

APNIC Activities Report

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11 July 2017

SANOG 30, Gurgaon, India

Activities



Serving APNIC Members



Supporting Regional Internet
Development

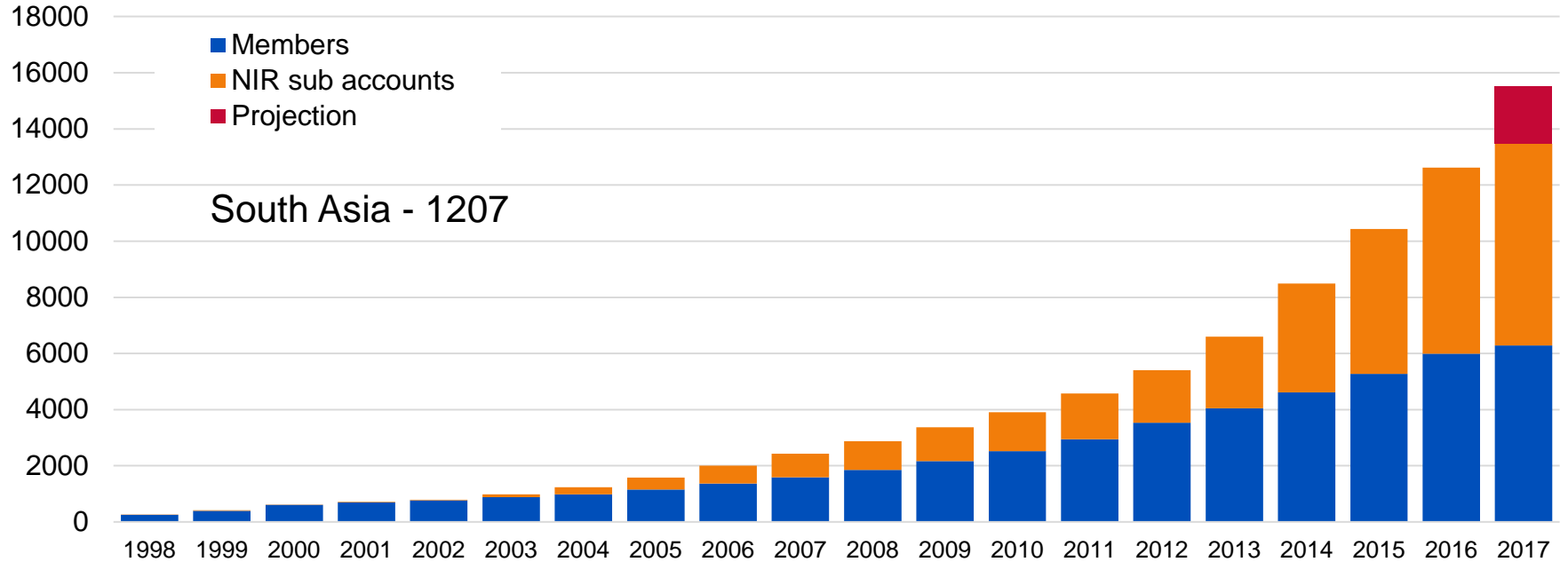


Cooperating with the Global
Internet Community







Membership

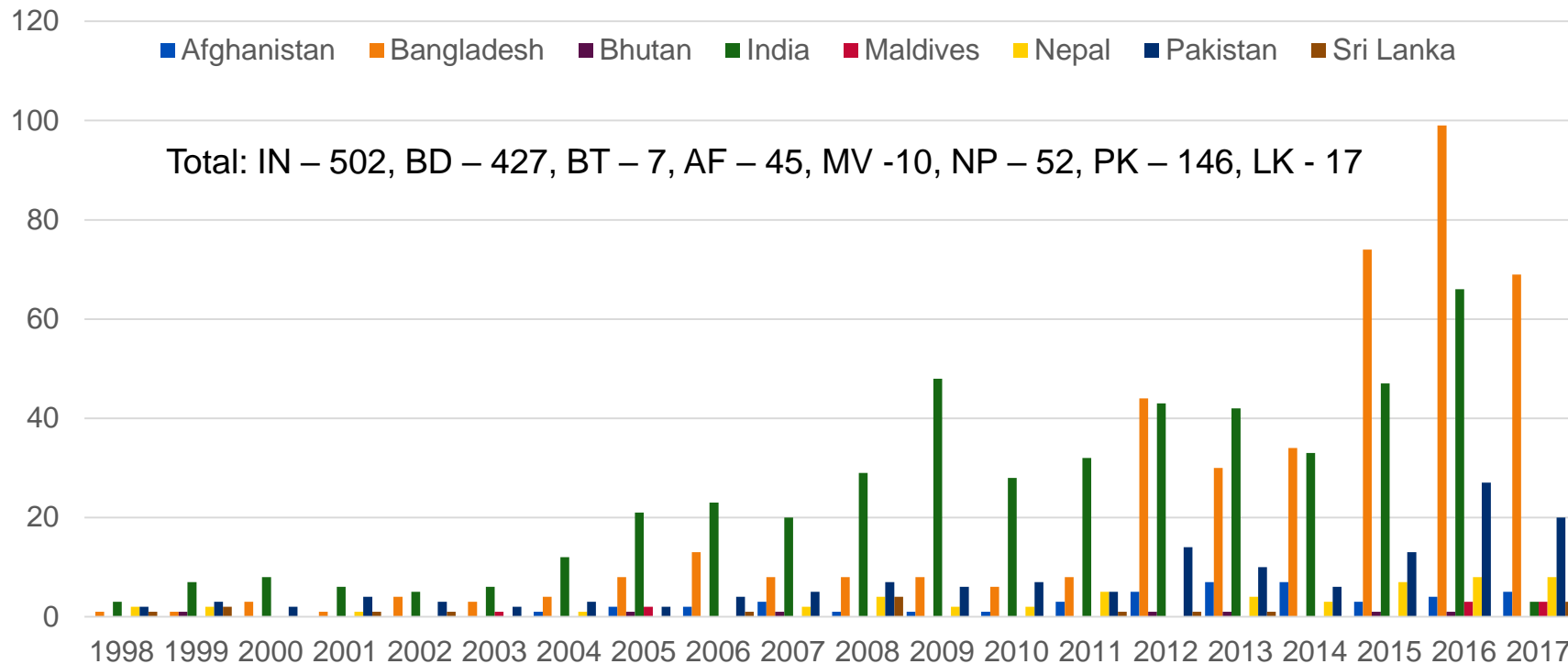


As at 30 June

APNIC Members are from different industries

Industry Type	Number of Members
Academic/Educational/Research	418
Banking/Financial	446
Domain name registry/Registrar	46
Enterprise/Manufacturing/Retail	552
Government/Regulator/Municipality	291
Hardware vendor	56
Hosting/Data centre	 1602
Industrial (construction, mining, oil)	127
Infrastructure (transport/hospital)	121
Internet exchange point (IXP)	56
Internet service provider (ISP)	 1627
Media/Entertainment	210
Non-profit/NGO/Internet community	63
NREN/Research network	8
Software vendor	322
Telecommunications/Mobile operator	947
Other	49

