

# APNIC Update

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PacNOG 24 24-06-2019

# Outline

- About APNIC
- IPv4 delegation policy change
- New IPv4 listing service
- Future validation of IRT objects

# Where is the APNIC Region?



**AFRINIC**  
The Internet Numbers Registry for Africa



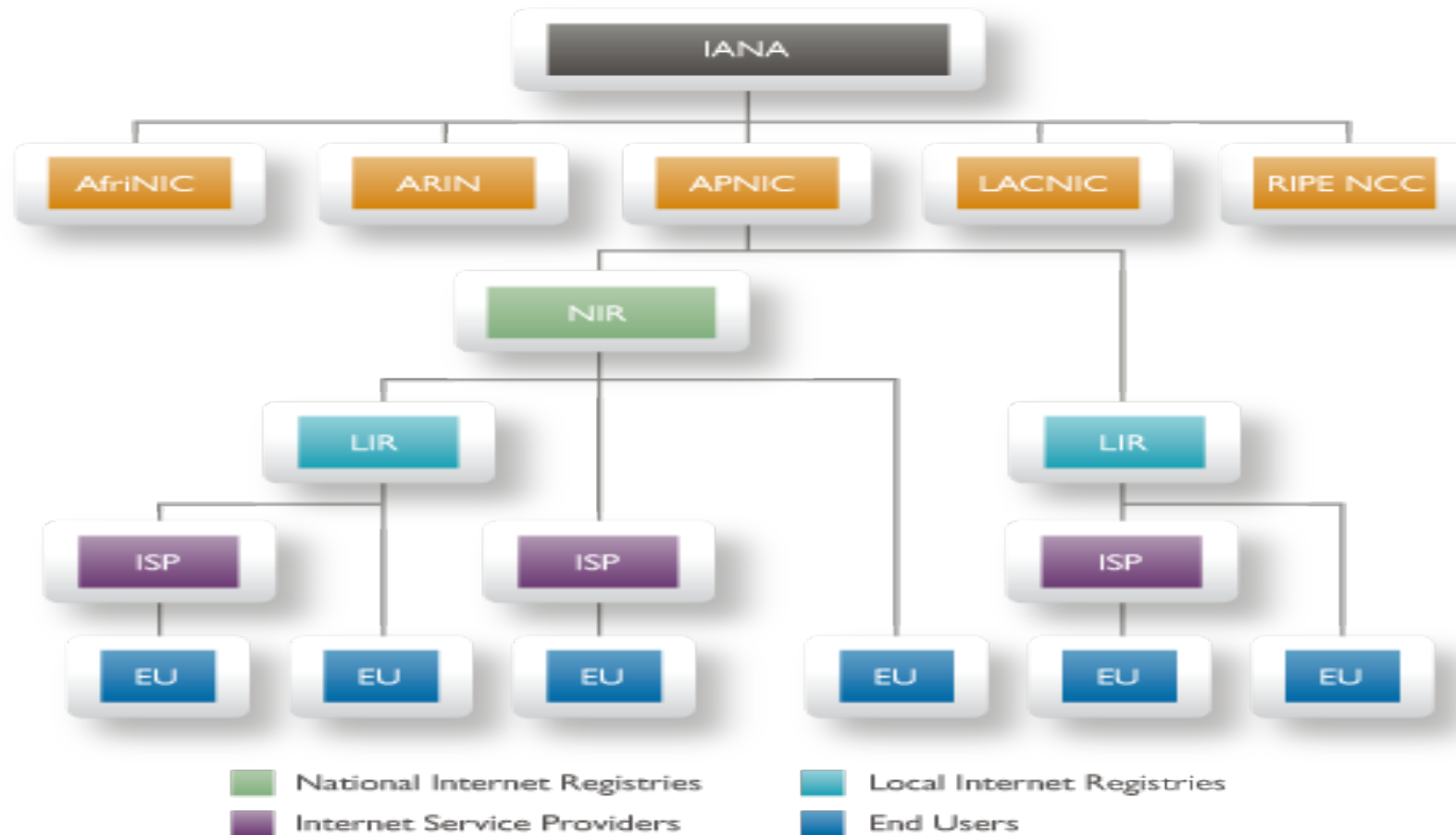
ARIN

**APNIC**

lacnic

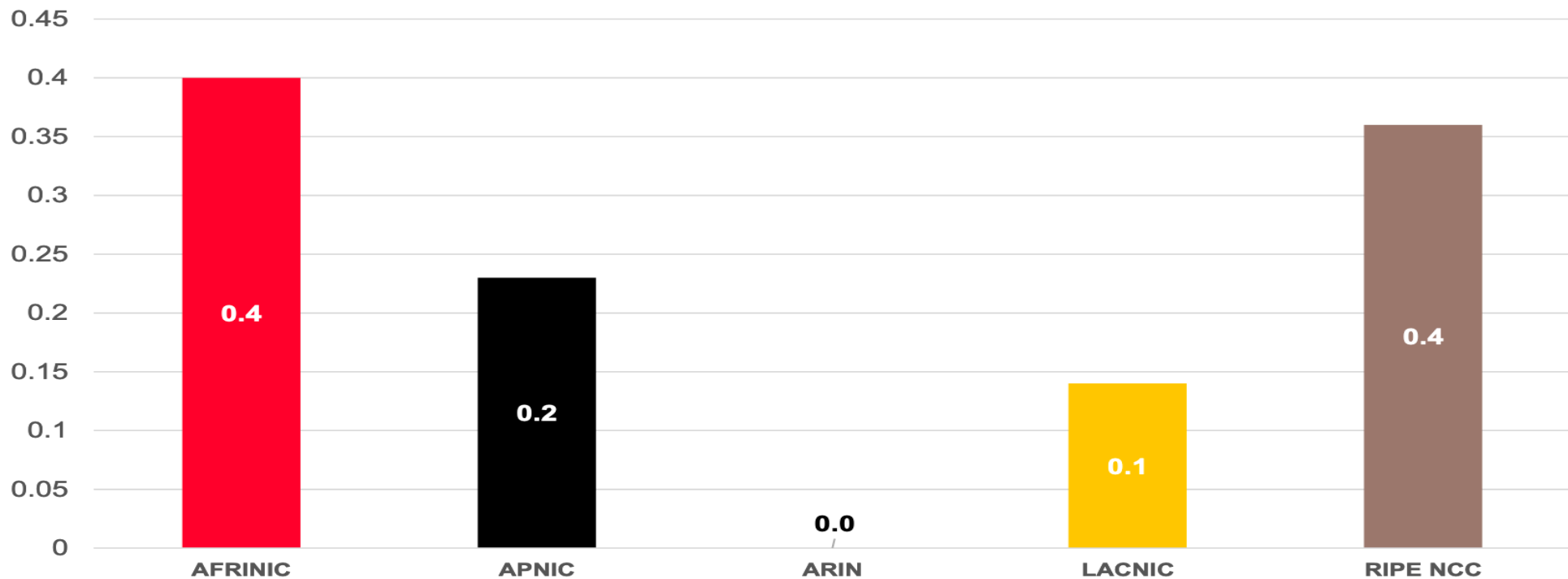


# Internet Number Registry Structure



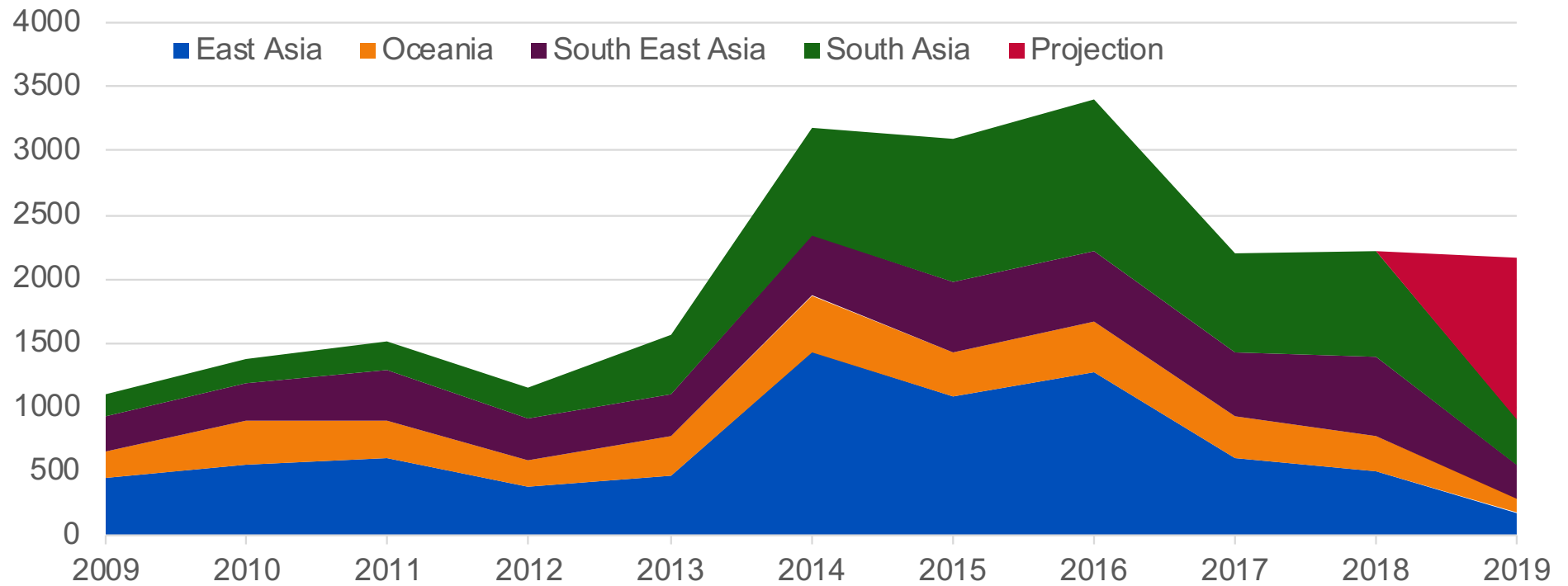
# Continued global depletion

Available IPv4 /8s in each RIR



December 2018

# IPv4 delegations

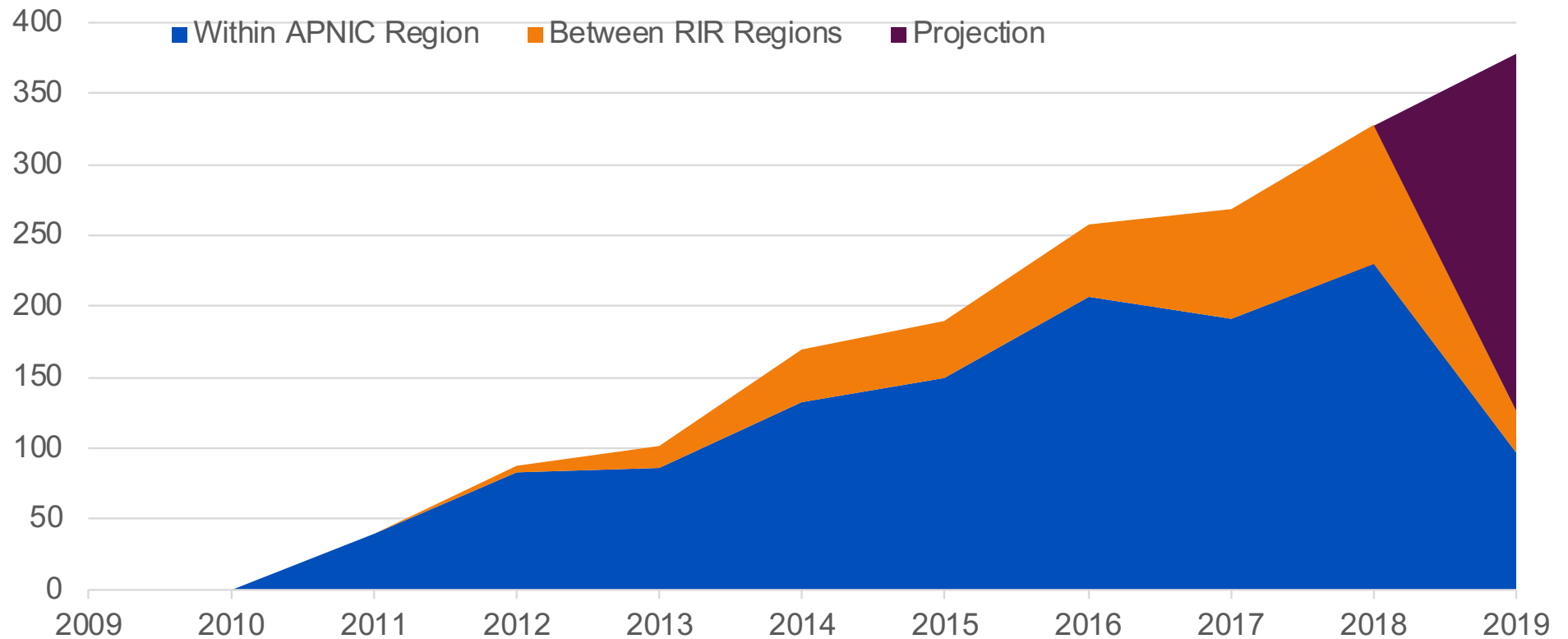


As at 31 May

# Recent IPv4 Delegation Policy change

- prop-127: Change maximum delegation size of 103/8 IPv4 address pool to a /23
