



APRICOT 2014

Prop-109: A proposal to allocate 1.0.0.0/24 and 1.1.1.0/24 to APNIC Labs, to support research activities

Geoff Huston

APNIC 37 Open Policy Meeting

PETALING JAYA, MALAYSIA

18-28 February 2014



Problem statement

- Network 1 (1.0.0.0/8) was allocated to APNIC by the IANA on 19 January 2010. In line with standard practice APNIC's Resource Quality
- Testing, conducted by APNIC R&D found that certain blocks within Network 1 attract significant amounts of unwanted traffic, primarily due to its unauthorised use as private address space.
- Analysis revealed that, prior to any delegations being made from the block, 1.0.0.0/8 attracted an average of 140Mbps - 160Mbps of unsolicited incoming traffic as a continuous sustained traffic level, with peak bursts of over 800Mbps.

Problem statement

- The analysis highlighted individual addresses such as 1.1.1.1 with its covering /24 (1.1.1.0/24), and 1.0.0.0 (and the covering prefix 1.0.0.0/24) attracted such a disproportionately high traffic profile that it remain in APNIC quarantine. It is believed that there are no effective mitigation techniques to reduce this traffic profile, so these prefixes will remain unsuitable for normal address distribution.
- We propose a long term approach to the management of these two prefixes

Objective of policy change

- We propose the allocation of 1.0.0.0/24 and 1.1.1.0/24 to APNIC Labs, to be used as research prefixes.

Situation in other regions

- We are unaware of any other addresses in the IPv4 space that are similarly high attractors of unsolicited incoming traffic, so we are unaware this this situation occurs within the IPv4 space managed by the other RIRs.

Proposed policy solution

- This proposal recommends that the APNIC community agree to allocate 1.0.0.0/24 and 1.1.1.0/24 to APNIC Labs as research prefixes. The intent is to use these prefixes as passive traffic collectors in order to generate a long term profile of unsolicited traffic in the IPv4 internet that is directed to well known addresses to study various aspects of traffic profiles and route scope leakages.
- An experiment in gathering a profile of unsolicited traffic directed at 1.1.1.0/24 was started by APNIC Labs in 2013, in collaboration with Google. This experiment was set up as a temporary exercise to understand the longer term trend of the traffic profile associated with this address. Through this policy proposal we would like to place this research experiment on a more certain longer term foundation.

Advantages / Disadvantages

- Advantages
 - it will make use of this otherwise unusable address space.
 - the research analysis may assist network operators to understand the effectiveness of route scoping approaches.
- Disadvantages
 - The proposer is unclear what the downsides to this action may be. The consideration of this proposal by the community may allow potential downsides to be identified.

Impact on APNIC

- No impact foreseen.

The logo for APRICOT 2014 features a 2x2 grid of orange squares. The top-left square contains a white globe, the top-right a white 'C' with a dot, the bottom-left a white flower, and the bottom-right a white cloud.

APRICOT 2014

Questions?



#apricot2014

APNIC 37