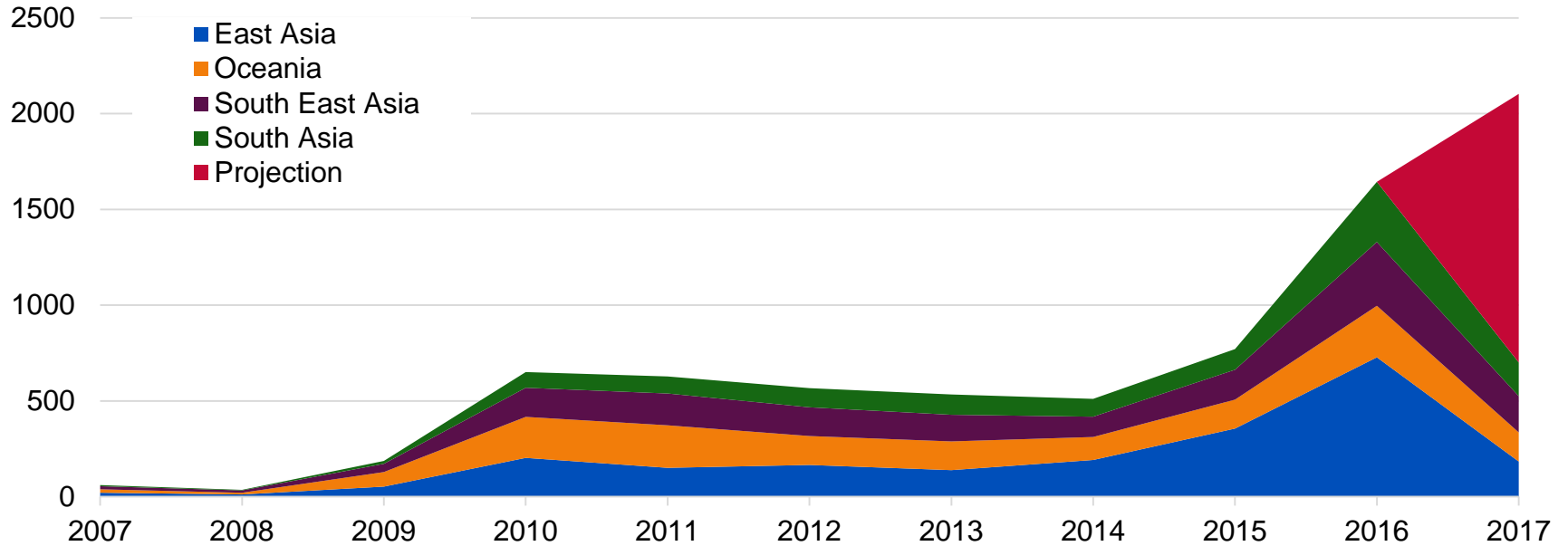
Membership in South Asia



As at 30 June

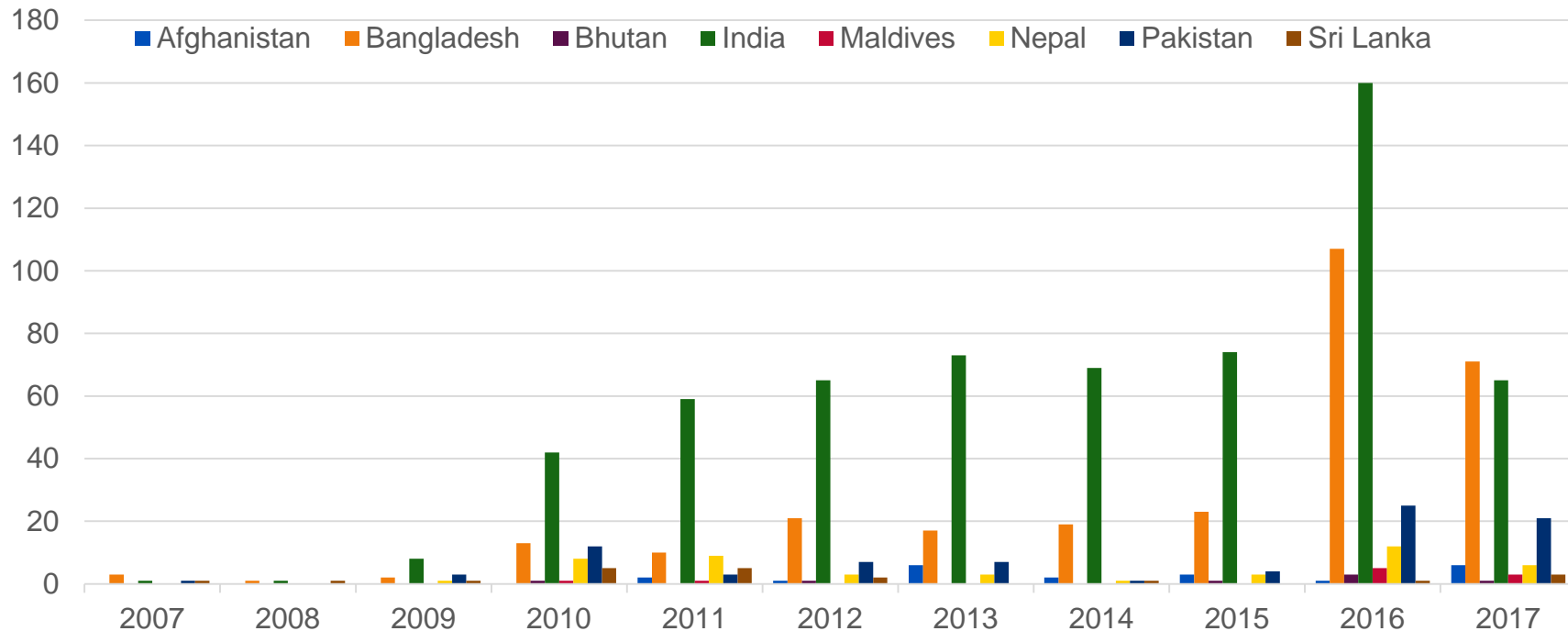


IPv6 - Regional



As at 30 June

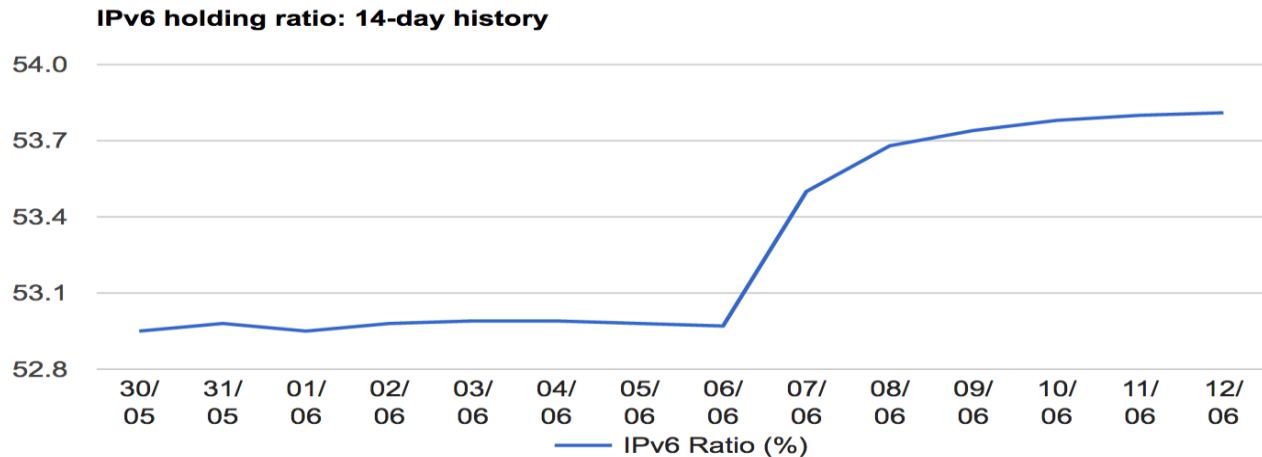
IPv6 in South Asia



Total: IN – 628, BD - 288, PK - 88, NP - 46, AF- 21, LK - 20, MV - 10, BT - 7

As at 30 June

Now, over **53%** of APNIC Members have **IPv6**



Jun 2017

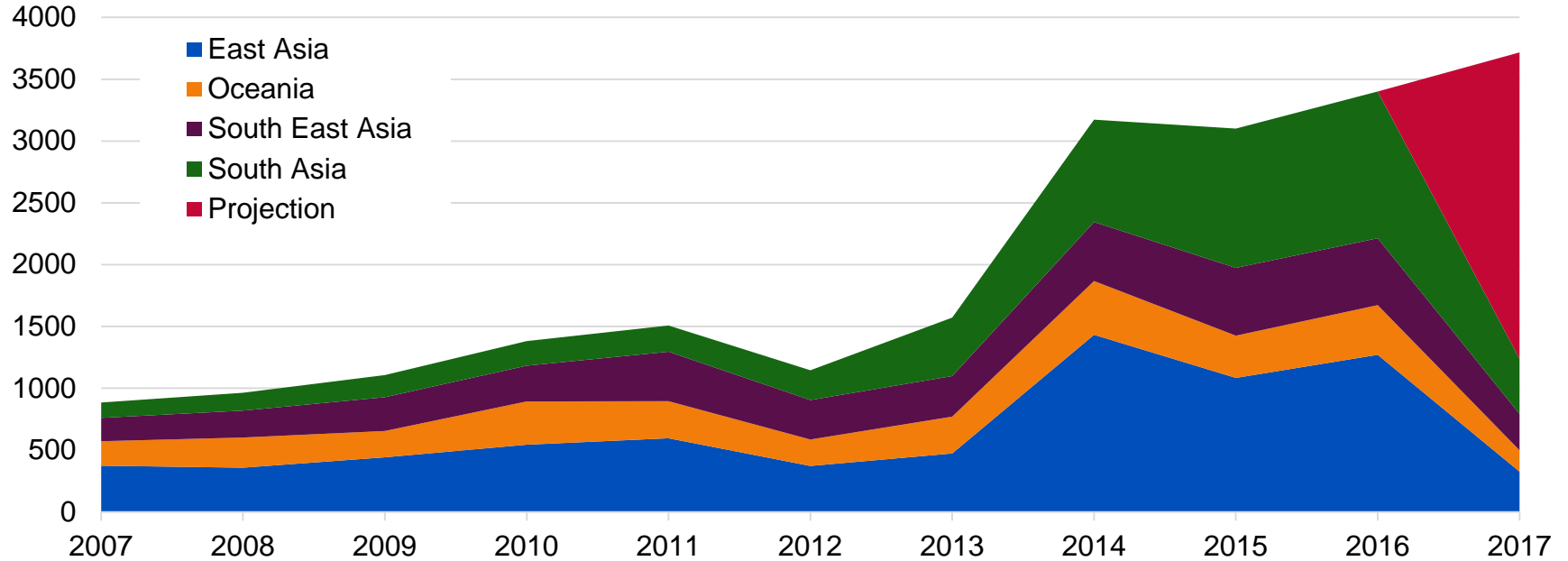
IPv6 economy table - Asia

CC	Country	IPv6 Capable	IPv6 Preferred	Samples
IN	India, Southern Asia, Asia	29.23%	27.95%	18,768,395
JP	Japan, Eastern Asia, Asia	24.60%	22.00%	3,143,066
MY	Malaysia, South-Eastern Asia, Asia	17.21%	14.90%	4,037,304
SA	Saudi Arabia, Western Asia, Asia	6.77%	6.32%	1,742,809
MO	Macao Special Administrative Region of China, Eastern Asia, Asia	5.81%	5.25%	728,304
VN	Vietnam, South-Eastern Asia, Asia	5.70%	5.33%	12,022,772
SG	Singapore, South-Eastern Asia, Asia	4.14%	3.47%	1,132,547
TH	Thailand, South-Eastern Asia, Asia	3.53%	3.35%	3,484,134
LK	Sri Lanka, Southern Asia, Asia	3.00%	2.74%	2,998,189
IL	Israel, Western Asia, Asia	1.57%	1.55%	1,138,882
KR	Republic of Korea, Eastern Asia, Asia	1.15%	1.02%	1,807,093
HK	Hong Kong Special Administrative Region of China, Eastern Asia, Asia	0.94%	0.28%	1,866,965
TW	Taiwan, Eastern Asia, Asia	0.41%	0.36%	2,846,774
BT	Bhutan, Southern Asia, Asia	0.40%	0.39%	54,627
CN	China, Eastern Asia, Asia	0.37%	0.22%	16,851,561
KH	Cambodia, South-Eastern Asia, Asia	0.01%	0.01%	2,440,063

