the designated representative of the ASO on the Empowered Community Administration will be the Chair of the NRO EC, or develop a procedure for appointing another representative.

Recommendation # 15 (p.40): ASO AC meetings should be open to the public, except for discussions regarding the selection of individuals for ICANN roles.

Recommendation # 16 (p.41): For its internal communications, and for most matters related to the operations of the ASO, the ASO should favour the use of a publicly archived mailing list. In exceptional circumstances, for issues (e.g. Board appointments) that cannot be discussed in public, a non-publicly archived list should be used.

Agenda Item 10
Financial reports

Monthly Financial Report

(in AUD)

July 2017

APNIC

Table of Contents

1 Executive Summary

The latest APNIC Income Statement projects annual revenues at 3% below budget, and expenses also 1% below budget, by the end of 2017. This equates to a revenue shortfall of close to $550k, on forecast of $21.1m; and an overall underspend of around $189k on forecast expenses of $20.5m. The overall Operating Surplus for 2017 is projected at $559k.

Revenues:

- **Membership fees** and **Sign-Up fees** continue below budget, due to lower membership growth than expected. Average fees for new members are lower than budget, primarily because around 22.5% of new members have come from LDCs so far in 2017, compared to the budget estimate of 10%.

- **Investment income:** The APNIC investment portfolio posted a return of 0.18% for July against the background of a fall in Global equities of -1.54%. For 2017 the portfolio has achieved +2.14% to date against the benchmark of 2.06% which has not been risk weighted.

Expenses:

- **Salaries and personnel expenses** continue below budget as budgeted positions have been filled at a slower rate than budgeted, and the transition to the APNIC Foundation was implemented later than budgeted.

- **Contributions to the APNIC Foundation** (from APNIC) continue below budget, also reflecting the delayed transition to the new Foundation arrangements.

- **Insurance expenses** will be higher than budget at the end of the year, driven mainly by the introduction of the Cyber Insurance policy and general cost increases.

- **Professional fees** are tracking below budget as some products of consulting work are being capitalised rather than expensed as budgeted.

- **Recruitment Expenses** are high compared to budget as a result of international recruitment and relocation expenses, and unexpected staff replacement costs.

Capital Expenditure continues to track below budget with new activities underway, this should see the actual achieve close to the budget by the end of 2017.

2   Statement of Financial Position

	31/07/2017	Year End 2016	% Change
CURRENT ASSETS			
Cash/ Term deposits	8,182,601	7,207,928	*14%*
Receivables	1,894,723	970,493	*95%*
Others	729,695	668,846	*9%*
TOTAL CURRENT ASSETS	**10,807,019**	**8,847,266**	***22%***
NON-CURRENT ASSETS			
Other financial assets	21,597,908	21,149,445	*2%*
Property, plant and equipment	7,703,854	7,875,245	*-2%*
Deferred tax assets/ liabilities	149,602	149,602	*0%*
TOTAL NON-CURRENT ASSETS	**29,451,364**	**29,174,292**	***1%***
TOTAL ASSETS	**40,258,383**	**38,021,558**	***6%***
CURRENT LIABILITIES			
Payables	1,220,936	1,121,453	*9%*
Provisions	1,354,429	1,238,585	*9%*
Unearned revenue	9,904,316	9,400,834	***5%***
TOTAL CURRENT LIABILITES	**12,479,681**	**11,760,872**	***6%***
NON - CURRENT LIABILITIES			
Deferred Tax Liabilities	298,186	298,186	*0%*
Total Provisions	353,367	314,993	*12%*
TOTAL NON-CURRENT LIABILITIES	**651,553**	**613,180**	***6%***
TOTAL LIABILITIES	**13,131,234**	**12,374,052**	***6%***
NET ASSETS	**27,127,149**	**25,647,507**	***6%***
EQUITY			
Share capital	1	1	*0%*
Reserves other financial assets investment	749,374	651,145	*15%*
Retained earnings	24,996,361	22,729,998	*10%*
Net Income	1,381,412	2,266,363	*-39%*
TOTAL EQUITY	**27,127,149**	**25,647,507**	***6%***

Table 1. Statement of Financial Position

3 Statement of Income

	YTD Actual Jul 2017	YTD Actual Jul 2016	Variance %	Budget 2017	Forecast 2017	Budget Variance %
Investment income	510,416	612,316	-17%	1,021,893	768,128	-25%
Membership fees	11,159,005	10,563,244	6%	19,551,336	19,305,501	-1%
Non-members fees	154,064	139,851	10%	246,170	265,006	8%
Reactivation fees	14,700	23,200	-37%	35,000	23,562	-33%
Sign-Up fees	225,500	286,250	-21%	486,750	185,801	-62%
Transfer fees	59,796	83,725	-29%	125,991	135,981	8%
Sundry income	31,286	44,356	-29%	155,000	385,000	148%
TOTAL REVENUE	**12,154,768**	**11,752,941**	**3%**	**21,622,140**	**21,068,979**	**-3%**
Bank service fees	101,532	91,949	10%	177,000	173,382	-2%
Communication expenses	331,162	298,824	11%	594,905	583,042	-2%
Computer expenses	355,970	308,991	15%	734,651	730,000	-1%
Contribution to APNIC Foundation	365,764	0	0%	720,281	665,884	-8%
Depreciation expense	470,967	456,544	3%	821,978	809,146	-2%
Doubtful debt expenses	44,334	24,040	84%	25,000	25,000	0%
ICANN contract fee	157,500	152,831	3%	270,000	270,000	0%
Insurance expense	101,444	77,227	31%	148,000	175,863	19%
Meeting and training expenses	104,925	178,937	-41%	452,250	433,330	-4%
Membership fees	33,048	28,107	18%	54,210	55,639	3%
Office operating expenses	187,460	181,377	3%	337,900	332,063	-2%
Postage & delivery	18,019	19,597	-8%	51,000	43,419	-15%
Printing & photocopy	17,791	24,005	-26%	48,000	39,810	-17%
Professional fees	682,374	782,719	-13%	1,783,720	1,727,463	-3%
Recruitment expense	95,133	60,618	57%	120,000	144,745	21%
Salaries and personnel expenses	6,150,289	5,828,998	6%	11,218,142	11,218,142	0%
Sponsorship and Publicity expenses	300,783	162,119	86%	746,730	712,639	-5%
Staff training/ Conference expenses	96,342	94,765	2%	161,070	145,000	-10%
Translation expenses	4,977	2,228	123%	22,500	20,000	-11%
Travel expenses	1,153,541	1,166,439	-1%	2,212,000	2,205,455	-0%
TOTAL EXPENSES	**10,773,355**	**9,940,317**	**8%**	**20,699,337**	**20,510,022**	**-1%**
OPERATING SURPLUS/(DEFICIT)	**1,381,412**	**1,812,625**	**-24%**	**922,803**	**558,957**	**-39%**

Table 2. Statement of Income

4   Capital Expenditure

CAPITAL (AUD)	YTD Actual Jul 2017	YTD Actual Jul 2016	Variance %	Budget 2017	Forecast 2017	Budget Variance %
Equipment & Software	224,431	537,573	-58%	1,259,118	1,250,000	-1%
Office Furniture & Fittings	76,520	4,434	1626%	33,500	85,000	154%
Total - Capital Expenditure	**300,952**	**542,007**	**-44%**	**1,292,618**	**1,335,000**	**3%**

Table 3. Capital Expenditure by Category

5 Activity Reporting

5.1 Expenses by Activity Code

EXPENSES (AUD)	YTD Actual Jul 2017	YTD Budget Jul 2017	Variance $	Variance %
Facilities	357,649	352,778	4,871	1%
Finance & Administration	865,346	815,986	49,360	6%
Human Resource Management	570,036	504,990	65,046	13%
Legal & Governance	270,484	302,674	-32,190	-11%
Total - Corporate	**2,063,514**	**1,976,428**	**87,086**	**4%**
Global Research	277,692	244,949	32,743	13%
Global Technical Community	547,774	756,672	-208,898	-28%
Inter-governmental Outreach	122,718	157,550	-34,832	-22%
Total - Global Cooperation	**948,185**	**1,159,171**	**-210,986**	**-18%**
APNIC Conferences	589,937	613,269	-23,332	-4%
APNIC Foundation	405,554	420,161	-14,607	-3%
Community Engagement	673,154	922,836	-249,682	-27%
Regional Technical Development	692,214	789,209	-96,995	-12%
Total - Regional Development	**2,360,859**	**2,745,475**	**-384,616**	**-14%**
Customer Service	2,061,688	2,158,907	-97,219	-5%
Member Training	705,375	872,938	-167,563	-19%
Registration Services	885,532	845,732	39,800	5%
Technical Infrastructure	1,748,202	1,792,270	-44,068	-2%
Total - Serving Members	**5,400,797**	**5,669,847**	**-269,050**	**-5%**
Total - Expenses	**10,773,355**	**11,550,921**	**-777,566**	**-7%**

Table 4. Expense by Activity Code
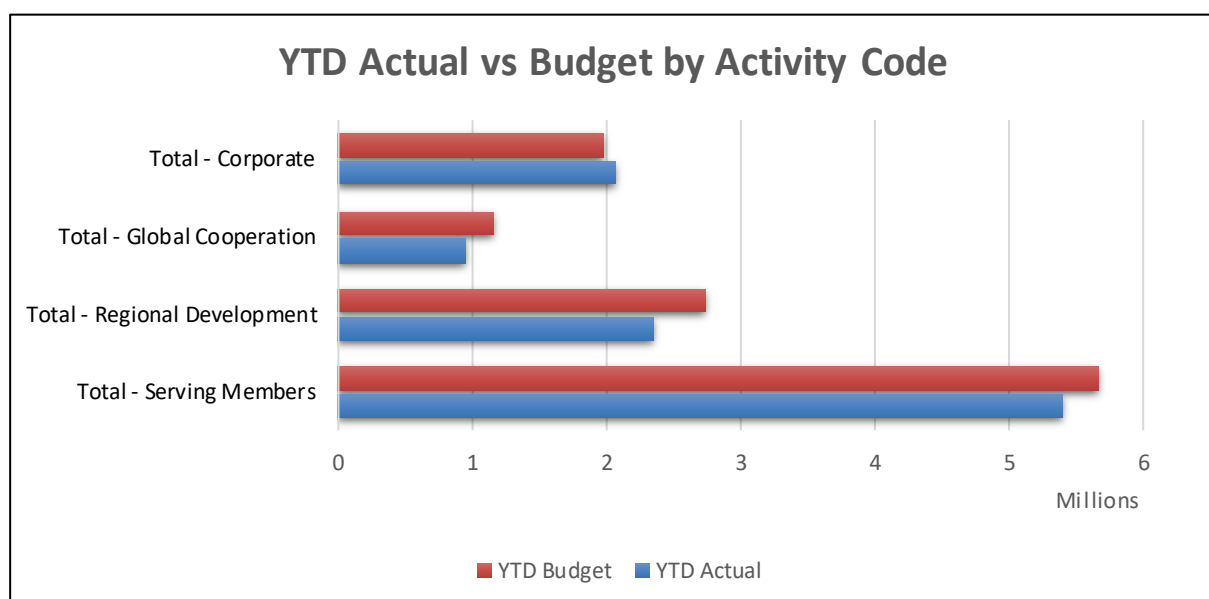
Figure 1. YTD Actual vs. Budget by Activity

5.2 Capital Expenditure by Activity Code

CAPITAL EXPENSES (AUD)	YTD Actual Jul 2017	YTD Budget Jul 2017	Variance $	Variance %
Facilities	78,852	19,544	59,308	303%
Finance & Administration	9,071	7,294	1,777	24%
Human Resource Management	3,038	2,044	994	49%
Legal & Governance	0	0	0	0%
Total - Corporate	**90,961**	**28,882**	**62,079**	**215%**
Global Research	15,855	17,500	-1,645	-9%
Global Technical Community	730	0	730	0%
Inter-governmental Outreach	0	0	0	0%
Total - Global Cooperation	**16,585**	**17,500**	**-915**	**-5%**
APNIC Conferences	3,478	13,419	-9,941	-74%
APNIC Foundation	0	0	0	0%
Community Engagement	0	0	0	0%
Regional Technical Development	25,388	160,419	-135,031	-84%
Total - Regional Development	**28,865**	**173,838**	**-144,973**	**-83%**
Customer Service	21,318	135,919	-114,601	-84%
Member Training	44,528	65,331	-20,803	-32%
Registration Services	6,245	0	6,245	0%
Technical Infrastructure	92,450	332,577	-240,127	-72%
Total - Serving Members	**164,541**	**533,827**	**-369,286**	**-69%**
Total - Capital Expenses	**300,952**	**754,047**	**-453,095**	**-60%**

