
A proposal to improve reachability of new IANA blocks

Tomoya YOSHIDA
NTT Communications
yoshida@ocn.ad.jp

Motivation

- Making some rules and want to improve the current situation
- Education of all the RIR member
- Making more relationship between RIRs and ISPs

Current Problem

- ISPs that almost all new IANA allocations are unreachable and unable to use immediately after allocations
- Almost all ISPs in Japan are facing the same trouble every time
 - Discussed at the last JANOG meeting

De-Bogonising project

De-Bogonising New Address Blocks - Windows Internet Explorer

http://www.ripe.net/debogan/debogan.html

RIPE NCC Routing Information Service

RIS: [RIPE NCC Homepage](#) -> [RIS](#)

De-Bogonising New Address Blocks

Introduction

The aims of this activity are outlined in the draft document "[De-Bogonising New Address Blocks](#)".

As part of this activity in testing reachability and routability of [IPv4 address space recently allocated by the IANA to the RIRs](#), we are providing three services:

- "Pingable" targets within each test prefix for reachability tests from remote parts of the Internet.
- A tool to test reachability from each of the test prefixes of arbitrary addresses on the Internet.
- Daily reports on the relative reachability of each test prefix.

Pingable Targets

Address Range	Target Address	Target domain name	RIR
121.0.0.0/24	121.0.0.1	t121-24.rrc03.ripe.net	APNIC
121.50.0.0/21	121.50.0.1	t121-21.rrc03.ripe.net	APNIC
121.100.0.0/20	121.100.0.1	t121-20.rrc03.ripe.net	APNIC
121.200.0.0/19	121.200.0.1	t121-19.rrc03.ripe.net	APNIC
121.255.0.0/16	121.255.0.1	t121-16.rrc03.ripe.net	APNIC

インターネット 100%

Implementation in RIRs

- APNIC, RIPE NCC and Afrinic are already started the de-bogonising pilot project
 - I don't know about ARIN and LACNIC
- There is no rule for de-bogonising prefixes
 - It's up to each registries
- We cannot compare the reachability for those prefixes

De-Bogonising Prefixes (AS12654)

RIPE NCC

77.192.0.0/16
77.255.248.0/21
78.192.0.0/16
78.255.248.0/21
79.192.0.0/16
79.255.248.0/21
84.205.67.0/24
84.205.72.0/24
84.205.75.0/24
84.205.80.0/24
84.205.81.0/24
84.205.83.0/24
84.205.85.0/24
84.205.87.0/24
84.205.90.0/24
84.205.91.0/24
84.205.92.0/24
84.205.94.0/24
91.192.0.0/16
91.255.248.0/21

APNIC

121.0.0.0/24
121.50.0.0/21
121.100.0.0/20
121.200.0.0/19
121.255.0.0/16
122.0.0.0/24
122.50.0.0/21
122.100.0.0/20
122.200.0.0/19
122.255.0.0/16
123.0.0.0/24
123.50.0.0/21
123.100.0.0/20
123.200.0.0/19
123.255.0.0/16

Afrinic

41.223.236.0/22

For IPv6

- There is no IPv6 De-Bogonising prefix
- For the recent allocation from new blocks, the reachability is very worse

```
2610:8::/32  
2610:78::/32  
2a01:8::/32  
2a01:10::/32  
2a01:30::/32  
2a01:38::/32  
2a01:78::/32  
2a01:90::/32  
2a01:a8::/32  
2a01:b0::/32  
2a01:b8::/32  
2a01:e0::/32
```

Proposal — 1

- Propose Making a rule of de-bogonizing prefixes for IPv4 among RIRs
 - 1 : /24, /16 and Minimum allocation size (ex. X.128/16, X.192.0/21, X.255.0/24)
 - 1' : not decide the length of prefixes but unify or coordinate the multiple length of prefixes among RIRs (ex. define the prefix(length) which must to be announced at least)
- Advantage:
 - Will be able to compare each region's prefixes on same scale
 - Will be easy to check or confirm what prefixes are the de-bogonizing prefixes