<https://stats.labs.apnic.net/ipv6/>

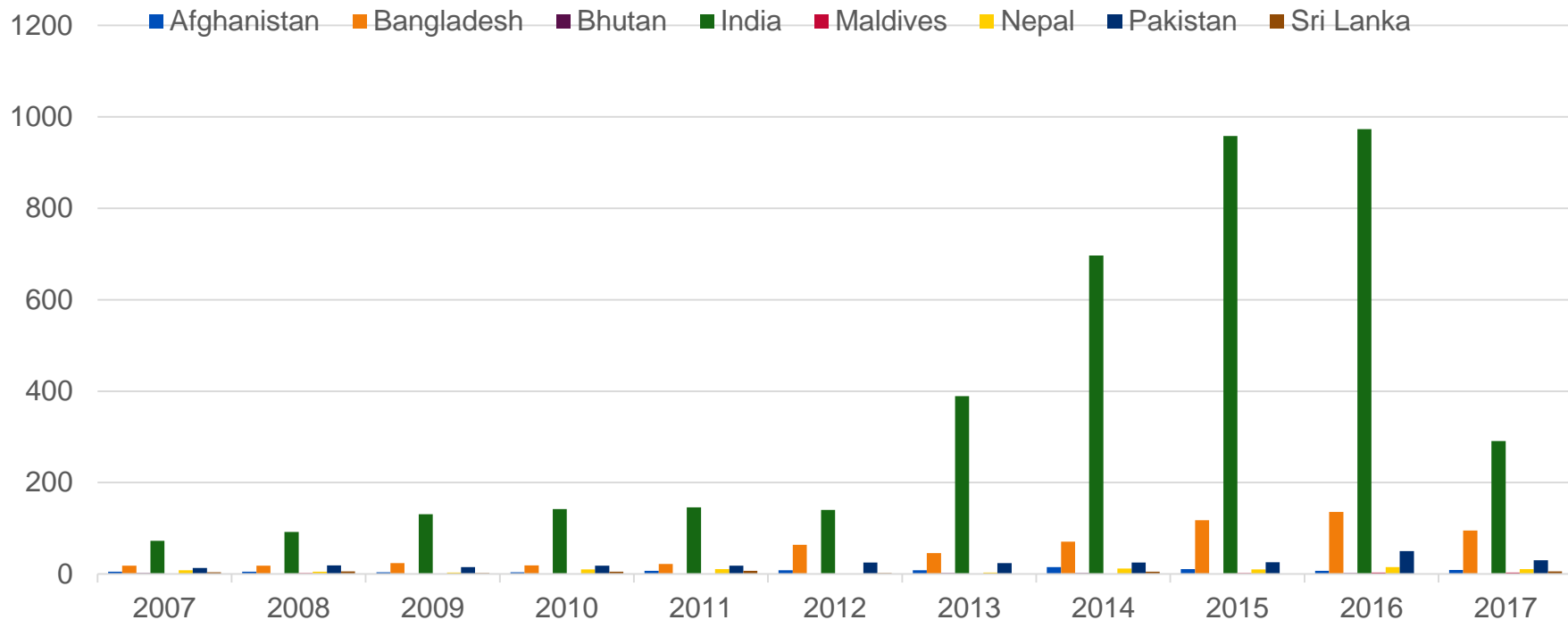


IPv4 - Regional



As at 30 June

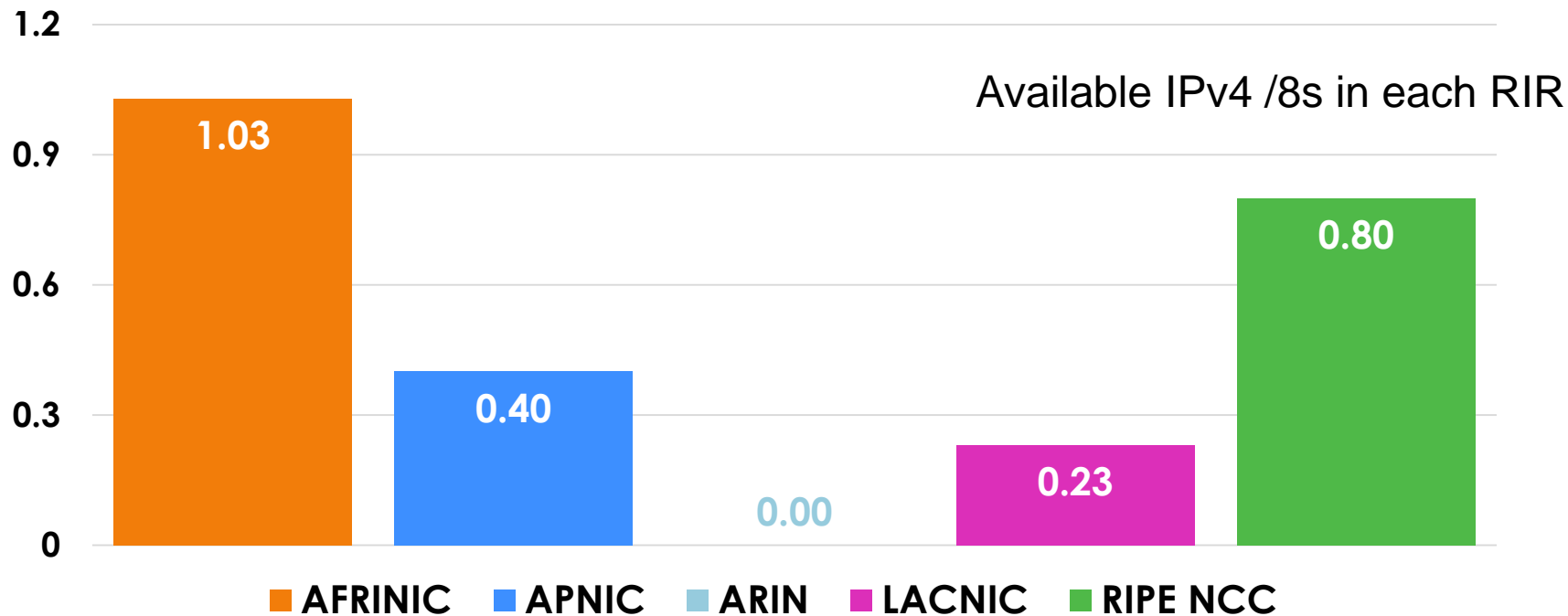
IPv4 in South Asia



Total: IN – 4373, BD - 713, PK - 347, NP - 99, AF- 85, LK - 62, MV - 20, BT - 15

As at 30 June

Last /8s continue to deplete globally



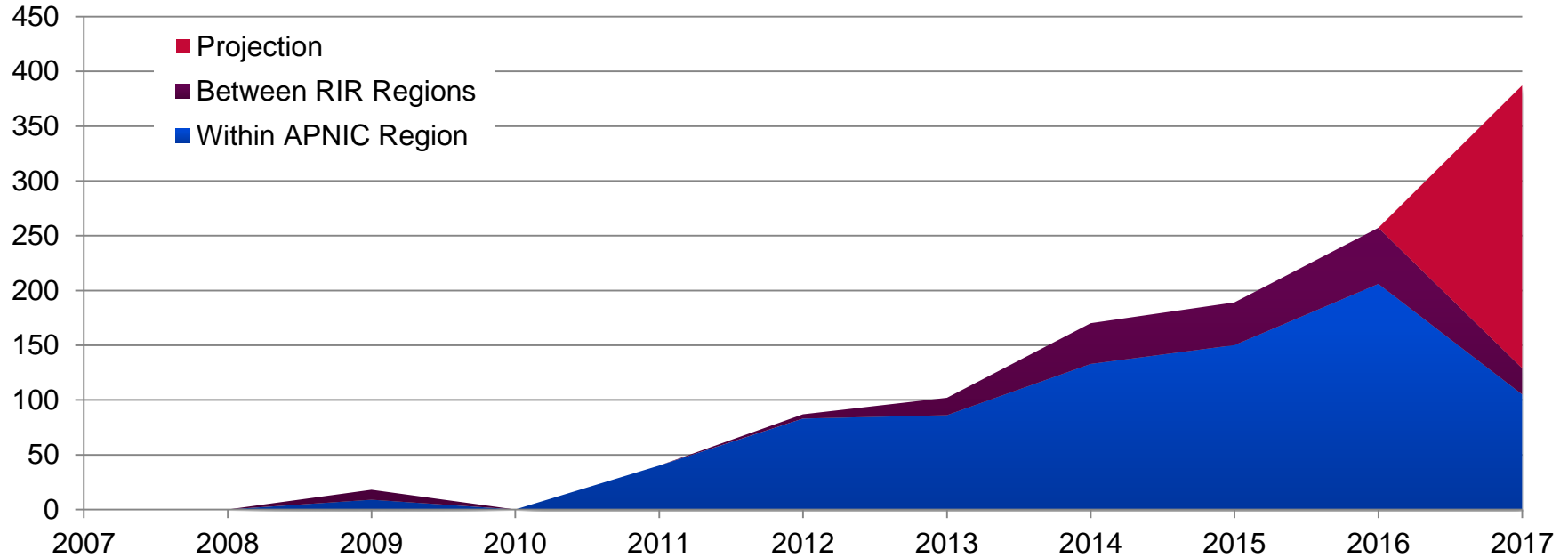
Mar 2017

68% of APNIC Members have
received IPv4 from 103/8

Currently only **37%** of 103/8
is available



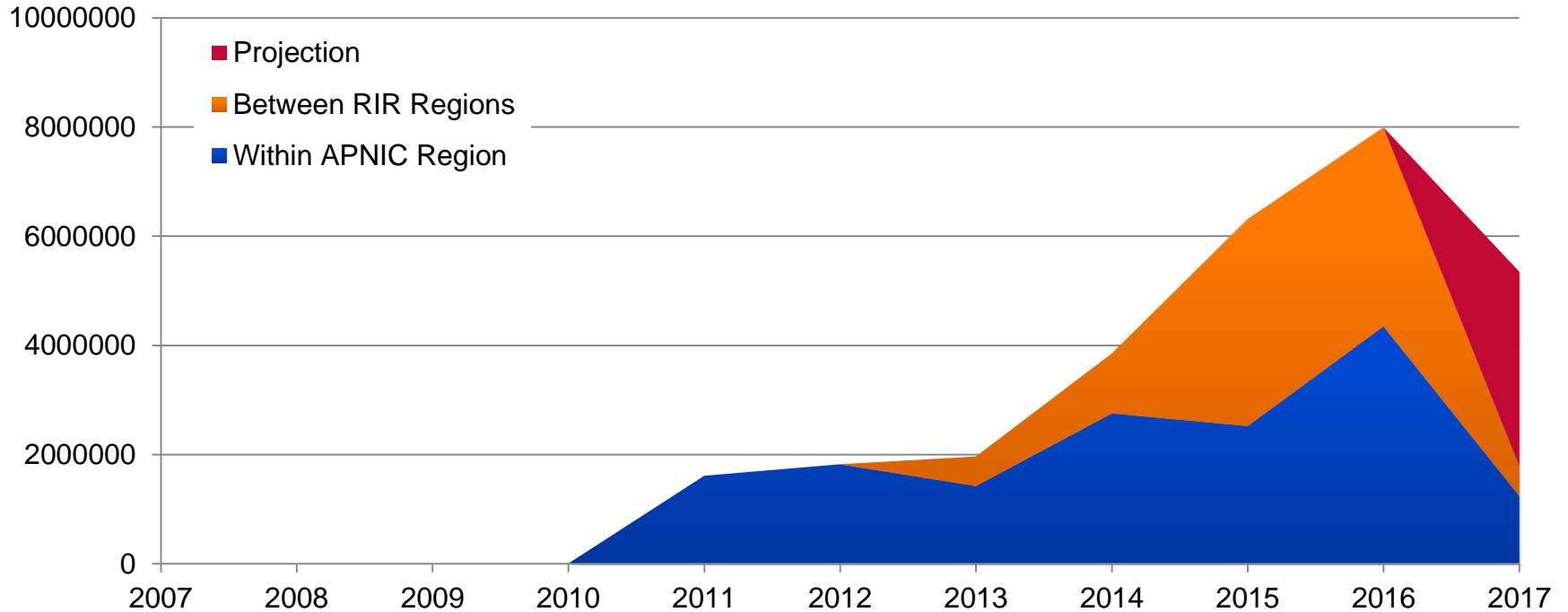
IPv4 Transfers



As at 30 June



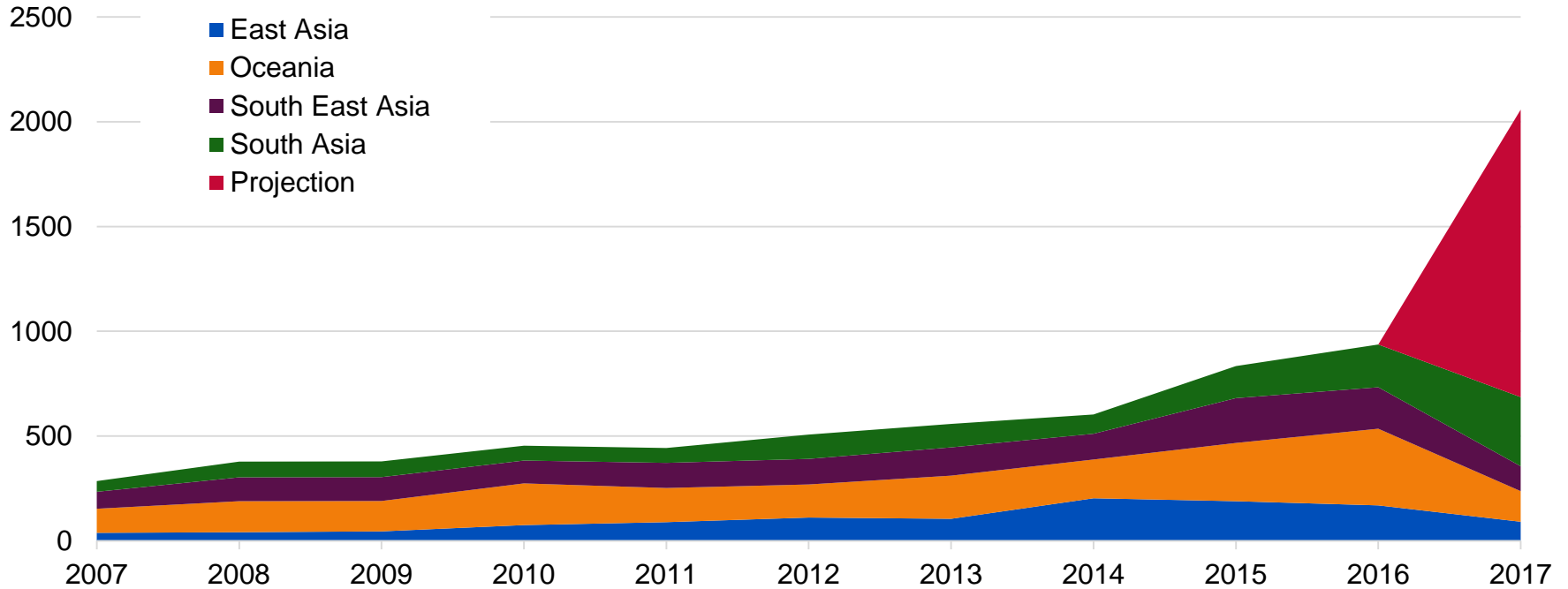
Total IPv4 Transferred



As at 30 June

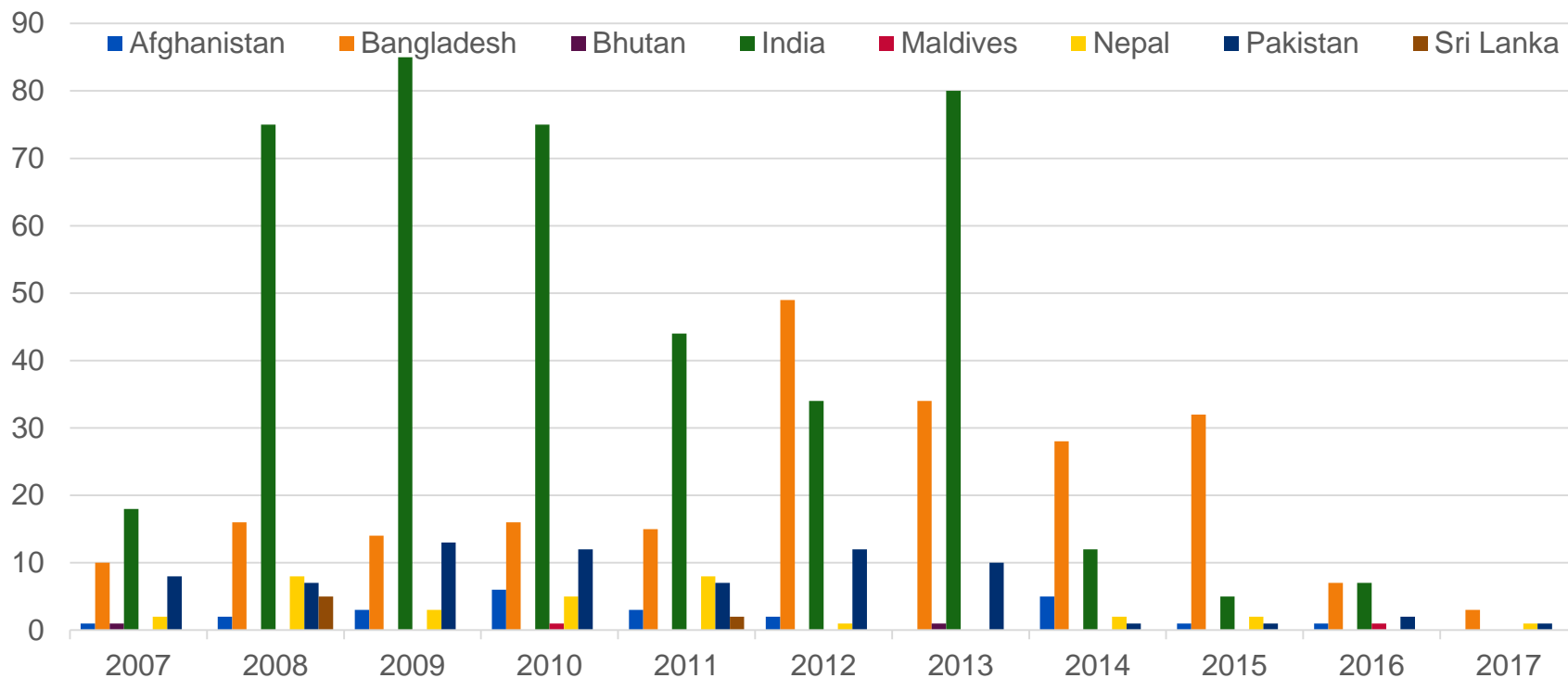


ASNs – Regional



As at 30 June

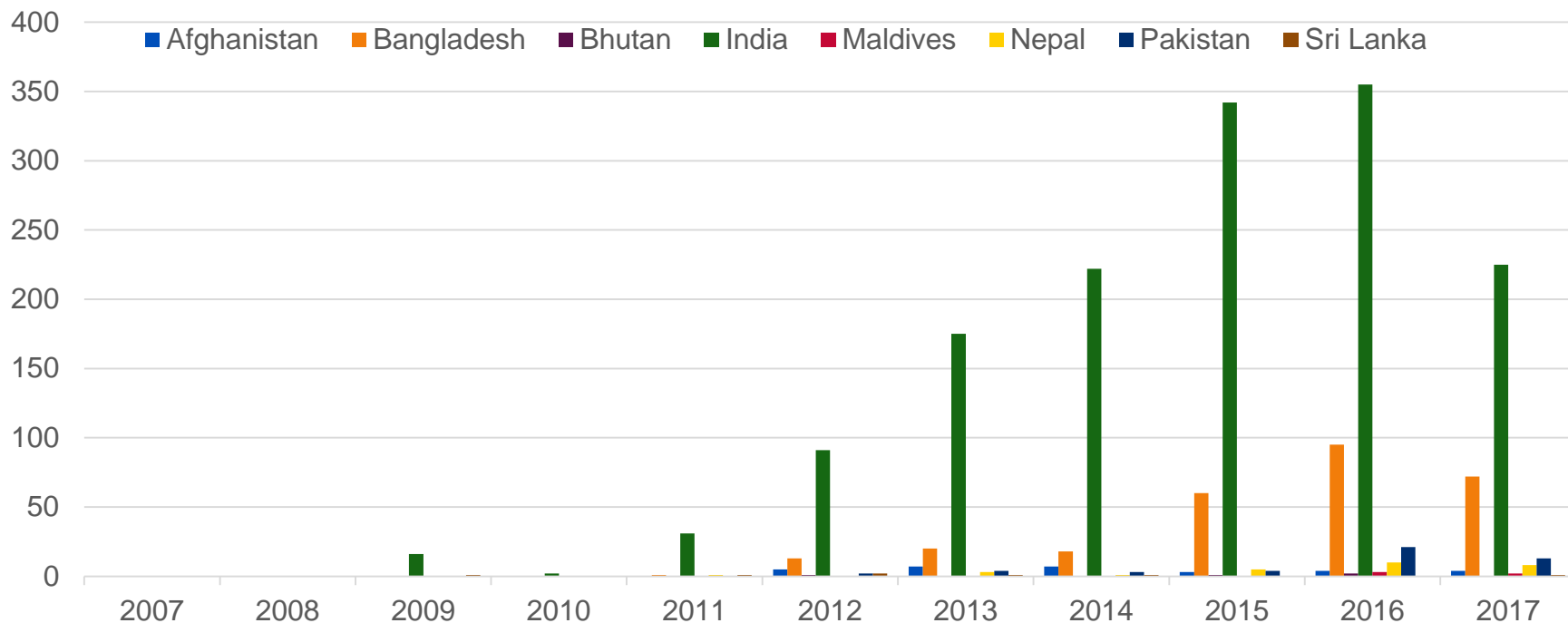
2-byte ASNs in South Asia



IN – 607, BD - 285, PK - 107, NP - 46, AF- 27, LK - 20, MV - 5, BT - 5

As at 30 June

4-byte ASNs in South Asia

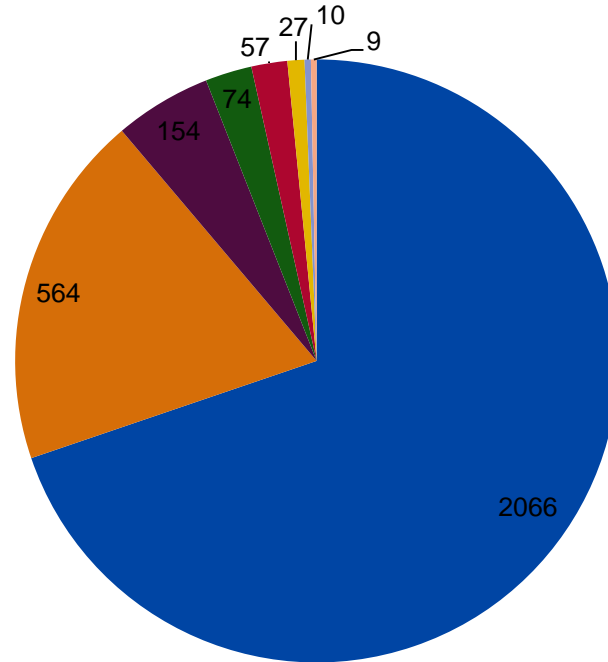


IN – 1459, BD – 279, PK – 47, NP – 28, AF – 30, LK – 7, MV – 5, BT - 4

As at 30 June

ASNs in South Asia

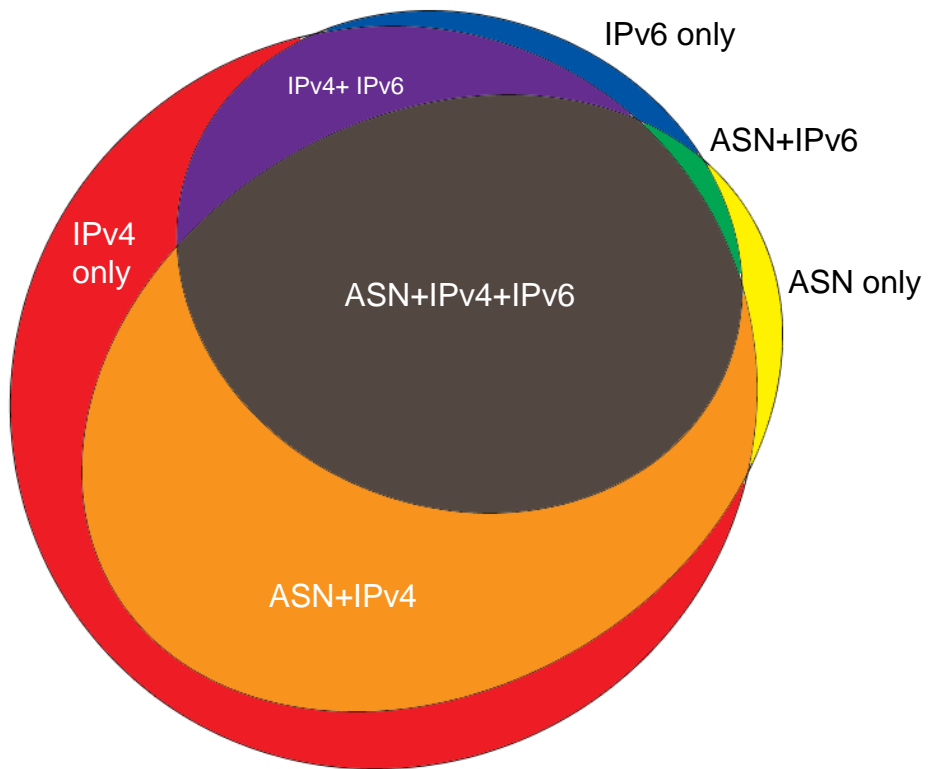
■ INDIA ■ BANGLADESH ■ PAKISTAN ■ NEPAL ■ AFGHANISTAN ■ SRI LANKA ■ MALDIVES ■ BHUTAN



As at 30 June



Resource Holdings



% of Members Holding	
ASN	75%
IPv4	97%
IPv6	54%

As at 30 June

Whois Data Quality



- Completed task of cleaning up problem objects in the whois
 - Replaced MAINT-NEW/MAINT-NULL with Member's maintainers from 531 objects (21 accounts)