Table 5. Capital Expenditure by Activity Code

6 APNIC Reserve

6.1 Cash Flow Statement

Accounts	YTD Jul 2017
Operating Activities	
Net Income	**1,381,412**
Adjustments to Profit/(Loss)	
Accounts Receivable	-943,307
Other Current Asset	-41,772
Accounts Payable	-69,239
Sales Tax Payable	2,735
Other Current Liability	785,313
Total Adjustments to Profit/(Loss)	**-266,270**
Total Operating Activities	**1,115,142**
Investing Activities	
Fixed Asset	171,391
Other Asset	-448,463
Total Investing Activities	**-277,072**
Financing Activities	
Long Term Liability	38,373
Equity	98,230
Total Financing Activities	**136,603**
Net Change in Cash for Period	**974,673**
Cash at Beginning of Period	7,207,928
Cash at End of Period	**8,182,601**

Table 6. Cash Flow Statement

6.2   Capital Reserve
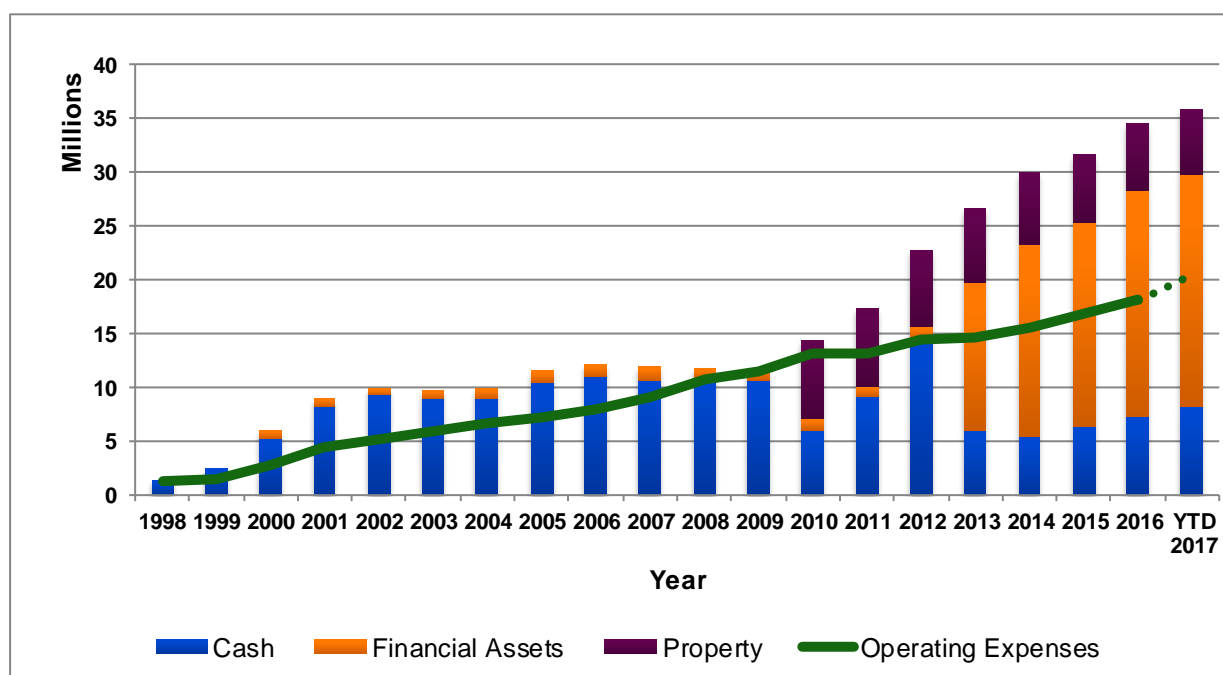
Figure 2. APNIC Reserves

6.3   APNIC's Equity and Reserves

By comparing the Total Equity (including retained earnings and unrealised capital gains), the Daily Operating Costs, the number of month's coverage of operational expenses is set out below:

	YTD 2017	2016	2015	2014
Total Equity	$27,127,149	$25,647,507	$23,319,460	$21,388,497
% Equity covered by Cash/ Cash Equivalents	109.8%	110.6%	121.6%	109.1%
Forecast/ Actual Daily Operating Expenses	$56,192	49,430	$46,077	$42,558
Number of Months of expenses covered by Equity	**15.86**	**17.01**	**16.64**	**16.52**

Table 7. Equity and Reserves

7 Membership

7.1 Membership by Category

Membership	Total Dec 2016	YTD New Jul 2017	YTD Reactivate Jul 2017	YTD (Closed) Jul 2017	YTD Size Change Jul 2017	Total Jul 2017	% Total
Extra Large	22	0	0	0	0	22	0%
Very Large	43	0	0	0	-1	42	1%
Large	138	2	0	-3	1	138	2%
Medium	449	3	0	-9	16	459	7%
Small	2,643	198	6	-90	63	2,820	44%
Very Small	2,590	289	5	-75	-87	2,722	43%
Associate	109	19	0	-15	8	121	2%
TOTAL	**5,994**	**511**	**11**	**-192**	**0**	**6,324**	**100%**

Table 8. Membership by Category

7.2 Membership Growth
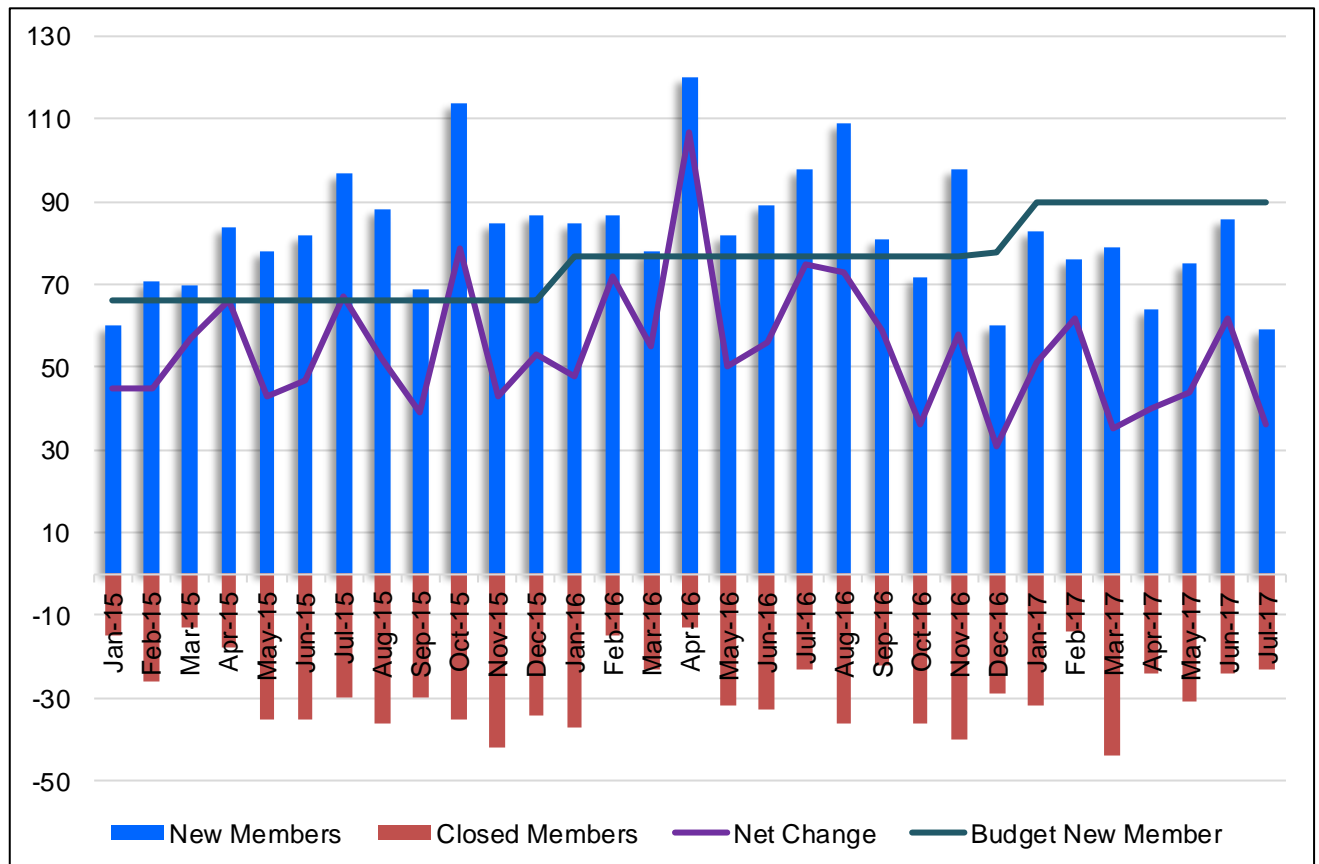
Figure 3. Membership Growth Analysis

7.3   Year-to-Date Membership Movement by Economy
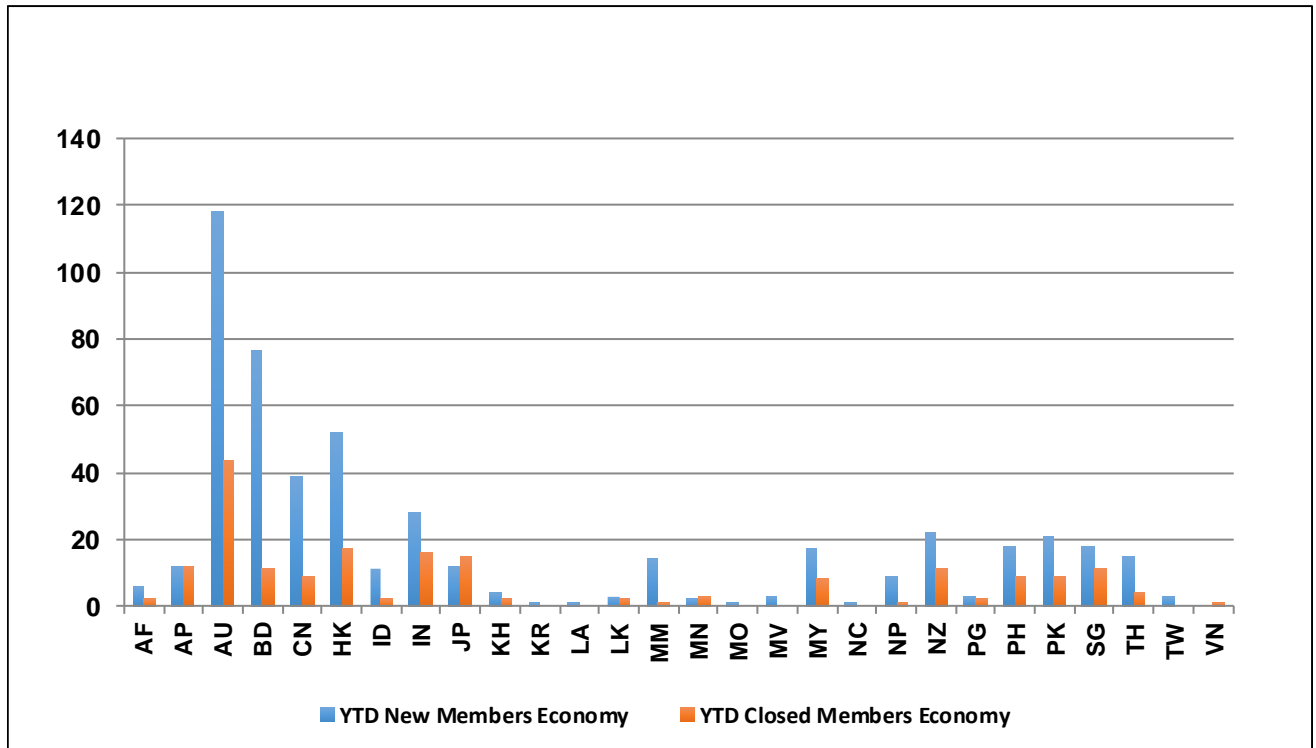
Figure 4. New and Closed Members Analysis

7.4   Membership Closures by Year Joined

Year Joined	Breach of Agreement	Discontinue / Business Not Operating	Merger/ Acquisition	Non Payment/ Non Contactable	Transfer to NIR	Transfer to Other Accounts	Transfer to Other RIR	Grand Total
1999						1		1
2001			1		1			2
2002					1			1
2003			1	1				2
2004			1					1
2005		1				1		2
2007			2	2				4
2008	1	2	2	4				9
2009		1	1	2				4
2010		1	3	4		1		9
2011		2	3	5	1	5		16
2012		3	3	6		1		13
2013	2	5	7	9	1	7	1	32
2014		4	2	6		5		17
2015		9	11	13	2	9		44
2016	2	12	5	12		4		35
Grand Total	5	40	42	64	6	34	1	192