  - Each member can only get up to 512 addresses (/23)
  - Allows new members to get a little bit of IPv4 before it completely runs out
- prop-129: Abolish Waiting list for unmet IPv4 requests
  - Recovered address space treated under the same policy as last /8 (103/8)
  - Encourage the implementation of IPv6

# IPv4 transfers



As at 30 Apr



# IPv4 address transfer

- Transfer is allowed through:
  - Merger & Acquisition
  - Needs based market transfer
- Way to source additional IPv4 addresses
  - Implement new process and mechanism of IPv4 listing service for members who want to list their unused Ipv4 address space



# Motivation for IPv4 listing service

- Motivation
  - Response to the 2018 APNIC survey
  - Additional supply of IPv4 addresses
  - Effective stewardship of IPv4 address space



# MyAPNIC resources page

MyAPNIC



[Home](#) [Resources](#) [Admin](#) [Contact](#) [Tools](#) [Events](#) [My Profile](#)

[Home](#) / [Resources](#)

## Resources

### Internet Resources

#### Summary

View all of your resource holdings.

#### IPv4

View your IPv4 resource holdings.

#### IPv6

View your IPv6 resource holdings.

#### AS Numbers

View your ASN resource holdings.

### Reverse DNS Delegations

#### Add Reverse Delegations

Add new reverse delegations.

#### Reverse Delegation Summary

View and manage reverse delegations

### Resource Request Forms

#### IPv4 Addresses

Apply for an IPv4 address delegation.

#### IPv6 Addresses

Apply for an IPv6 address delegation.

#### AS Numbers

Apply for an ASN delegation.

### Whois Updates

#### Whois Updates

Add, update, and delete individual Whois objects.

#### Bulk Whois Updates

Add, update, and delete multiple Whois objects.

#### Contact Details Update

Update contact details of the internet resources associated with your account.

#### Maintainers

View your registered maintainers, and register new maintainers.

#### IRTs

View your registered IRT objects, and register new IRT objects.

### Resource certification

#### RPKI

Set up your RPKI engine, and manage your Route Origin Authorization (ROA) objects.

### Route management

#### Routes

Add, update, delete and view routes. Create Route Origin Authorisation (ROA) for routes.

### Resource Transfer/Return

#### Transfer Resources Into Another Account

Initiate a transfer of resources from your account to another account.