 - Removed 'helpdesk@apnic.net' from 341 objects (18 accounts)
- Presentations by LEAs at APNIC 42
- New “search and replace” tool to help Members keep multiple records current

Organization object

New Whois object



Easy way of mapping delegated IP or ASN to the organizations that have received them

Routing Security - RPKI

- introduced by RIRs in 2009 to **improve routing security** and **augment** information in the **Whois database**
- **Verify** BGP routes with cryptography to **Prevent** most accidental hijacks

Resource Public Key infrastructure - www.apnic.net/rpki

Routing Security - ROA

- The ASN you have authorized
- The prefix that is being originated from it
- The most specific prefix (maximum length) that the AS may announce

For example: “AS64496 originates a route for the prefix 2001:DB8::/32 with a maximum prefix length of /40)”

Route Origin Authorization - www.apnic.net/roa

Routing Security



“Ready to ROA” campaign
Helping Members create ROAs
6 sessions in 2017 to date: IN, NZ, VN, PH, BN, SG

Adoption rates steadily improving in Asia Pacific
from 2.7% to 3.59% to date in 2017



- RPKI uptime 99.9995%
- 15 qps

ROA stats (to date)

ROA-enabled Members	760
Numbers of ROAs created	654
Number of IPv4 addresses under ROAs (/32s)	15,947,592
Number of IPv6 addresses under ROAs (/56s)	3,107,025,408
% allocated space under ROAs (IPv4)	1.85%
% allocated space under ROAs (IPv6)	0.36%