Table 9. Membership Closure by Year Joined

7.5 Membership Closures by Economy

Economy	Breach of Agreement	Discontinue/ Business Not Operating	Merger/ Acquisition	Non Payment/ Non Contactable	Transfer to NIR	Transfer to Other Accounts	Transfer to Other RIR	Grand Total	IPV4 Resources Reclaimed (/24's)	IPV6 Resources Reclaimed (/48's)	ASN Reclaimed
AF				2				**2**	3		1
AP		6	1	5				**12**	50	262178	2
AU		10	10	15		9		**44**	64	720899	7
BD		3	3	5				**11**	44	327680	5
CN		2	3		1	3		**9**		196608	
HK	2	3		6		5	1	**17**	39	262147	4
ID				1	1			**2**	4	1	
IN	1	3	3	6	3			**16**	46	655360	4
JP		4	2	3	1	5		**15**	44		
KH						2		**2**		131072	1
LK		1				1		**2**	4	131072	1
MM				1				**1**	8	65536	
MN				3				**3**	3		
MY		2	4	2				**8**	9	1	1
NP		1						**1**	8	65536	
NZ		2	6	1		2		**11**	11	196608	
PG				2				**2**	2	65536	
PH		1	3	4		1		**9**	31	65536	2
PK	2		4	1		2		**9**	16	655361	1
SG		2	3	4		2		**11**	33	196611	4
TH				3		1		**4**	14	1	2
VN						1		**1**			
Grand Total	**5**	**40**	**42**	**64**	**6**	**34**	**1**	**192**	**433**	**3997743**	**35**

Table 10. Membership Closure by Economy

Financial Performance

Year to date July 2017

APNIC

Financial Highlights YTD July 2017

- Equity Position > 6% to date in 2017 ✔
  - Forecast Surplus of $559k for 2017 (budget = $923k)

- Revenue tracking $394k below budget ✗
  - Forecast $553k below for 2017

- Expenses tracking $777k below budget ✔
  - Forecast $189k below for 2017

- Cash Flow + $975K to date in 2017 ✔

- Activity expenditure aligns with budget allocations✔

- Membership Growth < than budget assumption ✗

Statement of Financial Position

	31/07/2017	Year End 2016	Variance	% Change
ASSETS				
TOTAL CURRENT ASSETS	10,807,019	8,847,266	1,959,752	22%
TOTAL NON-CURRENT ASSETS	29,451,364	29,174,292	277,072	1%
TOTAL ASSETS	**40,258,383**	**38,021,558**	**2,236,824**	**6%**
LIABILITIES				
CURRENT LIABILITIES	12,479,681	11,760,872	718,809	6%
TOTAL NON-CURRENT LIABILITIES	651,553	613,180	38,373	6%
TOTAL CURRENT LIABILITES	**13,131,234**	**12,374,052**	**757,182**	**6%**
TOTAL EQUITY	**27,127,149**	**25,647,507**	**1,479,642**	**6%**

All amounts in AUD – Australian Dollars

APNIC

Financial Stability Measure

	YTD 2017	2016	2015	2014
Total Equity	$27,127,149	$25,647,507	$23,319,460	$21,388,497
% Equity covered by Cash/ Cash Equivalents	109.8%	110.6%	121.6%	109.1%
Forecast/ Actual Daily Operating Expenses	$56,192	49,430	$46,077	$42,558
Number of Months of expenses covered by Equity	**15.86**	**17.01**	**16.64**	**16.52**

Target of 18 Months

All amounts in AUD – Australian Dollars

APNIC Investment Fund

Market Value as at 31st July 2017

	Market Value
APNIC Portfolio	A$21,618,222

Portfolio Performance as of 31st July 2017

APNIC Portfolio			
	Portfolio	Benchmark	Outperformance
Month	0.18%	0.07%	0.11%
3 Months	-0.62%	-0.52%	-0.10%
Year To Date	2.14%	2.06%	0.08%
2 Years pa	2.17%	3.05%	-0.88%
Since Inception pa	4.91%	5.31%	-0.40%

Performance is net of all fees, but does not include franking

All amounts in AUD – Australian Dollars

APNIC

APNIC Investment Fund

Why is Investment Performance below Benchmarks?

– Benchmarks are not risk adjusted

Asset Class	Strategic Asset Allocation (%)
Cash	UBS Bank Bill Index
Australian Fixed Interest	UBS Australian Composite Bond Index All Maturities
International Fixed Interest	BarCap Global Aggregate Index Hedged $A
Australian Equities	S&P/ASX 200 Accumulation Index
International Equities	MSCI World ex Aust Index $A
Australian Property	S&P/ASX 300 A-REIT Accumulation Index
International Property	UBS Global Real Estate Investors Index $A
Global Listed Infrastructure	S&P GI Infrastructure NR Hedged $A
Alternative Assets	HFRI Fund Weighted Composite Index

Statement of Financial Position

Net Equity position increased by 6% ($1,480k) in 2017

- Current Assets increased by 22% $1,960k
  - Increase in cash $975k
  - Membership renewals effect on receivables $943k

- Non-Current Assets increased by 1% $277k
  - Investment portfolio increased by $448k
  - Property Plant & Equipment Depreciation -$171k

All amounts in AUD – Australian Dollars

Statement of Financial Position

- Current Liabilities increased by 6% $719k
  - Unearned membership fees up by $409k
  - Leave Provisions increased by $116k
  - Payables increased by $99k
  - Prepaid Sponsorship up by $94k

- Non-Current Liabilities increased by 6% $38k
  - Long Service leave Provisions increased by $38k

All amounts in AUD – Australian Dollars

Operating Surplus

	YTD Actual Jul 2017	YTD Actual Jul 2016	Variance %	Budget 2017	Forecast 2017	Budget Variance %
TOTAL REVENUE	12,154,768	11,752,941	3%	21,622,140	21,068,979	-3%
TOTAL EXPENSES	10,773,355	9,940,317	8%	20,699,337	20,510,022	-1%
OPERATING SURPLUS/(DEFICIT)	**1,381,412**	**1,812,625**	**-24%**	**922,803**	**558,957**	**-39%**

All amounts in AUD – Australian Dollars

Statement of Income - Revenue

	YTD Actual Jul 2017	YTD Actual Jul 2016	Variance %	Budget 2017	Forecast 2017	Budget Variance %
Investment income	510,416	612,316	-17%	1,021,893	768,128	-25%
Membership fees	11,159,005	10,563,244	6%	19,551,336	19,305,501	-1%
Non-members fees	154,064	139,851	10%	246,170	265,006	8%
Reactivation fees	14,700	23,200	-37%	35,000	23,562	-33%
Sign-Up fees	225,500	286,250	-21%	486,750	185,801	-62%
Transfer fees	59,796	83,725	-29%	125,991	135,981	8%
Sundry income	31,286	44,356	-29%	155,000	385,000	148%
TOTAL REVENUE	**12,154,768**	**11,752,941**	**3%**	**21,622,140**	**21,068,979**	**-3%**

All amounts in AUD – Australian Dollars

APNIC

10

Statement of Income - Revenue

Revenue tracking $394k(3%) below budget

- Membership Fees $98k below budget
  - Membership growth continues below budget estimates
  - Jul YTD new member growth of 511 vs. 630 budget
    - » Impacting on Sign-Up fees $58k below budget
  - 11 Reactivations,
  - 192 closures

- Transfers below budget by $14k

- Investment income $197k below budget

Membership Growth
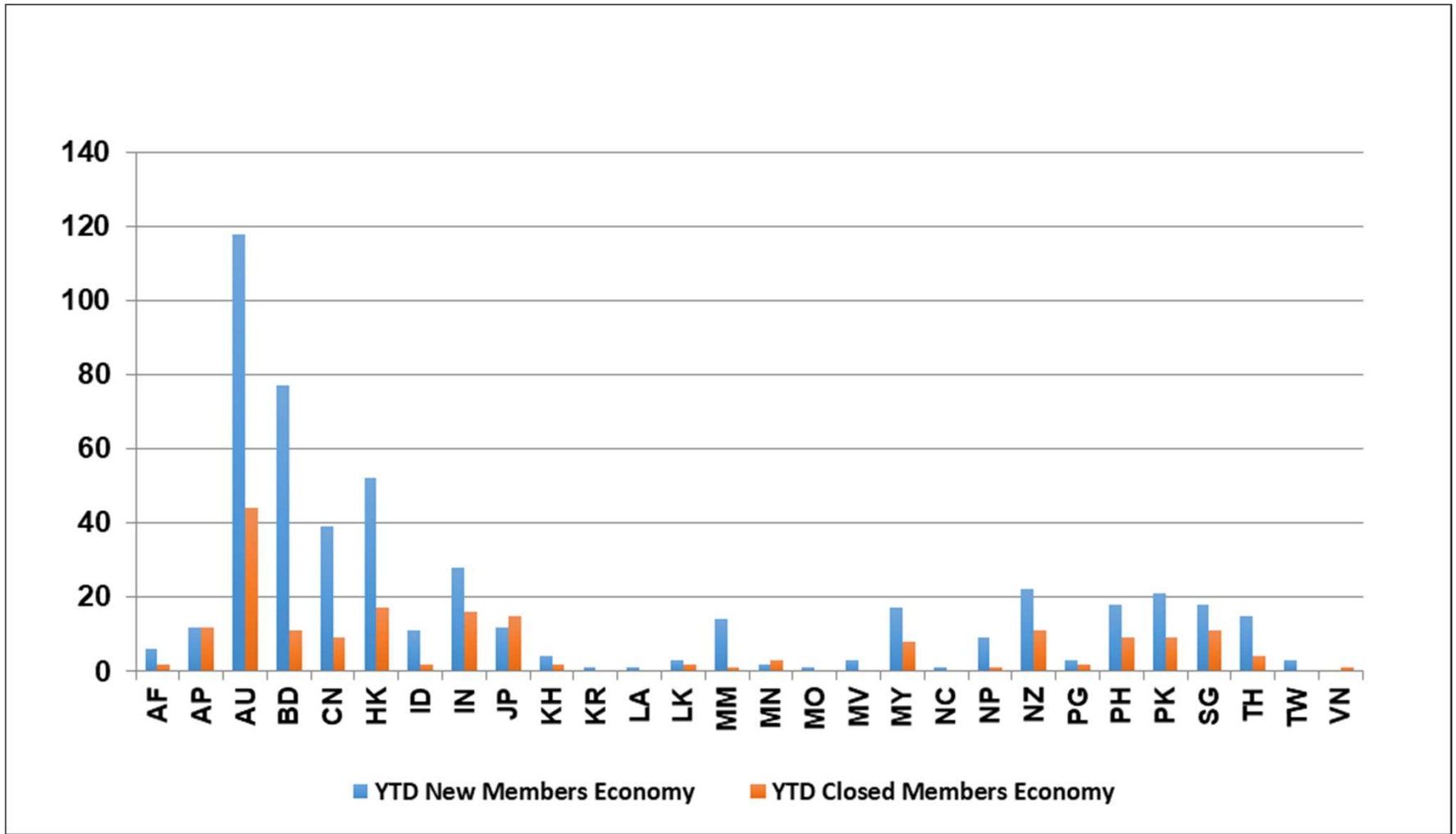
Statement of Income - Expenses

EXPENSES (AUD)	YTD Actual Jul 2017	YTD Actual Jul 2016	Variance %	Budget 2017	Forecast 2017	Budget Variance %
Bank service fees	101,532	91,949	10%	177,000	173,114	-2%
Communication expenses	331,162	298,824	11%	594,905	584,174	-2%
Computer expenses	355,970	308,991	15%	734,651	730,000	-1%
Contribution to APNIC Foundation	365,764	0	0%	720,281	681,459	-5%
Depreciation expense	470,967	456,544	3%	821,978	812,676	-1%
Doubtful debt expenses	44,334	24,040	84%	25,000	25,000	0%
ICANN contract fee	157,500	152,831	3%	270,000	270,000	0%
Insurance expense	101,444	77,227	31%	148,000	175,273	18%
Meeting and training expenses	105,156	178,937	-41%	452,250	433,331	-4%
Membership fees	33,048	28,107	18%	54,210	56,088	3%
Office operating expenses	187,410	181,377	3%	337,900	334,427	-1%
Postage & delivery	17,838	19,597	-9%	51,000	43,418	-15%
Printing & photocopy	17,791	24,005	-26%	48,000	39,810	-17%
Professional fees	682,374	782,719	-13%	1,783,720	1,727,462	-3%
Recruitment expense	95,133	60,618	57%	120,000	144,745	21%
Salaries and personnel expenses	6,150,289	5,828,998	6%	11,218,142	11,218,142	0%
Sponsorship and Publicity expenses	300,783	162,119	86%	746,730	702,380	-6%
Staff training/ Conference expenses	96,342	94,765	2%	161,070	145,851	-9%
Translation expenses	4,977	2,228	123%	22,500	19,924	-11%
Travel expenses	1,153,541	1,166,439	-1%	2,212,000	2,210,142	-0%
TOTAL EXPENSES	**10,773,355**	**9,940,317**	**8%**	**20,699,337**	**20,527,416**	**-1%**

All amounts in AUD – Australian Dollars

Statement of Income - Expenses

Expenses tracking $778k(6.7%) below budget

- **Professional Fees** below Budget by $316k

  - Major variances relate to allowance for Technical Training, Local Trainers and curriculum development activities in the Development area.

- **Travel Expenses** below budget by $137k

  - Major travel expenses in Q3 including APNIC44 yet to be incurred.

