

prop-080: Removal of IPv4 Prefix Exchange Policy

Guangliang Pan

Resource Services Manager, APNIC

Introduction

- This is a proposal to remove the policy that currently permits resource holders to return three or more noncontiguous IPv4 address blocks and have the prefixes replaced with a single, larger, contiguous block.

Current prefix exchange policy

An extract:

- ...APNIC will exchange noncontiguous portable historical address ranges registered in the APNIC Whois Database for a single portable CIDR range of equal length or one bit shorter.
- For example, a network could exchange three noncontiguous /24 address blocks for a contiguous /22 address block.
- Section 6, Policies for historical Internet resources in the APNIC Whois Database <http://www.apnic.net/policy/historical-resource-policies>

Summary of Current Problem

- Current APNIC policy permits organizations to exchange three or more IPv4 prefixes and receive a single portable CIDR range of equal length or one bit shorter.
- Such exchanges may be requested without the requirement to document the efficiency of existing assignments and the usage rates.

Situation in other RIRs

- ARIN has two policies related to exchanging noncontiguous prefixes.
 - Need Hostmaster evaluation if the exchange size is large than /20.
- AfrinIC, LACNIC and RIPE have no similar prefix exchange policies.

Details of the Proposal

- It is proposed that APNIC remove the policy that enables networks to exchange noncontiguous address blocks in exchange for a single, aggregated range.

Advantages

- It removes a policy responsibility that APNIC will not be able to fulfill during the IPv4 exhaustion period.
- It prevents organizations taking advantage of the exchange policy to obtain more IPv4 addresses from APNIC by rounding up to the next bit without justification of the need.

Disadvantages

- It prevents organizations willing to renumber and aggregate address blocks from being able to do so.
 - Given the fragmentation of the global routing table for other reasons during the IPv4 address exhaustion period, this is a minor disadvantage, that will have very little adverse impact on the size of the global routing table.

Effect on APNIC Members

- This proposal will prevent APNIC Members from exchanging noncontiguous prefixes for a single prefix.
 - This inability to aggregate routes is not likely to have a significant impact on the size of the global routing table during the IPv4 address exhaustion period.

Effect on NIRs

- NIR Members will also be prevented from exchanging noncontiguous prefixes for a single prefix.

Usage Statistics: IPv4 Prefix Exchange Policy

Years happened	Sizes exchanged
2003	/21
2005	/19
2005	/18
2005	/22
2006	/14
2007	/21
2008	/22
2009	/21
2009	/21
2009	/21

Thank You!

Questions?

gpan@apnic.net