APNIC Online



The collage displays several key features of the APNIC website:

- MyAPNIC:** A user dashboard with navigation links for Home, Resources, Admin, Contact, Tools, Events, Voting, and My Profile. It includes a section for Bulk Whois Attribute Updates with a 'Submit update request' button.
- Bulk Update Requests:** A page for managing update requests, with a 'Submit update request' button and a description: 'You can do a bulk update of your inetnum, inet6num, and ipsec peer objects.' It also shows a 'Public' link.
- Deploy IPv6:** A page for IPv6 deployment with navigation links for Get IP, Manage IP, Training, Events, Research, Community, Blog, About, and Contact. It includes a 'Deploy IPv6' button and a 'What is IPv6' link.
- Summary:** A dashboard with tabs for Summary, ASN, IPv4, and IPv6. It contains several charts:
 - IPv4 Total by Year:** A bar chart showing the count of unique addresses in millions from 1999 to 2013. The y-axis ranges from 0 to 121. The x-axis shows years 1999, 2006, and 2013. The chart shows a steady increase over time.
 - IPv4 by Subregion:** A pie chart showing the distribution of IPv4 addresses across subregions.
 - IPv6/32 by Year:** A bar chart showing the count of unique addresses in thousands from 1999 to 2013. The y-axis ranges from 0 to 9.51. The x-axis shows years 1999, 2006, and 2013. The chart shows a significant increase in IPv6/32 addresses over time.