- **Salary & Wages Expenses –** below budget by $75k

  - FTE recruitment to meet budget plan slower than forecast
  - Transition to the APNIC Foundation implemented April 2017
  - Timing of leave

Cash Flows YTD July 2017

Accounts	YTD Jul 2017
Operating Activities	
Net Income	**1,381,412**
Adjustments to Profit/(Loss)	
Accounts Receivable	-943,307
Other Current Asset	-41,772
Accounts Payable	-69,239
Sales Tax Payable	2,735
Other Current Liability	785,313
Total Adjustments to Profit/(Loss)	**-266,270**
Total Operating Activities	**1,115,142**
Investing Activities	
Fixed Asset	171,391
Other Asset	-448,463
Total Investing Activities	**-277,072**
Financing Activities	
Long Term Liability	38,373
Equity	98,230
Total Financing Activities	**136,603**
Net Change in Cash for Period	**974,673**
Cash at Beginning of Period	7,207,928
Cash at End of Period	**8,182,601**

Expenses by Activity
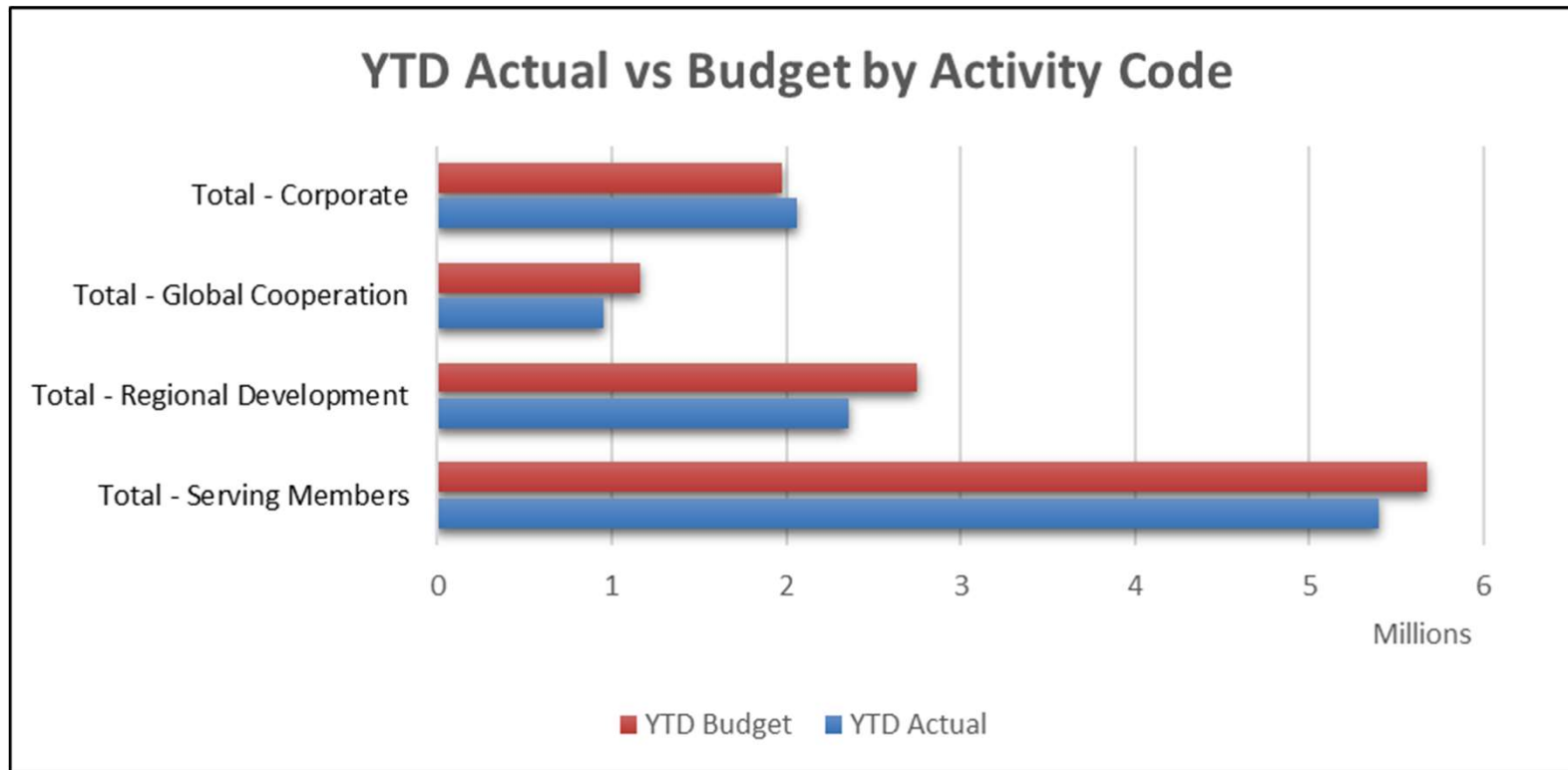
Expenses by Activity

EXPENSES (AUD)	YTD Actual Jul 2017	YTD Budget Jul 2017	Variance $	Variance %
Facilities	357,649	352,778	4,871	1%
Finance & Administration	865,346	815,986	49,360	6%
Human Resource Management	570,036	504,990	65,046	13%
Legal & Governance	270,484	302,674	-32,190	-11%
Total - Corporate	**2,063,514**	**1,976,428**	**87,086**	**4%**
Global Research	277,692	244,949	32,743	13%
Global Technical Community	547,774	756,672	-208,898	-28%
Inter-governmental Outreach	122,718	157,550	-34,832	-22%
Total - Global Cooperation	**948,185**	**1,159,171**	**-210,986**	**-18%**
APNIC Conferences	589,937	613,269	-23,332	-4%
APNIC Foundation	405,554	420,161	-14,607	-3%
Community Engagement	673,154	922,836	-249,682	-27%
Regional Technical Development	692,214	789,209	-96,995	-12%
Total - Regional Development	**2,360,859**	**2,745,475**	**-384,616**	**-14%**
Customer Service	2,061,688	2,158,907	-97,219	-5%
Member Training	705,375	872,938	-167,563	-19%
Registration Services	885,532	845,732	39,800	5%
Technical Infrastructure	1,748,202	1,792,270	-44,068	-2%
Total - Serving Members	**5,400,797**	**5,669,847**	**-269,050**	**-5%**
Total - Expenses	**10,773,355**	**11,550,921**	**-777,566**	**-7%**

Capital Expenditure

CAPITAL (AUD)	YTD Actual Jul 2017	YTD Actual Jul 2016	Variance %	YTD Budget Jul 2017	Budget Variance $	Budget Variance %
Equipment & Softw are	72,870	190,643	-62%	734,503	-661,633	-90%
Office Furniture & Fittings	76,068	2,109	3506%	19,544	56,524	289%
Total - Capital Expenditure	**148,938**	**192,752**	**-23%**	**754,047**	**-605,109**	**199%**

Forecast 2018

Assumptions:
- High level (Business as usual) estimates
- 2017 Full Headcount – no new recruits in 2018
- Membership projected on 2017 trend
- Increases in Transfer fees including M&A transfers
- Estimated CPI of 2.5% applied to expenses
- Minor increase to NRO expenses
- Annual contribution to APNIC Foundation continues
    - No estimation of additional Foundation grant income or expenditure

Forecast 2018

	2017 Forecast	2018 Forecast	Change
Revenue			
Total - 50110 - Investment Income	939,951	939,951	0.0%
51000 - Membership Fees Income	19,280,469	20,167,920	4.6%
52000 - Non-Member Fees Income	265,006	265,006	0.0%
Total - 54000 - Reactivation Fees	29,396	29,396	0.0%
Total - 55000 - Sundry Income	187,010	187,010	0.0%
Total - 54900 - Transfer Fees	92,556	180,000	94.5%
Total - 54800 - Sign-Up Fee	390,494	390,494	0.0%
Total - Revenue	21,184,882	22,159,777	4.6%
Expenses			
Total - 60001 - Bank Service Fees	173,114	181,770	5.0%
Total - 60002 - Communication Expenses	584,174	597,618	2.3%
Total - 60003 - Computer Expenses	730,000	748,250	2.5%
Total - 60250 - Contribution to APNIC Foundation	681,459	738,288	8.3%
Total - 60005 - Depreciation Expenses	812,676	821,978	1.1%
60300 - Doubtful Debt Expenses	25,000	25,000	0.0%
60020 - ICANN Contract Fees	270,000	270,000	0.0%
61700 - Insurance Expenses	175,273	179,655	2.5%
Total - 62010 - Meeting and Training Expenses	433,331	444,163	2.5%
Total - 62110 - Membership Fees	56,088	57,491	2.5%
Total - 62410 - Office Operating Expenses	334,427	342,025	2.3%
62700 - Postage & Delivery	43,418	44,504	2.5%
62800 - Printing & Photocopy	39,810	40,805	2.5%
Total - 63000 - Professional Fees	1,727,462	1,770,649	2.5%
63300 - Recruitment Expense	144,745	144,745	0.0%
Total - 63850 - Salaries and Personnel Expenses	11,218,142	12,032,520	7.3%
Total - 60100 - Sponsorship and Publicity Expense	702,380	730,455	4.0%
Total - 64020 - Staff Training Expense	145,851	149,497	2.5%
64500 - Translation Expense	19,924	20,422	2.5%
Total - 65010 - Travel Expenses	2,210,142	2,260,591	2.3%
Total - Expenses	20,527,416	21,600,425	5.2%
Total Surplus/(Deficit)	657,466	559,352	-14.9%

Questions?

APNIC PTY LTD
PO BOX 3646
SOUTH BRISBANE, QLD 4101
AUSTRALIA

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Investment Report 1.7.2017 – 31.7.2017

APNIC PTY LTD
Portfolio Group: 3000039

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CREDIT SUISSE AG
Level 31, Gateway   Phone   +612 8205 4888
1 Macquarie Place   Fax   +612 8205 4889
Sydney   ABN   17 061 700 712
NSW 2000   AFSL   226896
Australia

Private Banking

Investment Report 1.7.2017 – 31.7.2017

Portfolio Group   3000039

In the Name of   APNIC PTY LTD

APNIC PTY LTD
PO BOX 3646
SOUTH BRISBANE, QLD 4101
AUSTRALIA

Produced on   1.8.2017
Reporting Currency   AUD

Relationship Manager   Patrick Armitage
Phone   +61 2 8205 4451

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Scope of Analysis
as of 31.7.2017

Components	Portfolio	Asset Value in AUD	Discretionary Mandate	Opened	Closed
Portfolio Group: 3000039					
Investment related Positions					
AUD Portfolio	3000039-10	0		16.08.2013	
AUD Portfolio	3000039-70	21,597,908	Yes	16.08.2013	
Total Investments		21,597,908			
Total Wealth		21,597,908			

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1. Overview

1.1. Asset Allocation

Asset Allocation by Asset Category
Period 1.7.2017 - 31.7.2017

	Beginning of Period in AUD	Change	End of Period in AUD	End of Period Proportion
Liquidity & Similar Investments	933,842	173,556	1,107,397	5.13%
Fixed Income & Similar Investments	12,209,548	-123,471	12,086,077	55.96%
Equities & Similar Investments	5,482,070	-12,690	5,469,380	25.32%
Alternative Investments, Commodities & Real Estate	3,018,638	-83,584	2,935,054	13.59%
Total Investments	21,644,097		21,597,908	100.00%
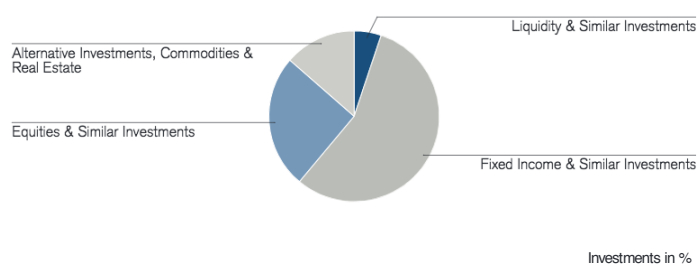
Asset Allocation by Currency
Period 1.7.2017 - 31.7.2017

	Beginning of Period in AUD	Change	End of Period in AUD	End of Period Proportion
AUD - Australian Dollar	19,279,731	-334,956	18,944,774	87.72%
USD - US Dollar	1,946,363	-74,320	1,872,043	8.67%
EUR - Euro	241,829	370,501	612,330	2.84%
JPY - Japan Yen	176,174	-7,413	168,761	0.78%
Total Investments	21,644,097		21,597,908	100.00%

Investments in %

Investments in %

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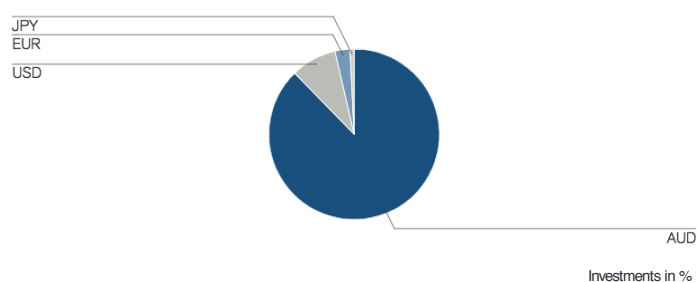
1.2.   Income and Activity