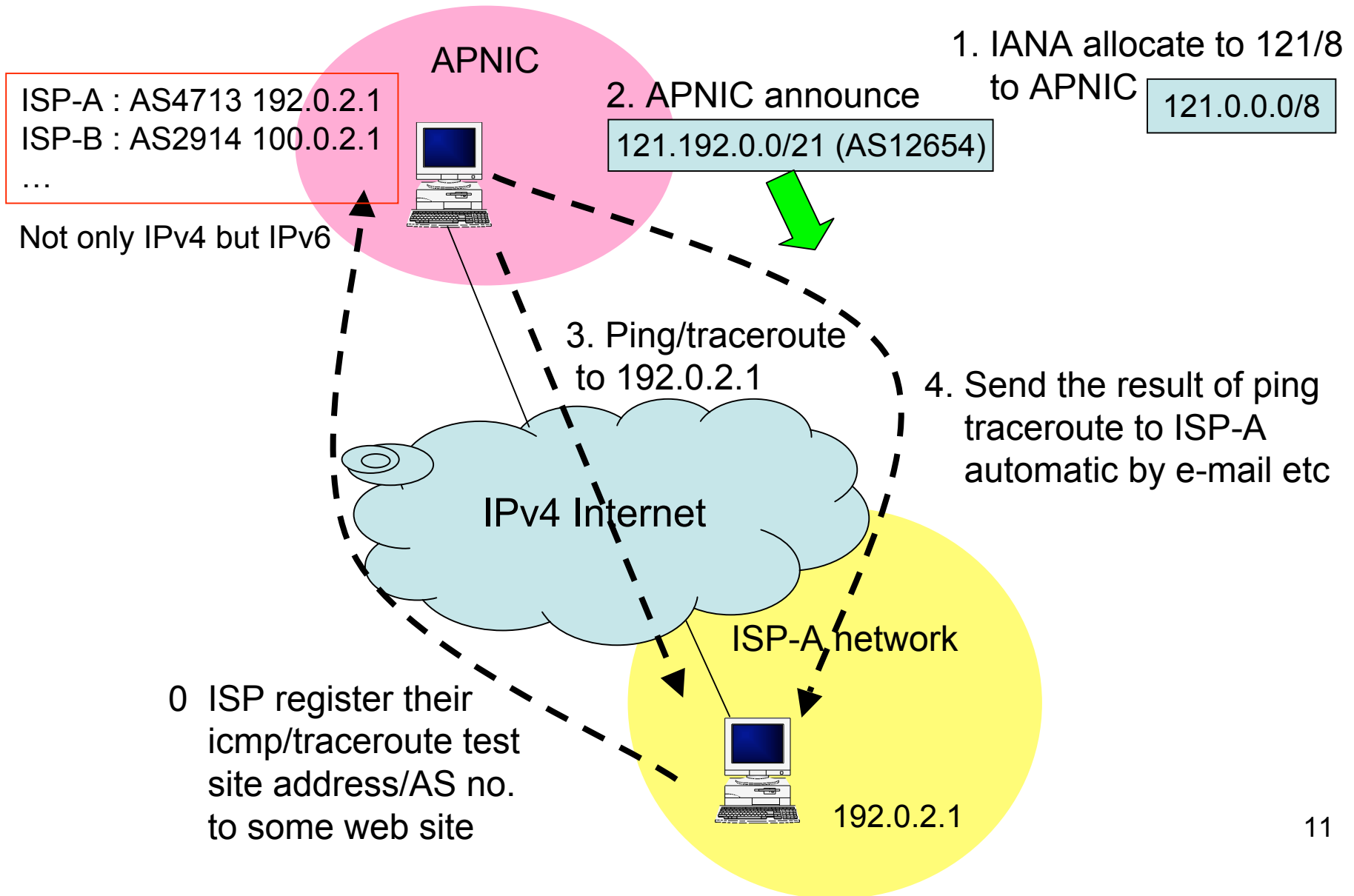
Proposal — 2

- Propose to provide the same service for IPv6 allocations
 - From which prefix and the length of prefixes is up to RIRs
- Advantage:
 - Will improve or will be able to check for IPv6 reachability as well as IPv4

Proposal — 3

- Propose RIRs to establish a site for ISPs to confirm reachability e.g. Enable automatic notification of the icmp/traceroute from RIRs to ISP's site by registering ISP's own icmp/traceroute testing servers to RIRs
 - Details of the implementation will be left up to APNIC

Image of implementation





Routing Information Service

[RIPE NCC Homepage](#) -> [RIS](#)

Debagon prefix reachability

This tool checks reachability of arbitrary addresses using **ping** or **traceroute** sourced from addresses within the RIRs (RIPE NCC, AFRINIC, APNIC) *debagon* prefixes originated on rrc03.ripe.net (or from the RIPE NCC's own 193.0.0.0/21 prefix).