- Proposal Form:** A form for submitting proposals, with a title 'The proposal under discussion is PROP-123.' and a description 'This is a test proposal for demonstration purposes'. It includes a 'Please select a radio button to indicate your response to the proposal.' section with a donut chart and radio buttons for 'Strongly Oppose', 'Oppose', 'Neutral', 'Support', and 'Strongly Support'.

- myapnic.net
 - Integrated route and ROA management
 - Integrated IPv4 and IPv6 rDNS management
- apnic.net
 - New CMS (Wordpress)
 - New IPv6 pages
- stats.apnic.net
- apnic.net/confer
- Single Sign-On in deployment



Whois Whowas

APNIC

APNIC Whois Search

To assist you with debugging problems, this whois query was received from IP Address:
2001:dc0:a000:4:78ee:f637:674b:7c88
 If you experience problems with this form, try the legacy search form.

APNIC found the following authoritative answer from: whois.apnic.net

whois.apnic.net | whois data copyright terms: http://www.apnic.net/db/whoiscopyright.html

APNIC Whoas
203.133.248.0/24

203.133.248.0 - 203.133.251.255

AS4080

descr: APNIC

remarks: These /

remarks: to APNIC

admin-c: HK28-A

tech-c: HK28-A

mnt-by: APNIC

mnt-lower: APNIC

changed: hm-char

changed: hm-char

changed: hm-char

source: APNIC

From Wed 08 Feb 2017 to the present

! network name APNIC-AU-RD

network 203.133.248.0 - 203.133.251.255

! country AU

type ALLOCATED PORTABLE

+ remarks /22 for APNIC R&D node in AU.