Income Summary
Period 1.7.2017 - 31.7.2017

	Current Period in AUD	Year to Date in AUD
Cash Dividend	163,820	341,907
Coupon Received/ Paid	0	0
Interest Earned/ Paid	1,134	8,795
Net Income	164,953	350,702

Activity Summary
Period 1.7.2017 - 31.7.2017

	Current Period in AUD	Year to Date in AUD
Asset Inflows	0	14
Asset Outflows	0	-14
Total Asset Flows	0	0

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2. Analyses

2.1. Asset Allocation

Asset Allocation by Asset Category Details
Period 1.7.2016 - 31.7.2017

	Jul 16	Aug 16	Sep 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17	May 17	Jun 17	Jul 17
■ Liquidity & Similar Investments	923,201	959,539	1,097,489	1,041,025	1,193,659	1,083,348	924,369	1,103,824	1,061,778	1,156,810	1,095,500	933,842	1,107,397
▨ Fixed Income & Similar Investments	11,758,795	12,260,398	12,360,692	12,287,472	11,820,987	11,661,989	11,893,746	11,916,535	11,970,435	12,067,303	12,265,359	12,161,874	12,086,077
■ Equities & Similar Investments	5,214,932	5,093,919	5,142,445	4,990,106	5,154,856	5,479,011	5,383,277	5,339,190	5,470,886	5,515,880	5,474,206	5,480,463	5,469,380
▨ Alternative Investments, Commodities & Real Estate	2,660,006	2,737,858	2,773,717	2,766,126	2,738,576	2,947,526	2,945,534	2,981,185	2,982,062	3,016,181	3,045,379	3,003,840	2,935,054
Total Ending Market Value in AUD	20,556,935	21,051,714	21,374,343	21,084,730	20,908,078	21,171,875	21,146,926	21,340,734	21,485,161	21,756,175	21,880,444	21,580,018	21,597,908

Investments in AUD

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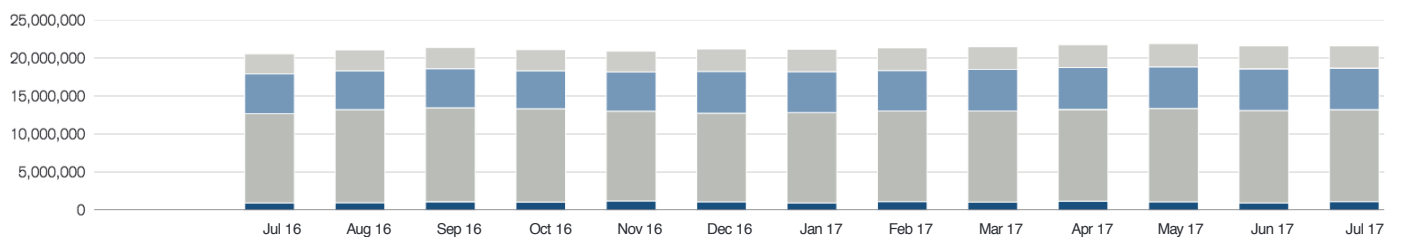
3. Positions

3.1. Investment Related Positions
as of 31.7.2017

Number/ Nominal	Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
Liquidity & Similar Investments							
Accounts							
AUD 193,764.32	Current Account -20300003970945 AUD Portfolio: 3000039-70		1.0000		193,764 0.90%		
USD 373,459.42	Current Account -20300003970780 AUD Portfolio: 3000039-70		1.0000 0.7644 AUD/ USD		468,429 2.17%	-20,154 -20,154	-4.12% -4.12%
Total Accounts					662,193 3.07%		
Call & Time Deposits							
AUD 445,000	1.675% Deposit - Fixed Term (MM1720201040) 21.07.2017 - 04.08.2017 Total interest at maturity: AUD 285.90 AUD Portfolio: 3000039-70		1.0000		445,204 204 2.06%		
Total Call & Time Deposits					445,204 2.06%		
Total Liquidity & Similar Investments					1,107,397 5.13%		
Fixed Income & Similar Investments							
Fixed Income & Similar Investments AUD							
AUD 3,458,729.12	UNITS BLACKROCK INDEXED AUSTRALIAN BOND FUND AUD Portfolio: 3000039-70	AU60BGL01056 2244170	1.0279	1.0307 BID 28.07.2017	3,564,750 16.51%	9,551 9,551	0.27% 0.27%

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Number/ Nominal	Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
AUD 203,295.7025	UNITS BENTHAM WHOLESALE SYNDICATED LOAN FUND AUD Portfolio: 3000039-70	AU60CSA00468 3242662	1.0148	1.0233 BID 27.07.2017	208,032 0.96%	1,736 1,736	0.84% 0.84%
AUD 596.579	UNITS PIMCO GLOBAL CREDIT FUND AUD Portfolio: 3000039-70	AU60ETL01145 3432906	1,002.0954	986.5079 NAV 27.07.2017	588,530 2.72%	-9,299 -9,299	-1.56% -1.56%
AUD 1,540.743	UNITS PIMCO AUSTRALIAN BOND FUND CLASS -A- AUD Portfolio: 3000039-70	AU60ETL01152 3432899	1,112.0041	1,115.5069 NAV 27.07.2017	1,718,709 7.96%	5,397 5,397	0.31% 0.31%
AUD 2,296,916.418	UNITS LEGG MASON WESTERN ASSET AUSTRALIAN BOND TRUST CLASS -A- AUD Portfolio: 3000039-70	AU60SSB01221 2248336	1.2077	1.2188 BID 25.07.2017	2,799,528 12.96%	25,429 25,429	0.92% 0.92%
AUD 2,860,672.65	UNITS VANGUARD AUSTRALIAN FIXED INTEREST INDEX FUND AUD Portfolio: 3000039-70	AU60VAN00014 1653500	1.1305	1.1209 NAV 28.07.2017	3,206,528 14.85%	-27,328 -27,328	-0.85% -0.85%
Total Fixed Income & Similar Investments					12,086,077 55.96%		

Equities & Similar Investments

Equities & Similar Investments AUD

Number/ Nominal	Description	Identification	Cost Valuation	Current Valuation	Value in AUD	Profit/ Loss	P/L
AUD 2,039	REGISTERED SHS AGL ENERGY LTD AUD Portfolio: 3000039-70	AU000000AGL7 2449486 AGL.AX	21.8038	24.1000 CLO 31.07.2017	49,140 0.23%	4,682 4,682	10.53% 10.53%
AUD 1,973	REGISTERED SHS AMCOR LTD AUD Portfolio: 3000039-70	AU000000AMC4 640267 AMC.AX	14.1711	15.3400 CLO 31.07.2017	30,266 0.14%	2,306 2,306	8.25% 8.25%

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Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
AUD	4,493	REGISTERED SHS AUSTRALIA & NEW ZEALAND BANKING GROUP LTD AUD Portfolio: 3000039-70	AU000000ANZ3 640139 ANZ.AX	30.3431	29.6300 CLO 31.07.2017	133,128 0.62%	-3,204 -3,204	-2.35% -2.35%
AUD	5,820	REGISTERED SHS BHP BILLITON LTD AUD Portfolio: 3000039-70	AU000000BHP4 640390 BHP.AX	27.9425	25.8500 CLO 31.07.2017	150,447 0.70%	-12,179 -12,179	-7.49% -7.49%
AUD	4,214	REGISTERED SHS BORAL LTD AUD Portfolio: 3000039-70	AU000000BLD2 1050991 BLD.AX	5.8191	6.9200 CLO 31.07.2017	29,161 0.14%	4,639 4,639	18.92% 18.92%
AUD	1,740	SHS BLUESCOPE STEEL LTD AUD Portfolio: 3000039-70	AU000000BSL0 1424021 BSL.AX	12.7737	13.1800 CLO 31.07.2017	22,933 0.11%	707 707	3.18% 3.18%
AUD	377	REGISTERED SHS BRAMBLES LTD AUD Portfolio: 3000039-70	AU000000BXB1 2373150 BXB.AX	9.3002	9.2400 CLO 31.07.2017	3,483 0.02%	-23 -23	-0.65% -0.65%
AUD	2,534	REGISTERED SHS COMMONWEALTH BANK OF AUSTRALIA AUD Portfolio: 3000039-70	AU000000CBA7 646758 CBA.AX	77.0972	83.7300 CLO 31.07.2017	212,172 0.98%	16,807 16,807	8.60% 8.60%
AUD	2,933	REGISTERED SHS COMPUTERSHARE LTD AUD Portfolio: 3000039-70	AU000000CPU5 241285 CPU.AX	14.7987	14.0700 CLO 31.07.2017	41,267 0.19%	-2,137 -2,137	-4.92% -4.92%
AUD	1,012	REGISTERED SHS CSL LTD AUD Portfolio: 3000039-70	AU000000CSL8 241548 CSL.AX	84.2209	126.0000 CLO 31.07.2017	127,512 0.59%	42,280 42,280	49.61% 49.61%

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Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
AUD	1,410	REGISTERED SHS CALTEX AUSTRALIA LTD AUD Portfolio: 3000039-70	AU000000CTX1 640410 CTX.AX	33.0667	31.1400 CLO 31.07.2017	43,907 0.20%	-2,717 -2,717	-5.83% -5.83%
AUD	8,668	REGISTERED SHS EVOLUTION MINING LTD AUD Portfolio: 3000039-70	AU000000EVN4 14241033 EVN.AX	2.4387	2.2200 CLO 31.07.2017	19,243 0.09%	-1,896 -1,896	-8.97% -8.97%
AUD	10,864	SHS FAIRFAX MEDIA LTD AUD Portfolio: 3000039-70	AU000000FXJ5 649930 FXJ.AX	1.0762	0.9900 CLO 31.07.2017	10,755 0.05%	-936 -936	-8.01% -8.01%
AUD	7,983	STAPLED SECURITY GOODMAN GROUP AUD Portfolio: 3000039-70	AU000000GMG2 18079202 GMG.AX	6.9786	7.9600 CLO 31.07.2017	63,545 0.29%	7,834 7,834	14.06% 14.06%
AUD	317	CHESS UNITS OF FOREIGN SECURITIES JAMES HARDIE INDUSTRIES PLC AUD Portfolio: 3000039-70	AU000000JHX1 1303670 JHX.AX	20.5229	19.1600 CLO 31.07.2017	6,074 0.03%	-432 -432	-6.64% -6.64%
AUD	1,544	SHS MAGELLAN FINANCIAL GROUP LTD AUD Portfolio: 3000039-70	AU000000MFG4 2807450 MFG.AX	24.7816	26.4100 CLO 31.07.2017	40,777 0.19%	2,514 2,514	6.57% 6.57%
AUD	134,097	STAPLED SECURITY MIRVAC GROUP AUD Portfolio: 3000039-70	AU000000MGR9 821911 MGR.AX	1.8010	2.1700 CLO 31.07.2017	290,990 1.35%	49,477 49,477	20.49% 20.49%
AUD	1,286	REGISTERED SHS MACQUARIE GROUP LTD AUD Portfolio: 3000039-70	AU000000MQG1 3422370 MQG.AX	63.2907	85.8300 CLO 31.07.2017	110,377 0.51%	28,986 28,986	35.61% 35.61%

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Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
AUD	4,741	REGISTERED SHS NATIONAL AUSTRALIA BANK LTD AUD Portfolio: 3000039-70	AU000000NAB4 641643 NAB.AX	31.3788	29.9500 CLO 31.07.2017	141,993 0.66%	-6,774 -6,774	-4.55% -4.55%
AUD	540	REGISTERED SHS NEWCREST MINING LTD AUD Portfolio: 3000039-70	AU000000NCM7 650853 NCM.AX	24.5387	20.2000 CLO 31.07.2017	10,908 0.05%	-2,343 -2,343	-17.68% -17.68%
AUD	4,361	REGISTERED SHS ORORA LTD AUD Portfolio: 3000039-70	AU000000ORA8 22750502 ORA.AX	2.3282	2.7600 CLO 31.07.2017	12,036 0.06%	1,883 1,883	18.55% 18.55%
AUD	1,190	REGISTERED SHS ORIGIN ENERGY LTD AUD Portfolio: 3000039-70	AU000000ORG5 1051439 ORG.AX	6.8053	6.9200 CLO 31.07.2017	8,235 0.04%	136 136	1.69% 1.69%
AUD	243,063	STAPLED SECURITY PROPERTYLINK GROUP AUD Portfolio: 3000039-70	AU000000PLG5 33393604 PLG.AX	0.8233	0.8300 CLO 31.07.2017	201,742 0.93%	1,637 1,637	0.82% 0.82%
AUD	437	REGISTERED SHS QBE INSURANCE GROUP LTD AUD Portfolio: 3000039-70	AU000000QBE9 641857 QBE.AX	12.4050	11.8500 CLO 31.07.2017	5,178 0.02%	-243 -243	-4.47% -4.47%
AUD	656	SHS REA GROUP LTD AUD Portfolio: 3000039-70	AU000000REA9 1023132 REA.AX	61.1165	69.0200 CLO 31.07.2017	45,277 0.21%	5,185 5,185	12.93% 12.93%
AUD	167	REGISTERED SHS RAMSAY HEALTH CARE LTD AUD Portfolio: 3000039-70	AU000000RHC8 646740 RHC.AX	44.6935	70.5800 CLO 31.07.2017	11,787 0.05%	4,323 4,323	57.92% 57.92%

