

Policy Considerations during IPv4 Address Exhaustion Period?

MAEMURA Akinori

maem@maem.org

Summary

- Again, English version of "[Analysis and Recommendations on the Exhaustion of IPv4 Address Space](#)" is now available on JPNIC Web
 - One click from <http://www.nic.ad.jp/en/>
 - Hard copies are available at the Registration Desk outside
 - Mandarin version will be available from NIEPA, Taiwan
- This presentation shows a couple of idea as an Internet Registry
 - Responding to Expert Team's recommendations
 - For your discussion with closer eyes on this issue

Principles of IP Address Policy

Five principles of IP Address Policy

- <http://www.apnic.net/docs/policy/add-manage-policy.html>
 - Uniqueness
 - Inherent
 - Registration
 - Inherent
 - Aggregation
 - less important because of smaller available space
 - Conservation
 - Important not only for new assignees but existing ones, especially who hold early big assignments
 - Fairness
 - Much more important because of very limited available space

Aggregation

- More efficient aggregation will need larger allocations
- Larger allocations with limited address space will result in smaller number of allocation
 - Lucky ISPs will hold and unlucky ISPs will miss
- Aggregation will be respected less than fairness and Conservation

Conservation / Efficient Use

- Current policy allows an assignee to hold “as many IP addresses as the assignee actually needs”
 - Can we ask applicants “please get less IP addresses than you actually need?”
 - That should be asked after an enabling technology is available
 - No, we cannot.
- Internet Operators are aware of hoarded-up IP addresses
 - Some think “IPv4 address will never depleted if class-As are returned to registries

Fairness

- The very most important when we share the limited resource
- It will be unfair if *lucky ISPs hold and unlucky ISPs miss*
- It will be unfair if someone need to struggle to squeeze the efficiency of IP address use while some others do not need that but just put them.

A couple of ideas and
call for your thoughts

How about charging for all IP address blocks?

- Charging for all IP address blocks in a uniform fee schedule, even for the earliest assignments
 - /8 => XL => USD40K/year
 - /16 => Medium => USD5K/year in case of APNIC
- consistent sharing of the cost of IP numbers management
 - **Fairness** between earlier and later allocations
- Making an incentive to return unnecessary IP address
 - **Efficient use** of unused IP address space

The last minute fairness

- Imagine the last block allocation.
- The interest of obtaining IPv4 address conflicts.
 - The network plan ($\hat{=}$ investment plan) should take into account the amount of available IP address
 - Adjustments will be done much earlier than the last minute
- How about the “*Patent Office Model*” ?
 - Information of pending applications is disclosed
 - To allow them to see the trend of consumption earlier than consumed
 - It should work for having Carriers realize the exhaustion

Your thoughts?

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Exhaustion ?

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