#### Receive Resources Into My Account

Receive resources transferred from another account to your account.

#### Request Transfer Pre-approval

Pre-approval streamlines the transfer process by allowing justification to be provided before a transfer is initiated.

#### Return IPv4 Resources

Return IPv4 resources to APNIC.



# IPv4 listing services (addition)

## Resource Transfer/Return

### Transfer Resources Into Another Account

Initiate a transfer of resources from your account to another account.

### Receive Resources Into My Account

Receive resources transferred from another account to your account.

### Request Transfer Pre-approval

Pre-approval streamlines the transfer process by allowing justification to be provided before a transfer is initiated.

### Return IPv4 Resources

Return IPv4 resources to APNIC.

### IPv4 Listing Service

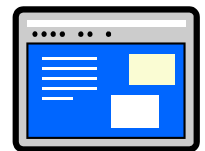
List your unused IPv4 address space for other organizations to contact you or view the list of available/unused IPv4 address space ready to be transferred.

# What next?

- We welcome feedback from the community
- Future change is planned by end of the year

# Incident Response Team (IRT) object in Whois

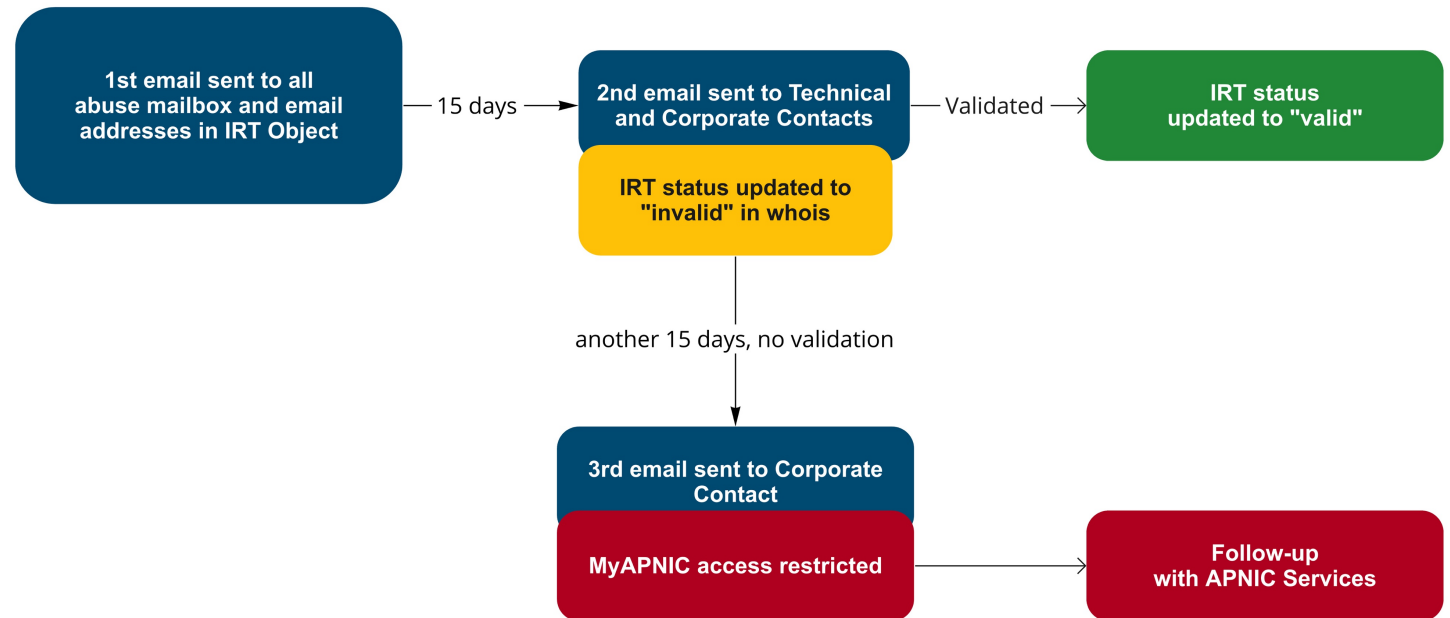
- Object in the APNIC whois containing contact information of network administrators responsible for receiving network abuse reports
- As a result of **prop-079** at APNIC 29, APNIC implemented mandatory IRT references on 8 November 2010
- Aimed to provide a more accurate and efficient way for abuse reports to reach the correct contact