Source Address Range:

Destination Address:

Traceroute Ping

- RIS:
- RIPE Home Page
- Tools
- Statistics
- RIS Raw Data
- Documentation
- Presentations
- Miscellaneous
- News
- Contact Us
- Disclaimer

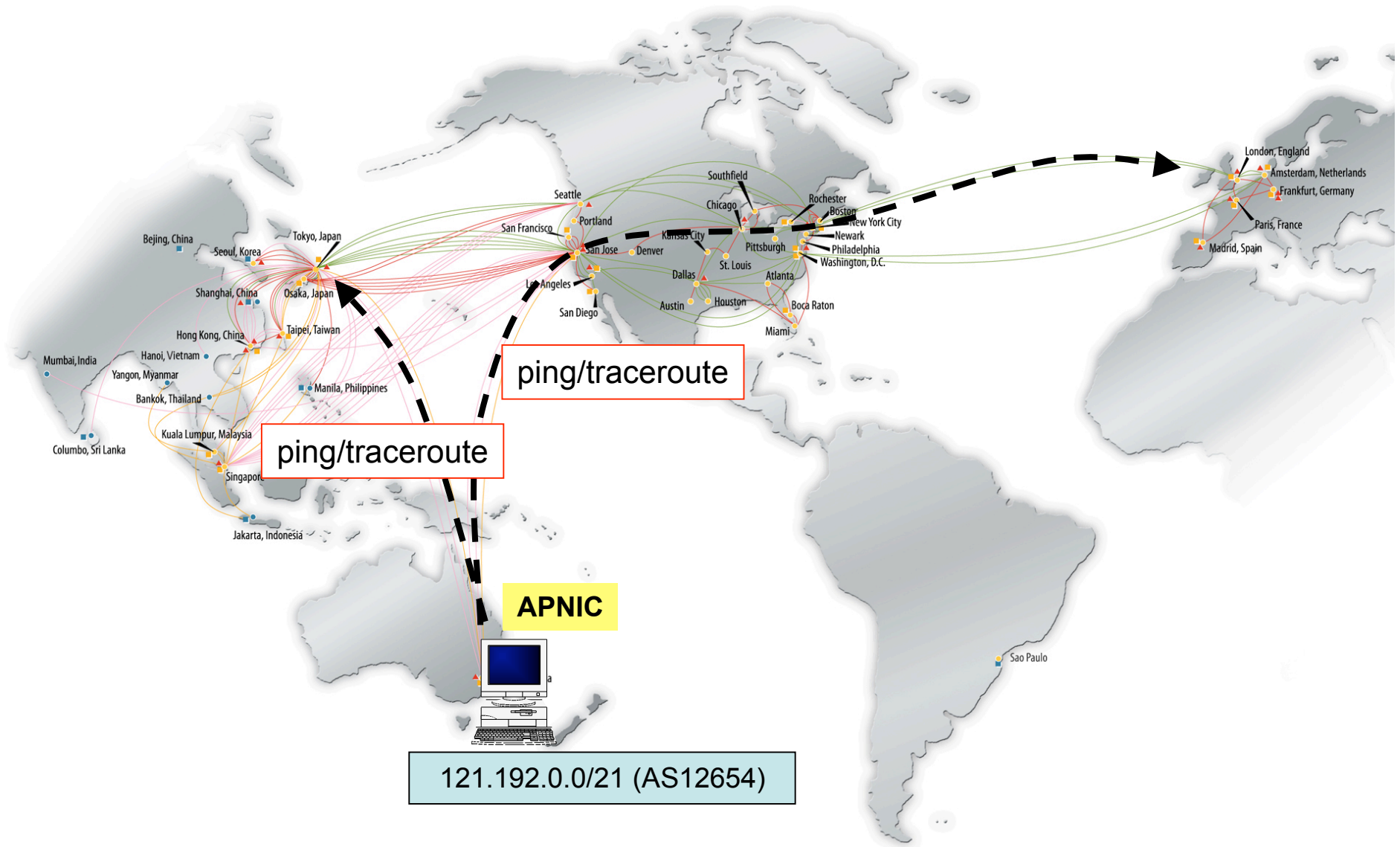
Proposal — 3

- Propose RIRs to establish automatic icmp/traceroute check and notification to ISPs
 - additional tcptraceroute as well as normal traceroute will be pretty good
 - Details of the implementation will be left up to APNIC
- Advantage:
 - Will improve for checking the reachability automatic and precisely

Proposal — 4

- Propose the service by all RIRs and share those information among all RIRs
 - Same website, same framework
- Advantage:
 - Will improve for checking the reachability among every RIRs

Image of implementation



Again the point of my proposal

- Making a rule IPv4
- Implying for IPv6 as well as IPv4
- Sharing the information for all RIRs
- More collaboration between RIRs and ISPs