To report network abuse, please contact mnt-irt

For troubleshooting, please contact tech-c and admin-c

Report invalid contact via www.apnic.net/invalidcontact

+ description APNIC R&D AU

handle IRT-APNICRANDNET-AU

name IRT-APNICRANDNET-AU

kind group

address PO Box 3646

South Brisbane, QLD 4101

Australia

email abuse@apnic.net

email abuse@apnic.net

+ handle AIC1-AP

+ name APNIC Infrastructure Contact

+ kind group

+ address 6 Cordelia Street

South Brisbane

QLD 4101

Australia

From Mon 19 Sep 2016 to Wed 08 Feb 2017

network name APNIC-JP-RD

network 203.133.248.0 - 203.133.251.255

country JP

! type ALLOCATED PORTABLE

! remarks /22 for APNIC R&D node in JP.

To report network abuse, please contact mnt-irt

For troubleshooting, please contact tech-c and admin-c

Report invalid contact via www.apnic.net/invalidcontact

description APNIC R&D Centre JP

+ handle JT1429-AP

+ name Jordan Tay

+ kind individual

+ address 6 Cordelia Street, South Brisbane

+ voice +12 3456 7890

+ email jordan@apnic.net

handle IRT-APNICRANDNET-AU

name IRT-APNICRANDNET-AU

kind group

address PO Box 3646

South Brisbane, QLD 4101

Australia

email abuse@apnic.net

email abuse@apnic.net

- Whois
 - Updated to RIPE v4
 - RDAP integrated into RIPE codebase

apnic.net/whois

- Whowas
 - RDAP extensions

apnic.net/whowas



Quality Management



- Full ISO9001 recertification audit
- Updated to AS/NZS ISO9001/2016
- Includes knowledge management and risk management
- Passed!

- Now working on ISO/IEC 27001

Activities



Serving APNIC Members



Supporting Regional Internet
Development



Cooperating with the Global
Internet Community

Policy Implementation

- prop-117 - Returned IPv4 address management and Final /8 exhaustion
- The part of the proposal that reached consensus:
 - 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





Training and TA






	2017
Face-to-face training	29
Locations	23
Trainees	865
Community Trainers	10
Courses	12
Locations	6
eLearning sessions	76
Trainees	422
Training YouTube videos	110
Views	499,908
Technical Assistance	7

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



APNIC Academy

 <p>Internet Resource Management</p> <p>Course</p>	 <p>IPv4/IPv6 Routing</p> <p>Course</p>	 <p>Introduction to CyberSecurity</p> <p>Course</p>
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apnic.academy

- Launched April 2017 (Moodle)
- Free public access
- 'Introduction to CyberSecurity'
 - Registered: 1,351
 - Enrolled: 1,134
 - Certified: 225
- Coming:
 - Internet Resource Management
 - IPv4/IPv6 Routing
 - More Security/CERTs

Community



- NOGs: 12 presentations, hostmaster consultations, tech support and sponsorship
- TA: IXP in PNG
- Rootservers: J in NP, IN and SGx2
- RIPE Atlas: Anchors in MN, ID, AU, VN, NZ, PG, MV, CN
- MoUs: Sri Lanka CERT|CC, KISA (renewed) and APIA (renewed)

Security



- Training and participation at 10 NOG and CERT events, and AFSIG 2017
- LEA training and engagement with Interpol SG
- CERT.to: Hosted and trained two team members
- More CERT development in the Pacific
- FIRST: Technical Colloquia at APRICOT 2017 and APNIC 44 (coming)
- 24 security-tagged blog posts

apnic.net/security

IPv6



IDA IPv6 workshop

- Training: 11 face-to-face with 342 trainees
- eLearning: 14 sessions with 95 trainees
- Promotion: 11 sessions at APRICOT 2017, 5 presentations at regional events, panel session at PTC'17
- Joint APNIC/ITU IPv6 Infrastructure Security Workshop in Bangkok and Bhutan
- Website: new IPv6 pages

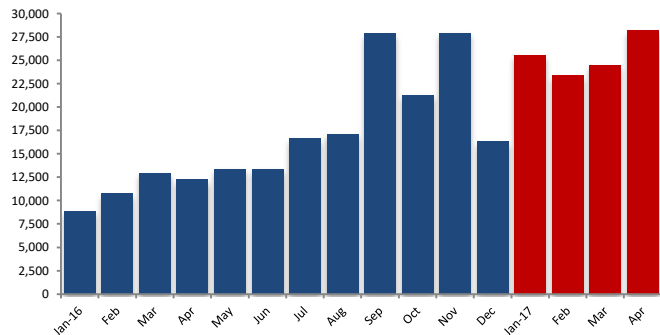
APNIC/ITU IPv6 Workshop
2017, Bangkok

apnic.net/IPv6



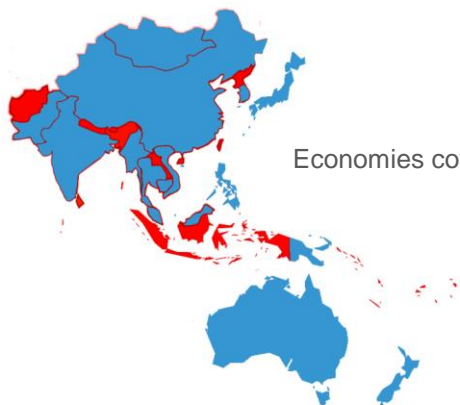
blog.apnic.net

Views



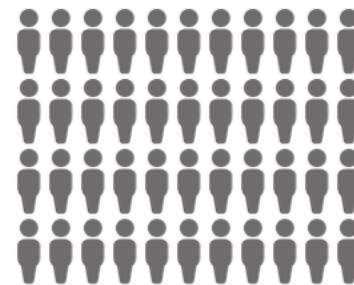
Average: 43k per month

Economies



Economies covered: 24

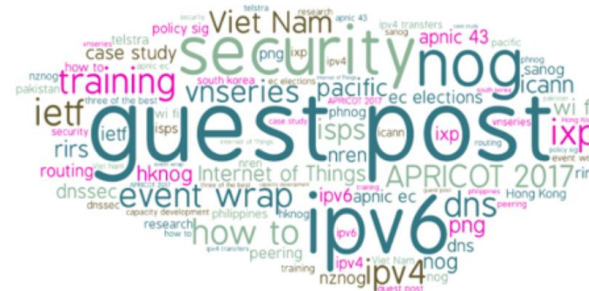
Guest Bloggers



72

Total: 186 authors to date

Topics



Top 5: IPv6, Security, NOGs, APRICOT 2017, IXP

apnic.foundation



isif  **asia**

isif.asia

2017 grants and awards
open now until 30 August

Activities



Serving APNIC Members



Supporting Regional Internet
Development



Cooperating with the Global
Internet Community



Global Cooperation



- 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
- WTDC prep process, with ICANN
- DNSSEC KSK, with ICANN



RIR collaboration



Geoff Huston at ARIN 39

- APNIC RDAP code in RIPE WHOIS v4
- RDAP batch extension proposal
- DNS root zone KSK rollover, with RIRs and ICANN
- APNIC Academy support from RIPE NCC
- NRO CGs: engineering, registry, comms, finance, HR, legal
- Participation at all RIR meetings
- Joint APNIC-AFRINIC Boards meeting at AFRINIC 26 / AIS'17



Next Conference

APNIC 44



TAICHUNG, TAIWAN
7-14 September 2017

Register now!

conference.apnic.net/44





Later...



APRICOT 2018 / APNIC 45
Kathmandu, Nepal
19 February to 1 March 2018



APNIC 46
Noumea, New Caledonia
6 to 13 September 2018



Stay in Touch!



blog.apnic.net
apnic.net/social

APNIC



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

Thanks!