# prop-125 Validation of “abuse-mailbox” and other IRT emails

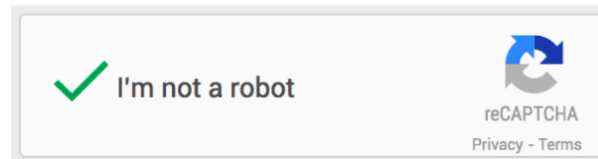
- Two consecutive emails sent to IRT contacts every six months
- No results – limited access to MyAPNIC
  - Lack of compliance will result in follow-up procedures according to existing policy

IRT Validation Request Email Sequence



# Prop-125 validation process

- Two consecutive emails sent to IRTs associated with resources, every 6 months
  - First email will contain validation URL (with confirmation to policy and procedures)
  - Second email will contain unique code
- Validate in a way that proves you are a human. Captcha code to avoid automatic processing





# Prop-125 validation emails

```
irt:           IRT-APNIC-AP
address:       Brisbane, Australia
e-mail:       helpdesk@apnic.net
abuse-mailbox: helpdesk@apnic.net
admin-c:      HM20-AP
tech-c:       N04-AP
auth:         # Filtered
remarks:      APNIC is a Regional Internet Registry.
remarks:      We do not operate the referring network and
remarks:      are unable to investigate complaints of network abuse.
remarks:      For information about IRT, see www.apnic.net/irt
mnt-by:       APNIC-HM
last-modified: 2019-02-14T05:37:22Z
source:       APNIC
```

# Prop-125 validation process (cont'd)

- If no action after **15 days**, MyAPNIC will display reminder alert warning
- If no action after **30 days**, MyAPNIC access will be limited
- IRTs will be marked invalid in APNIC whois by adding to 'remarks' attribute
- Lack of compliance will result in follow-up according to existing policy and procedures

# Prop-125 marking IRTs as valid

```
irt:                IRT-APNIC-AP
address:            Brisbane, Australia
e-mail:             helpdesk@apnic.net
abuse-mailbox:      helpdesk@apnic.net
admin-c:            HM20-AP
tech-c:             N04-AP
auth:               # Filtered
remarks:            helpdesk@apnic.net was validated on 2019-06-03
mnt-by:             APNIC-HM
last-modified:      2019-02-14T05:37:22Z
source:             APNIC
```



Validated  
IRT object

# Prop-125 escalation process

- Separate process for reporting incorrect or lack of response to cases of network abuse
- A new escalation mailbox to be monitored by APNIC
- Once escalation is received, APNIC will investigate and trigger manual validation request

# Prop-125 marking IRTs as invalid

```
irt:          IRT-APNIC-AP
address:     Brisbane, Australia
e-mail:      helpdesk@apnic.net
abuse-mailbox: helpdesk@apnic.net
admin-c:     HM20-AP
tech-c:      N04-AP
auth:        # Filtered
remarks:     helpdesk@apnic.net is invalid
mnt-by:      APNIC-HM
last-modified: 2019-02-14T05:37:22Z
source:      APNIC
```



Invalid IRT  
object

# Prop-125 new 'abuse-c' attribute in parent records

```
inetnum:      203.176.189.0 - 203.176.189.255
netname:      APNIC-SERVICES-V4
descr:        APNIC (Asia Pacific Network Information Centre)
descr:        Regional Internet Registry
descr:        6 Cordelia St. South Brisbane, QLD
country:      AU
admin-c:      AMS345-AP
tech-c:       AHD543-AP
abuse-c:      TEST-AP
status:       ALLOCATED PORTABLE
mnt-by:       MAINT-MYAPNIC-AP
mnt-irt:      IRT-MYAPNIC-TEST-AP
mnt-routes:   MAINT-MYAPNIC-AP
remarks:      -----
remarks:      To report network abuse, please contact mnt-irt
remarks:      For troubleshooting, please contact tech-c and admin-c
remarks:      Report invalid contact via www.apnic.net/invalidcontact
remarks:      -----
last-modified: 2018-05-16T01:54:27Z
source:       APNIC
```