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Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
AUD	1,180	REGISTERED SHS RIO TINTO LTD AUD Portfolio: 3000039-70	AU000000RIO1 603520 RIO.AX	60.9710	65.7900 CLO 31.07.2017	77,632 0.36%	5,686 5,686	7.90% 7.90%
AUD	71,889	STAPLED SECURITY SCENTRE GROUP AUD Portfolio: 3000039-70	AU000000SCG8 23931192 SCG.AX	3.6180	4.1300 CLO 31.07.2017	296,902 1.37%	36,808 36,808	14.15% 14.15%
AUD	4,969	STAPLED SECURITY STOCKLAND AUD Portfolio: 3000039-70	AU000000SGP0 642077 SGP.AX	4.5725	4.2000 CLO 31.07.2017	20,870 0.10%	-1,851 -1,851	-8.15% -8.15%
AUD	31,966	UNITS SPDR S&P/ ASX 200 LISTED PROPERTY FUND EXCHANGE TRADED FUND AUD Portfolio: 3000039-70	AU000000SLF1 1377855 SLF.AX	11.4490	12.1900 CLO 31.07.2017	389,666 1.80%	23,687 23,687	6.47% 6.47%
AUD	9,468	UNITS SPDR S&P/ ASX 200 FUND ETF AUSTRALIAN EQUITY EXCHANGE TRADED FUNDS AUD Portfolio: 3000039-70	AU000000STW9 1285707 STW.AX	52.5143	53.5800 CLO 31.07.2017	507,295 2.35%	10,090 10,090	2.03% 2.03%
AUD	5,358	SHS SUNCORP GROUP LTD AUD Portfolio: 3000039-70	AU000000SUN6 588679 SUN.AX	13.6846	14.2900 CLO 31.07.2017	76,566 0.35%	3,244 3,244	4.42% 4.42%
AUD	8,062	STAPLED SECURITY TRANSURBAN GROUP AUD Portfolio: 3000039-70	AU000000TCL6 444655 TCL.AX	10.2924	11.4100 CLO 31.07.2017	91,987 0.43%	9,010 9,010	10.86% 10.86%
AUD	9,963	REGISTERED SHS TELSTRA CORPORATION LTD AUD Portfolio: 3000039-70	AU000000TLS2 720464 TLS.AX	5.1133	4.1000 CLO 31.07.2017	40,848 0.19%	-10,095 -10,095	-19.82% -19.82%

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Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
AUD	5,502	REGISTERED SHS WESTPAC BANKING CORP AUD Portfolio: 3000039-70	AU000000WBC1 642372 WBC.AX	32.5337	31.8200 CLO 31.07.2017	175,074 0.81%	-3,927 -3,927	-2.19% -2.19%
AUD	669	REGISTERED SHS WESFARMERS LTD AUD Portfolio: 3000039-70	AU000000WES1 642397 WES.AX	44.6135	40.7300 CLO 31.07.2017	27,248 0.13%	-2,598 -2,598	-8.70% -8.70%
AUD	2,164	REGISTERED SHS WOOLWORTHS LTD AUD Portfolio: 3000039-70	AU000000WOW2 81350 WOW.AX	29.0818	26.7000 CLO 31.07.2017	57,779 0.27%	-5,154 -5,154	-8.19% -8.19%
AUD	561	REGISTERED SHS WOODSIDE PETROLEUM LTD AUD Portfolio: 3000039-70	AU000000WPL2 642429 WPL.AX	40.3070	29.1700 CLO 31.07.2017	16,364 0.08%	-6,248 -6,248	-27.63% -27.63%
AUD	33,464.65040	UNITS ABERDEEN EMERGING OPPORTUNITIES FUND AUD Portfolio: 3000039-70	AU60ETL00329 2220820	2.1370	2.3561 NAV 28.07.2017	78,846 0.37%	7,334 7,334	10.26% 10.26%
AUD	25,271.9973	UNITS IRONBARK KARARA AUSTRALIAN SMALL COMPANIES FUND CLASS -A- AUD Portfolio: 3000039-70	AU60PAT00021 2879000	2.9604	3.2765 BID 28.07.2017	82,804 0.38%	7,987 7,987	10.68% 10.68%
AUD	1,728	REGISTERED SHS OIL SEARCH LTD AUD Portfolio: 3000039-70	PG0008579883 809900 OSH.AX	7.8272	6.6400 CLO 31.07.2017	11,474 0.05%	-2,051 -2,051	-15.17% -15.17%
Total Equities & Similar Investments AUD						3,773,690 17.47%		

CREDIT SUISSE

Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
Equities & Similar Investments EUR								
EUR	11,950	SHS EUR ISHARES II PLC - ISHARES MSCI EUROPE UCITS ETF EUR (DIST) AUD Portfolio: 3000039-70	IE00B1YZSC51 3246398 IQQY.DE	23.6911 1.4866 EUR/ AUD	23.7800 CLO 31.07.2017	418,223 1.94%	-2,651 1,563 -4,214	-0.63% 0.38% -1.00%
EUR	8,295	ACCUM.PTG.SHS WELLINGTON MANAGEMENT FUNDS (IRELAND) PLC - WELLINGTON STRATEGIC EUROPEAN EQUITY FUND CLASS -N- UNHEDGED EUR AUD Portfolio: 3000039-70	IE00B9DPD161 20938626	13.5086 1.4590 EUR/ AUD	15.9000 NAV 28.07.2017	194,107 0.90%	30,616 29,195 1,421	18.73% 17.70% 1.02%
Total Equities & Similar Investments EUR						612,330 2.84%		
Equities & Similar Investments JPY								
JPY	732	UNITS NIKKEI 225 EXCHANGE TRADED FUND AUD Portfolio: 3000039-70	JP3027650005 1264151 1321.T	17,106.7773 88.8849 AUD/ JPY	20,320.0000 CLO 31.07.2017	168,761 0.78%	27,880 26,686 1,194	19.79% 18.78% 1.01%
Total Equities & Similar Investments JPY						168,761 0.78%		
Equities & Similar Investments USD								
USD	228	ACCUM.PTG.SHS ISHARES VII PLC - ISHARES NASDAQ 100 UCITS ETF USD AUD Portfolio: 3000039-70	IE00B53SZB19 10737617 CSNDX.S	185.1428 0.9196 AUD/ USD	325.2700 CLO 31.07.2017	93,021 0.43%	47,119 40,074 7,046	102.65% 75.69% 26.97%
USD	190	SHS -IP- RAM (LUX) SYSTEMATIC FUNDS SICAV - EMERGING MARKETS EQUITIES CAPITALISATION AUD Portfolio: 3000039-70	LU0704154458 14219625	149.4364 0.7594 AUD/ USD	181.2300 NAV 28.07.2017	43,190 0.20%	5,800 7,577 -1,777	15.51% 21.28% -5.76%

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Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
USD	580	SHS ISHARES GLOBAL HEALTHCARE ETF AUD Portfolio: 3000039-70	US4642873255 1352444 IXJ.P	95.1959 0.8872 AUD/ USD	109.4900 CLO 31.07.2017	79,653 0.37%	17,423 10,399 7,024	28.00% 15.02% 12.98%
USD	1,670	TRUST UNITS SPDR S&P 500 ETF TRUST AUD Portfolio: 3000039-70	US78462F1030 45088 SPY.P	193.0166 0.8577 AUD/ USD	246.7700 CLO 31.07.2017	516,903 2.39%	141,078 112,596 28,482	37.54% 27.85% 9.69%
USD	3,738	SHS FINANCIAL SELECT SECTOR SPDR FUND AUD Portfolio: 3000039-70	US81369Y6059 986018 XLF.P	23.4371 0.7516 AUD/ USD	25.0900 CLO 31.07.2017	117,636 0.54%	1,076 7,750 -6,674	0.92% 7.05% -6.13%
USD	1,190	SHS VANGUARD FTSE EMERGING MARKETS ETF AUD Portfolio: 3000039-70	US9220428588 2093958 VWO.P	37.7585 0.7596 AUD/ USD	43.0100 CLO 31.07.2017	64,197 0.30%	5,048 7,838 -2,790	8.53% 13.91% -5.37%
Total Equities & Similar Investments USD						914,600 4.23%		
Total Equities & Similar Investments						5,469,380 25.32%		

Alternative Investments, Commodities & Real Estate

Hedge Funds

Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
AUD	444,928.77	UNITS GMO SYSTEMATIC GLOBAL MACRO TRUST CLASS -B- AUD Portfolio: 3000039-70	AU60GMO00067 3375604	1.0075	1.0209 NAV 27.07.2017	454,228 2.10%	5,964 5,964	1.33% 1.33%
AUD	312,604.78	UNITS BLACKROCK GLOBAL ALLOCATION FUND (AUST) CLASS -D- WHOLESALE AUD Portfolio: 3000039-70	AU60MAL00181 3379478	1.2404	1.2404 BID 28.07.2017	387,745 1.80%	-20 -20	-0.01% -0.01%

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Number/ Nominal		Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
AUD	232,606	RED.PTG.SHS -A1- AHL (CAYMAN) SPC AUD CLASS A EVOLUTION SEGREGATED PORTFOLIO AUD Portfolio: 3000039-70	KYG012291145 22393979	1.1382	1.6602 NAV 30.06.2017	386,172 1.79%	121,418 121,418	45.86% 45.86%
AUD	322,646.221	RED.PTG.SHS -A- AHL DIMENSION (CAYMAN) LIMITED AUD AUD Portfolio: 3000039-70	KYG0132G1652 30773689	1.0001	0.9959 NAV 30.06.2017	321,323 1.49%	-1,351 -1,351	-0.42% -0.42%
Total Hedge Funds						1,549,469 7.17%		
Commodities & Precious Metals								
AUD	2,822	ETC SECURITY ETFS METAL SECURITIES AUSTRALIA LTD 2003-WITHOUT FIXED MATURITY ON GOLD COMMODITY AUD Portfolio: 3000039-70	AU00000GOLD7 1583458 GOLD.AX	144.2376	150.7000 CLO 31.07.2017	425,275 1.97%	18,237 18,237	4.48% 4.48%
USD	472	UBS ETC UBS AG, LONDON BRANCH 2007- OPEN END ON UBS BLOOMBER CMCI COMPOSITE TOTAL RETURN AUD Portfolio: 3000039-70	CH0031794263 3179426 TCMCI.S	1,028.7611 0.8536 AUD/ USD	826.0000 CLO 31.07.2017	489,015 2.26%	-79,809 -120,040 40,231	-14.03% -19.71% 5.68%
Total Commodities & Precious Metals						914,290 4.23%		

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Number/ Nominal	Description	Identification ISIN Valoren Number Ticker	Cost Valuation Price Exchange Rate	Current Valuation Price/ Type Date	Value in AUD of which Accrued Interest Proportion in %	Profit/ Loss Unrealized in AUD of which Instrument of which Forex	P/L Unreal. in % Instr. in % FX in %
Other Alternative Investments							
AUD 4,105	PTG.SHS LEGG MASON GLOBAL FUNDS PLC - LEGG MASON WESTERN ASSET MACRO OPPORTUNITIES BOND FUND PREMIER CLASS DISTRIBUTING (S) HEDGED AUD AUD Portfolio: 3000039-70	IE00BYYQZZ17 28828240	100.9462	114.8100 NAV 28.07.2017	471,295 2.18%	56,911 56,911	13.73% 13.73%
Total Other Alternative Investments					_471,295_ _2.18%_		
Total Alternative Investments, Commodities & Real Estate					2,935,054 13.59%		
Total Investments					21,597,908 100.00%		
of which Accrued Interest					_204_		

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4. Appendix

4.1. Explanations

Accrued Interest

Accrued interest is not displayed for financial instruments with variable interest rate or frequency within the same interest period, except for Floating Rate Notes. For FINER Revexus, the accrued interest displayed is based on the deposit currency for reference purpose only. Entitlement to the accrued interest depends on the product features. All accrued interests are displayed in the reporting currency of the portfolio and are calculated recognizing trades end of day. The FX conversion rates (reflected below) are used to convert the amount from original currency to reporting currency. The accrued interest payable/receivable is displayed as the net amount on Current Account balances. As a result of the foregoing and other factors, the accrued interest is only an estimate and may not reflect the actual interest accrued, if any.

