IPv6 Promotion Council

Large Space IPv4 Trial Usage Program for Future IPv6 Deployment ACTIVITIES UPDATE Vol.7

APNIC 17 Meeting / Policy SIG

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IPv6普及·高度化推進協議会
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Topic

- Update since the last meeting
  - Result of the regular hearing session
    - Status, IPv6 deployment plan, IPv4 address return issue
  - Introduction of IPv6 Address Assignment Management Tool
    - Objective of this tool development
    - Tool Characteristics
- Consideration
- Future Planning

Regular Hearing Session

Conducted the 5th regular hearing session during August, 2004

The current active participants:

- Large scale ADSL/VoIP service provider
- Large scale always-on FTTH service provider
- L3 connectivity/IP-Phone service provider
- CDN
- Public Wireless-LAN access service provider

* Another Public Wireless-LAN service provider has terminated their service
  - Allocated address space will be collected soon

Results of Hearing (Summary)

- Many of them are very **positive** and **aggressive** toward providing IPv6-based services
  - Especially, IPv6 is quite favor for **IP-Phone/VoIP** services
  - But, the one only providing connectivity service expresses the difficulty to find out the business benefit out of IPv6
- **Hard to eliminate IPv4**, even accomplishing IPv6 service
  - Most of applications still rely on IPv4 environment and most of users still demand IPv4
    - Many devices are not matured yet for commercial service level
  - For L3 IP-Phone service provider, they need IPv4 in order to make IPv6/IPv4 till L2 carriers offer IPv6 transit service

Individual Case: Large Scale ADSL/VoIP Service

- Status
  - No Change in service
- IPv6 Deployment Plan
  - Try to find a way to deploy IPv6 **without awareness of usage** either IPv4 or IPv6 by Users
  - Need a "**v4 tunneling**" transition way for a less expensive IPv6 deployment (VoIP over IPv6)
    - Need IPv4 addresses for IPv6 service start-up
- IPv4 Address Returning Issue
  - **IPv4** connectivity is **still necessary** for commercial service until other applications can be fully available over IPv6
  - Hard to returning IPv4 addresses by the end of 2005

Individual Case: Large Scale Always-on FTTH Service

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Status

- Traffic size is growing, especially on **Upstream** (outbound)
- In total, outbound is heavier than inbound. But just against other non-xDSL providers, both ways are balanced 1-to-1
- According to the users survey, because of privacy and attacking, users are not tend to use a fixed-global IP
  - IPv6 privacy extension may be good??

IPv6 Deployment Plan

- Still hard to establish a business merit on IPv6 connectivity service, even though users are getting know the merit of IPv6

IPv4 Address Returning Issue

- The IPv6 environment is not matured yet to eliminate IPv4 for keeping the same level of service

Individual Case:
L3 Connectivity/IP-Phone service

- Status
  - No change in IPv4 address assignment
  - Starting IP-Phone service over IPv4 until the IP-Phone device adopts IPv6
    - No intention to continue IPv4-based service because the IPv6 based-service has much less operation cost structure
- IPv6 Deployment Plan
  - Developing IPv6-based SIP server and the user-side devices and verifying IPv6-Phone
  - Starting with IPv6 over IPv4 tunneling from the center to a home router (when IPv6 is available, just switch to v6/v6)
- IPv4 Address Returning Issue
  - Need IPv4 for tunneling edge addresses until the IPv6 routing service is available, even making all the service systems into IPv6 only for the efficient operating

Individual Case: CDN (Contents Delivery Network)

- Status
  - No change
- IPv6 Deployment Plan
  - Verifying an IPv6-ready load-balancer
    - Approaching venders of load-balancers, cache-servcers, request navigation systems for IPv6-ready
  - Market is not matured yet for going to IPv6-ready so that service providers can choose from
- IPv4 Address Returning Issue
  - Need IPv4 addresses till the system can be fully structured with IPv6

Individual: Public Wireless-LAN access

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- Status Report
  - Users are increasing (1500 -> 2000)
- IPv6 Deployment Plan
  - Preparing a new service system with **LIN6**+MISP
    - IPv6 service is supported by **6to4** mechanism
- IPv4 Address Returning Issue
  - Need IPv4 addresses until IPv6 ready system modules are ready. System availability is a bit slower than expected.

* This service can be experienced when you are in APRICOT/APNIC in Kyoto

Introduction of IPv6 Address Assignment Management Tool

- Objective of this tool development
  - For **LIRs** allocated IPv6 address block
  - To support LIRs' IPv6 address resource management task, especially **for new comers (non ISPs)**
  - To enable LIRs/new providers establish their IPv6 management system by utilizing the source code of this tool with **cost-free**
- Tool Characteristics
  - **Web-based** architecture
  - Functions:
    - Assignment management
    - Assignment report to APNIC
      - TBD: WHOIS setting
    - Sub Allocation management
    - Delegation setting of reverse DNS

Consideration

- At the time starting this project (in 2001), it was believed to be able to replace services from IPv4-based to IPv6-based by 2005, then IPv4 addresses can be returned
  - But, in fact:
    - 1-2 year delay from the original estimation of deployment level
      - No DNS Support, still advancing RFC, etc.
      - But, No report from participants that IPv6 allocation policy is a hurdle
    - Most services are going to IPv4/IPv6 dual way
- IPv4 addresses are still necessary for IPv6-based service deployment
- It is necessary to reconsider the project planning toward 2005 with the facts found so far

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Future Planning

- Planning to do the followings toward the promised end time of this project, the end of 2005
  - Making a report to clarify what is accomplished/not accomplished
  - Making a plan of how to proceed after the end of 2005 for the IPv4 address space currently administrated
    - When we extend this trial period, we will require participants to re-new the current commitment
  - Collecting IPv4 if a participant is not able to start IPv6-based service during the trial period
- Proposing our future plan in details at the next APNIC19 meeting

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Thank you,
and We will update you next time as well.

Any question and comment?

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