# Prop-125 implementation timeline

- Phase one – estimated completion **June 2019**
  - Includes validation of IRTs associated with parent resource records
  - New escalation mailbox
- Phase two – estimated completion **December 2019**
  - Include non-portable assignments
  - Resolve any issues encountered during phase one

# RPKI

## ‘Validation Reconsidered’

- Reduce sensitivity to isolated or transient errors
- Adopted as RFC 8360

## ‘Anysign’ Function

- RTA = Resource Tagged Attestation
  - In deployment as hosted service in MyAPNIC
- Proof-of-concept to enable RPKI signing of any document or object, for example, LOA for service provisioning
- OID request submitted to IANA

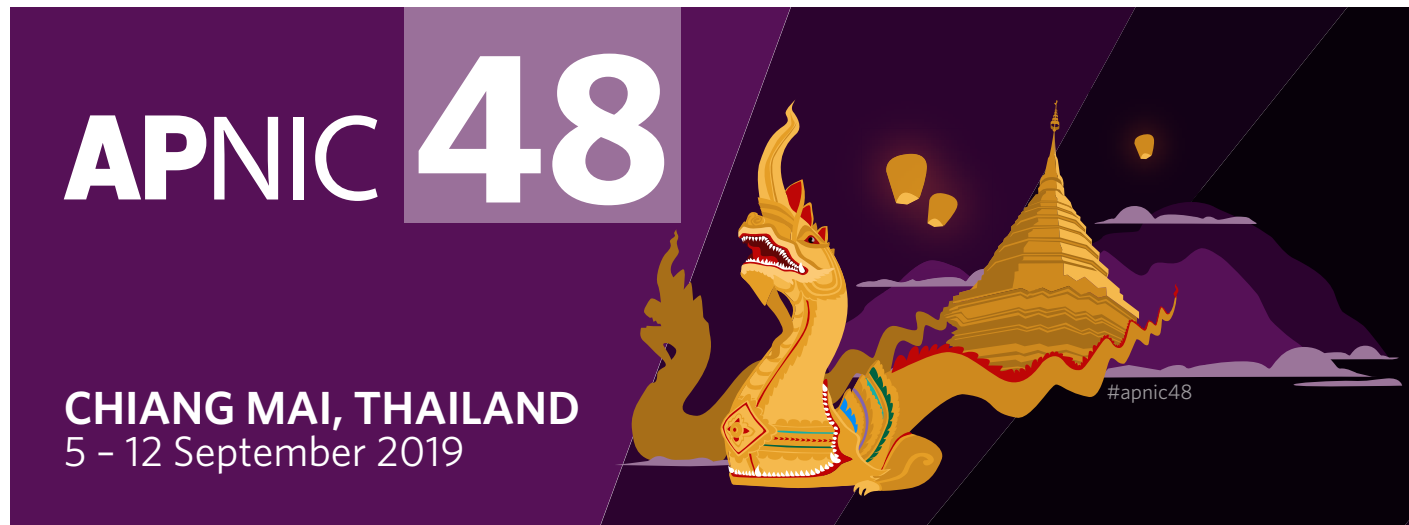
[apnic.net/rpki](https://apnic.net/rpki)

Measure	31/12/2018	31/5/19	Δ
Members with certs	21.9%	23.8%	8%
Members with ROAs	11.3%	15%	24%
IPv4 under ROAs	6.1%	7.3%	16%
IPv6 under ROAs	5.6%	8.6%	35%





# Upcoming conference



- Registration open now
- PC is now accepting CFP submissions. **Deadline is mid-July 2019.**

<https://conference.apnic.net/48/>

Thanks!