Activity Summary

The asset inflows and outflows include client-instructed transactions as well as non-investment related transactions such as loans which do not contribute to the performance of client's account. Such asset inflows and outflows do not include fees and taxes.

Analyses

Values displayed for the respective month labels are as of month-end dates. If the report end period is not a month-end, the report period end month label will show the values as of the report period end date.

Asset Classification

If an instrument is classified as 'not classifiable', the instrument is pending its proper classification. As soon this is available in the system, the instrument will reflect the correct classification.

Cost Valuation Exchange Rates

For the Positions section, the cost valuation exchange rate displayed is always the instrument currency against the portfolio currency.

For the Transactions section, the cost valuation exchange rate displayed is always between the instrument currency and reporting currency. For execution of FX purchase/sale transactions, the transaction valuation is based on the end of day exchange rate on the value date and the cost valuation is based on the FX contract rate.

Duration

Modified duration is a change in the price of a bond arising from a change in market yields. Modified duration is expressed as an approximate percentage. The investment report displays the Modified Duration method for all Fixed Income instruments.

Income Summary

Coupon received and coupon paid, as well as interest earned and interest paid, does not include accrued or unpaid coupon or interest.

Year to date figures include the addition of the monthly figures inclusive of any backdated income processing/ adjustments.

Figures shown can be gross or net depending on the specific country and market practice.

Non-Investment related Income is included in the Income Summary.

Market Value

The values stated as begin of period are asset values as of the last reported statement period. The values stated as beginning/ ending market values are asset values that are inclusive of most updated market prices and backdated transactions.

Non-Investment Related Positions

Non-Investment Related Positions are displayed in the Scope of Analysis and in the Non-Investment Related Positions section. However, they are not included in any other analyses.

Profit/ Loss Calculation

Realized and unrealized profit and loss are calculated by comparing the market or transaction value with the average cost value. For every trade date the system computes the average cost, first processing investments before disinvestments. Transaction costs are included in both realized and unrealized profit/ loss calculation.

Unrealized profit/ loss displayed in the Positions section are calculated as of the reporting date. FX conversion rates used in the computation of the unrealized profit/ loss is the derived rate based on the average price as of the individual transaction date.

Rating

Rating refers to the rating of an investment product and is either based on information available to the Bank or is obtained from sources believed to be reliable by the Bank as of the investment report date.

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Yield
The investment report displays Yield for all Fixed Income instruments and is displayed per market price.

Abbreviations
BID = Bid Price
CLO = Closing Price
NAV = Net Asset Value

Rounding logic
Values in this investment report are calculated with exact numbers, however when presenting the data, values are rounded and therefore minor rounding differences might occur.

Large Numbers
The figures are consolidated and shown in denominations of thousands, millions and billions where applicable. If a value is too long to be displayed in the report itself, e.g. 1,526,555,333.26 the figure is consolidated and displayed as 1,526,555.33 in thousands in the report. If the value exceeds the column limit, a further division will take place and the phrase in millions/ in billions will be displayed.

Conversion Rates as of 31.7.2017
AUD 1.0000 = JPY 88.1381
AUD 1.0000 = USD 0.7973
EUR 1.0000 = AUD 1.4717

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4.2.   Legal Information

According to the Account Opening Terms and Conditions, this investment report shall be conclusive and binding if the Bank does not receive your objection in writing to any matters contained in this investment report within 14 days from the issue date.

Deposits with Credit Suisse are not subject to Division 2 of the Banking Act - Protection of Depositors.

If your account is booked with Credit Suisse AG, Sydney Branch or if your Relationship Manager (RM) or Investment Consultant is located in Australia, please refer to the Important Notice on Sales Disclosure to Investors for sales related information including information on monetary benefits received by the Bank where it distributes an investment product to you.

The Bank provides price indications for financial derivatives transactions, structured products and non-listed financial instruments based upon available market reference prices believed to be reliable. The Bank does not make any representation as to the accuracy or completeness of price indications for transactions nor the guarantee to buy/sell at the price indicated. The Bank does not accept liability for any loss arising from the client's use of, or reliance on, such price indications. The price indications of the initial purchase price may be different from the actual purchase price.

In the absence of reliable market reference prices, the Bank may assign a nominal value or make an appropriate comment on your investment report. As a result, the investment report may contain price indications or comments as the Bank sees appropriate in the prevailing circumstances. If you have any queries in this respect, please contact your Relationship Manager.

The Bank will, at the time of printing this investment report, use the last price indications available to it. Due to the time differences between the Asia Pacific region and markets in other regions, the price indications reflected in the Bank's investment report will not always reflect the price indications available on the last business day of the month in certain markets.

The Bank may use either an onshore or offshore CNY rate for FX conversion to reporting currency depending on the asset. Please note that there may be a differential between the onshore and offshore rate. Please refer to your RM if you need further information on the FX conversion rate applied in relation to your CNY positions.

The information in this investment report does not constitute legal or tax advice. You should consult your legal and/or tax experts if you need any such advice. The investment report does not take tax rules and regulations into consideration, and thus it cannot be used for tax reporting purposes.

This investment report is an electronically generated report and does not require a signature.

Agenda Item 12
APNIC Foundation update

APNIC Foundation Update

Duncan Macintosh

CEO

APNIC 44, Taiwan

Foundation update

- Grants and funding proposals

- Administration and governance

- 2018 activity plan and timeline

- Board selection

Grants

DFAT grant 2017-18

Funding source: DFAT's Cyber Cooperation Program to Build Capacity in the Indo-Pacific - Raising Cybersecurity Capability and Awareness

Proposal: A secure and resilient internet Infrastructure for development in the Pacific.

Amount: AUD 200,000 over two years (July to July)

Overhead: 15% overhead (2 x AUD 15,000 = AUD 30,000)

Economies: Cook Islands, Fiji, Kiribati, Marshall Islands, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu

DFAT grant cont.

- **CERTs established* or proposed:** Fiji, Papua New Guinea, Samoa, Vanuatu and Tonga*

- **Next in line:** Cook Islands, Kiribati, Marshall Islands, Solomon Islands, and Tuvalu

- **Activities:** Surveys, training workshops, cybersecurity drills, technical assistance, community events, fellowships, monitoring and evaluation, seed funding

APNIC FOUNDATION

ISIF Asia 2017

Funding source: APNIC

Amount: AUD 160,000

Proposal: Three grant categories and one award

Activities:

- Internet Operations Research (AUD 85,000)

- Cybersecurity (AUD 30,000)

- Internet for Development (AUD 30,000)

- ISIF Award (AUD 15,000 includes AUD 5,000 for logistics)

Internet Society 2016-17

Funding source: ISOC

Amount: AUD 56,000

Proposal: Cybersecurity - Developing Tonga National CERT

Activities:

- Training

- Technical assistance and mentoring

- Participation at the Internet Governance Forum 2016 workshop "Cybersecurity – Initiatives in and by the Global South"

Proposals in Process

DFAT second proposal 2017-18

Funding source: DFAT's Cyber Cooperation Program to Build Capacity in the Indo-Pacific - Raising Cybersecurity Capability and Awareness

Proposal title: A secure and resilient Internet infrastructure for development in the Pacific - Samoa

Amount: AUD 50,000 approx

Overhead: 15% overhead (7,500)

Economies: Samoa

IDRC 2018

Funding source: IDRC's Networked Economies program

Proposal title: Seed Alliance - an alliance to scale digital innovation

Amount: CAD 300,000 (CAD 100,000 for ISIF Asia)

Timeframe: Nov 2017 - Oct 2019

Activities:

- Scaling-up digital innovation across the three regions in projects focusing on gender inclusion; and
- To foster women's leadership in the Internet for development sector

- RIR's estimated contributions of CAD 653,200

IDRC – ISIF Asia

Amount: CAD 100,000

Overhead: 12% (CAD 12,000)

Activities:

- One scale-up grant of CAD 40,000

- One small grant of CAD 30,000 (CAD 20,000 from the IDRC grant and AUD 10,000 from an APNIC contribution)

- One award of CAD 5,000 on gender equality (with a travel grant for the IGF awards ceremony)

- One fellowship for the scale-up grantee to attend the 2018 AVPN conference

- ISIF Asia 10th anniversary activities support of CAD 10,000

Internet Society 2018

Funding source: ISOC Community Networks Grants and Awards 2018

Proposal title: Seed Alliance: Connecting the Last Mile

Amount: USD 100,000

Activities: Four grants and two awards to support the development of community networks across the global south

ISIF Asia: One USD 20,000 grant and one USD 10,000 award (includes IGF Fellowship)

Overhead: 10% (USD 3,000 (AUD 3,770))

Overhead income 2017/18 - predicted

- AUD 37,500 (DFAT – two grants)

- AUD 12,000 (IDRC)

- AUD 3,700 (ISOC)

Total: AUD 53,200

Proposals Invited

Lee Foundation

Funding source: Lee Foundation (Singapore)

Proposal title: Scholarships for Internet Research

Amount: USD 3 million a year

Activities:

- Fully funded PhD costing up to USD 40,000 with another USD 25,000 for research support (42 scholarships)

- Open to all relevant topics in Internet operations, infrastructure, related protocols; network measurement and analysis; network security; peering and interconnection

Lee Foundation cont.

Next steps:

- Indication of interest or not

- Develop full proposal

- Meeting(s) to discuss

Overhead: 10% (USD 300,000 (AUD 377,000))

China Internet Development Foundation

Funding source: China Internet Development Foundation

Proposal title: Conference support

Amount: RMB 1,421,000 (AUD 270,700)

Activities: Platinum sponsorships for three years

Next steps: Confirmation

Note: Also discussing IPv6 proposal

APNIC FOUNDATION

Unsuccessful proposals

- Asi@Connect (TEINCC): "Research & Education Collaboration Scale-up Grants for Societal Benefit" (EUR 662,000)

- Asi@Connect (TEINCC): "Helping to Bridge the Digital Divide in Developing Countries" (EUR 780,000)

- DFAT Cyber Cooperation Program to Build Cyber Capacity in the Indo-Pacific - Combating Cybercrime 'Safehavens' (AUD 108,000)

Proposal discussions

- JICA on cybersecurity

- William and Flora Hewlett Foundation on cybersecurity

- Sasakawa Foundation (Japan) on diversity

- Google, Nippon Foundation, AVPN community, Asian Development Bank

- World Bank?

The fund raising cycle

The fund raising cycle - examples

Identify

- Reliance Foundation

Research/evaluate

- Asian Development Bank

- World Bank

Plan cultivation

- Sasakawa Foundation

- Nippon Foundation

Involve/cultivate

- Hewlett Foundation

- Google

Ask

- IDRC

- ISOC

- CIDF
- Lee Foundation

Negotiate/close - Involve

- DFAT

- JICA

How the Foundation Works

We support these activities

To strengthen these communities

To achieve these goals

Training
Building critical operational skills and knowledge to help engineers grow, manage and secure Internet infrastructure.

Technical Assistance
Project-based technical advice to assist Asia Pacific organizations maintain scalable, secure and resilient networks.

Security Readiness
Fostering community development of CERTs/CSIRTs to better manage and respond to cybersecurity risks and building cybersecurity awareness among law enforcement agencies.

Fellowships
Providing opportunities for individuals from diverse backgrounds to attend Internet events to develop their skills and represent their communities.

Internet Infrastructure
Guiding and sponsoring the deployment of critical Internet infrastructure and advocating best practice to maximise its benefits.

Sponsorships
Providing funding to community groups such as NOGs and CERTs/CSIRTs to encourage knowledge sharing and training.

Events
Staging the Asia Pacific's two largest technical events for the Internet networking industry to share experience and learn from world experts.

Grants and Awards
Supporting ISIF Asia, in providing grants and awards to organisations to research, design and implement Internet-based solutions to achieve the SDGs.

Internet Governance and Cooperation
Building a better understanding of the multistakeholder Internet governance ecosystem.

Research
Supporting world-class research initiatives which help networking professionals to make better decisions and solve Internet operational issues.

Network Engineers
NOGs, IXPs, peering forums

Security Professionals
CERTs/CSIRTS and LEAs

Internet Governance Specialists
Government officials, regulators

Openness
Neutrality
Best Practice
Diversity

GLOBAL
An Internet which connects directly and freely all corners of the world

OPEN
An Internet which is accessible to all, with the lowest possible barriers

STABLE
An Internet which is as reliable, available and efficient as possible

SECURE
An Internet which can be trusted with our most important information and services

APNIC FOUNDATION

2018 activity plan

1. Develop board-led strategic plan (with supporting operational and fund-raising plans)

2. Support and implement Board-initiated fund-raising opportunities

3. Establish Advisory Council

4. Identify, document, and engage at least two new (potential) donors a month

5. Develop at least five project proposals (from 2018 APNIC priorities) for funding, including matching fund (dollar-for-dollar) strategy

6. Project/grant management and implementation

Advisory Council

Based on the existing Advisory Council concept note and strategy - and guided by the EC and the Foundation Board – Foundation staff will:

- Develop a list of potential Council members

- Seek the EC and Foundations Board's final approval for due diligence

- Conduct due diligence

- Invite those approved to join the Council

- Engage Council members in Foundation activities

Administration and governance

1. Ready for adoption APNIC Code of Conduct and policies on: Fraud & Corruption; Equal Opportunity & Anti-Discrimination; Workplace Bullying & Harassment; Travel etc.

2. Implemented NetSuite financial management system

3. Office 365 project management software (in process)

4. Salesforce CRM (in process)

5. Bank accounts now fully operational – have disbursed first funds

6. Charitable application in process – due first half of 2018

Foundation timeline 2017-18

Activity	2017				2018							
	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug
1) Foundation processes												
EC Meetings (updates, approvals and appointments)	X			X		X			X			
Foundation Board meeting						X (proposed)				X		
Audited financial statements				X								
AGM/financial statements approved										X (due 28/6)		
Charitable application granted								X (est.)				
2) Funding activity												
DFAT funding received	X											
IDRC proposal submitted	X											
ISOC proposal submitted	X											
IDRC funding received				X (est)								
ISOC funding received			X									

Foundation timeline 2017-18

Activity	2017				2018							
	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug
3) ISIF												
Closing for grants and awards (APNIC funding)	X											X
Selection process for grants and awards completed			X									
Due diligence process and contracts for grants completed				X								
4) Events Attending												
APT-ADB Development Forum Philippines	X											
ESCAP Information Superhighway Bangladesh			X									
Internet Governance Forum Swizterland				X								
APRICOT Nepal						X						
Mobile World Congress Barcelona					X							
Asian Venture Philanthropy Network Bangkok											X	

APNIC FOUNDATION

Board process

Appointed

1. Mr. Edward Tian (China)

2. Ms. Sylvia Sumarlin (Indonesia)

3. Mr. Sharad Sanghi (India)

Key points:

- Formally appointed to the Board as at 31 August 2017*

- Introductory face-to-face meetings; very positive feedback and engagement

- Che-Hoo Cheng resigned

- Duncan Macintosh is CEO ex-officio

* The correct date is 22 September 2017

Board selection - next steps

1. EC agrees on next three candidates (filling seven positions)

2. Due diligence conducted by CEO

3. Due diligence shared with EC for final go ahead

5. Candidates contacted by CEO and invited to submit nomination(s)

6. After receiving nomination(s), EC selects candidates for Board

7. Candidates appointed to Foundation Board by resolution

8. First full Board meeting held in the first quarter of 2018 to approve financial statements (launch of the foundation in Hong Kong)

APNIC FOUNDATION

Board selection – next candidates

- **[Confidential information redacted]**

Thank you

Agenda Item 13
APNIC Survey update

2018 APNIC Survey Update

EC Meeting - September 2017

APNIC

2018 Survey Update

- Project timeline update
  - Survey Timeline

- Focus Group Locations for 2018
  - Analysis of Previous locations
  - Recommendations

Survey Timeline

Survey Timeline	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18
Agreed Focus Group Locations	■												
Discussion guide development	■	■	■	■									
Focus Groups and Individual Interviews					■	■							
Announcement at APRICOT Meeting - Kathmandu						■							
Survey Development							■	■	■				
Survey conducted										■			
Final Survey Report											■	■	■
Report to APNIC AMM - Noumea													■

Locations for Focus Groups 2018

Next steps:

- Agree locations to commence detailed planning for participation and logistics in Q4. Sessions will take place in Jan/Feb 2018.

  - Considerations on location selection
    - Survey Matters have provided a recommendation after considering member and economy profiles along with previous locations
    - It is important to consider the economies visited last time and to determine if a return visit to some/all would be of value
    - In the past we have aimed to include participants from; Least Developed, Developing and Technologically advanced developed economies.

  - Invitations will be extended to a mixture of; local members, known contacts, previous attendees, and a number via random selection of the membership

  - The aim is to increase the use of remote participation where it makes sense, this will be considered once locations have been finalised.

  - Translation will be considered in locations where it will improve the outcome of the sessions.

Analysis of Previous Locations

Economy	Region	Economy	Code	Visited 2012	Visited 2014	Visited 2016
Developing	East Asia	China	CN	■	■	■
Developing	East Asia	Hong Kong	HK	■	■	■
Developed	East Asia	Japan	JP	■	■	■
Developing	East Asia	Macau	MO			
Developing	East Asia	Mongolia	MN		■	
Least developed	East Asia	North Korea	KP			
Developing	East Asia	South Korea	KR	■		■
Developing	East Asia	Taiwan	TW		■	
Developing	Oceania	American Samoa	AS			
Developed	Oceania	Australia	AU	■	■	■
Least developed	Oceania	Cook Islands	CK			
Developing	Oceania	Fiji	FJ			
Developing	Oceania	French Polynesia	PF			
Developing	Oceania	Guam	GU			
Least developed	Oceania	Kiribati	KI			
Developing	Oceania	Marshall Island	MH			
Developing	Oceania	Micronesia	FM			
Developing	Oceania	Nauru	NR			
Developing	Oceania	New Caledonia	NC		■	
Developed	Oceania	New Zealand	NZ		■	■
Developing	Oceania	Niue	NU			
N/A	Oceania	Norfolk Island	NF			
N/A	Oceania	Northern Mariana	MP			
Developing	Oceania	Palau	PW			
Developing	Oceania	Papua New Guinea	PG			
Least developed	Oceania	Solomon Island	SB			
N/A	Oceania	Tokelau	TK			
Developing	Oceania	Tonga	TO			
Least developed	Oceania	Tuvalu	TV			
Least developed	Oceania	Vanuatu	VU			
N/A	Oceania	Wallis Futuna	WF			
Developing	Oceania	Western Samoa	WS			
Least developed	South Asia	Afghanistan	AF			
Least developed	South Asia	Bangladesh	BD	■	■	
Least developed	South Asia	Bhutan	BT			
N/A	South Asia	British IO	IO			
Developing	South Asia	India	IN	■	■	■
Developing	South Asia	Maldives	MV			
Least developed	South Asia	Nepal	NP	■		
Developing	South Asia	Pakistan	PK		■	
Developing	South Asia	Srilanka	LK		■	■
Developing	South East Asia	Brunei	BN			
Developing	South East Asia	Cambodia	KH	■		■
N/A	South East Asia	Christmas Island	CX			
Developing	South East Asia	Indonesia	ID	■	■	
Least developed	South East Asia	Laos	LA		■	
Developing	South East Asia	Malaysia	MY		■	
Least developed	South East Asia	Myanmar	MM		■	■
Developing	South East Asia	Philippines	PH			
Developing	South East Asia	Singapore	SG	■	■	■
Developing	South East Asia	Thailand	TH			■
Least developed	South East Asia	Timor Leste	TL			
Developing	South East Asia	Vietnam	VN	■		

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Recommended Locations - Survey Matters

East Asia	Japan*	JPNIC
	Japan*	APNIC Direct
	China*	CNNIC
	China*	APNIC Direct
	Taiwan*	TWNIC
Oceania	Australia	APNIC Direct
	New Zealand	APNIC Direct
	Papua New Guinea	APNIC Direct
	Fiji	APNIC Direct
South East Asia	Singapore	APNIC Direct
	Malaysia	APNIC Direct
	Phillipines	APNIC Direct
	Indonesia	APJII
	Indonesia	APNIC Direct
	Laos*	APNIC Direct
South Asia	India	IRINN
	India	APNIC Direct
	Pakistan	APNIC Direct
	Bangladesh	APNIC Direct
	Nepal	APNIC Direct
	Afghanistan	APNIC Direct

Legend

* Translators required

Recommended Locations - Survey Matters

Economy	Region	Economy	Code	Visited 2012	Visited 2014	Visited 2016	Recommendation 2018
Developing	East Asia	China	CN				
Developing	East Asia	Hong Kong	HK				
Developed	East Asia	Japan	JP				
Developing	East Asia	Macau	MO				
Developing	East Asia	Mongolia	MN				
Least developed	East Asia	North Korea	KP				
Developing	East Asia	South Korea	KR				
Developing	East Asia	Taiwan	TW				
Developing	Oceania	American Samoa	AS				
Developed	Oceania	Australia	AU				
Least developed	Oceania	Cook Islands	CK				
Developing	Oceania	Fiji	FJ				
Developing	Oceania	French Polynesia	PF				
Developing	Oceania	Guam	GU				
Least developed	Oceania	Kiribati	KI				
Developing	Oceania	Marshall Island	MH				
Developing	Oceania	Micronesia	FM				
Developing	Oceania	Nauru	NR				
Developing	Oceania	New Caledonia	NC				
Developed	Oceania	New Zealand	NZ				
Developing	Oceania	Niue	NU				
N/A	Oceania	Norfolk Island	NF				
N/A	Oceania	Northern Mariana	MP				
Developing	Oceania	Palau	PW				
Developing	Oceania	Papua New Guinea	PG				
Least developed	Oceania	Solomon Island	SB				
N/A	Oceania	Tokelau	TK				
Developing	Oceania	Tonga	TO				
Least developed	Oceania	Tuvalu	TV				
Least developed	Oceania	Vanuatu	VU				
N/A	Oceania	Wallis Futuna	WF				
Developing	Oceania	Western Samoa	WS				
Least developed	South Asia	Afghanistan	AF				
Least developed	South Asia	Bangladesh	BD				
Least developed	South Asia	Bhutan	BT				
N/A	South Asia	British IO	IO				
Developing	South Asia	India	IN				
Developing	South Asia	Maldives	MV				
Least developed	South Asia	Nepal	NP				
Developing	South Asia	Pakistan	PK				
Developing	South Asia	Srilanka	LK				
Developing	South East Asia	Brunei	BN				
Developing	South East Asia	Cambodia	KH				
N/A	South East Asia	Christmas Island	CX				
Developing	South East Asia	Indonesia	ID				
Least developed	South East Asia	Laos	LA				
Developing	South East Asia	Malaysia	MY				
Least developed	South East Asia	Myanmar	MM				
Developing	South East Asia	Philippines	PH				
Developing	South East Asia	Singapore	SG				
Developing	South East Asia	Thailand	TH				
Least developed	South East Asia	Timor Leste	TL				
Developing	South East Asia	Vietnam	VN				

APNIC

Discussion/Questions?

APNIC

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Agenda Item 14
NRO NC election

2017 NRO NC Election

- One vacant seat on NRO Number Council
  - Two-year term from 1 January 2018 to 31 December 2019

- Call for nominations: 5 June to 10 August 2017

- Online and on-site voting available
  - https://conference.apnic.net/44/elections

Online Voting via MyAPNIC

- For APNIC Members only

- Voting period
  - Started: Monday, 28 August 2017
  - Ended: 9:00 (UTC +8) Tuesday, 12 September 2017

On-site Voting

- Each registered APNIC 44 attendee is entitled to one vote, as an individual

- Voting period
  - Starts: As announced by the Election Chair
  - Ends: 14:00 (UTC +8) Thursday, 14 September 2017

- Ballot Box
  - The ballot box is placed at the Voting desk after the Election Chair announces the opening of on-site voting

Voting Ballot Paper

Declaration of Results

- Election results will be announced at 15:00 (UTC +8) today, 14 September 2017

- The Election Chair will also disclose:
  - Notice of any disputes and resolutions
  - Disclosure of any communication from the Election Scrutineers regarding any anomaly or issue

Declaration of Results

APNIC 44

2017 APNIC NRO NC Election – 14 September 2017

Declaration of results

Total valid paper ballots		
Total invalid paper ballots		
Total paper ballots counted		
Total on-site votes		
Total online votes		
Total votes counted		
Total vote counts for each nominee (combined online and onsite votes)		
Total votes counted		

2017 NRO NC Election

- Vincent Chen as Election Chair (appointed by EC)

- George Kuo and Connie Chan as Election Officers (appointed by EC)

- Anna Mulingbayan, Wita Laksono and Zen Ng as Election Tellers (appointed by EC)

- xxxx and xxxx as Election Scrutineers (appointed by Election Chair)

Notice of Dispute

- Any complaint regarding the conduct of the election must be lodged in writing with the Election Chair at the conference and be lodged no later than one hour before the scheduled Declaration of the Election

- Notices may only be lodged by Nominees or Members through their authorized voting representatives

- The Election Chair shall resolve the dispute at his discretion

Nominees for 2017 NRO NC Election

- ASM Khayrul Akter Chowdhury

- Seyed Mohammad Najafi

- Vladimir Kangin

- Sanaullah Soomro

- Jahangir Hossain

- Tomohiro Fujisaki

- Mohammed Tayab

- Mohammad Rafi

- Aftab Siddiqui

On-site Voting

- Opening of the ballot box

- The ballot box will be moved to the Voting desk after the opening of on-site voting is announced

- The ballot box is supervised by the Election Tellers at all times

- Voting period
  - Starts: Now
  - Ends: 14:00 (UTC +8) Thursday, 14 September 2017

APNIC 44

Any questions?

#apnic44

TAICHUNG, TAIWAN
7–14 September 2017