The Endeavor on the Preparation for IPv6 in Japan

and Lessons Learned

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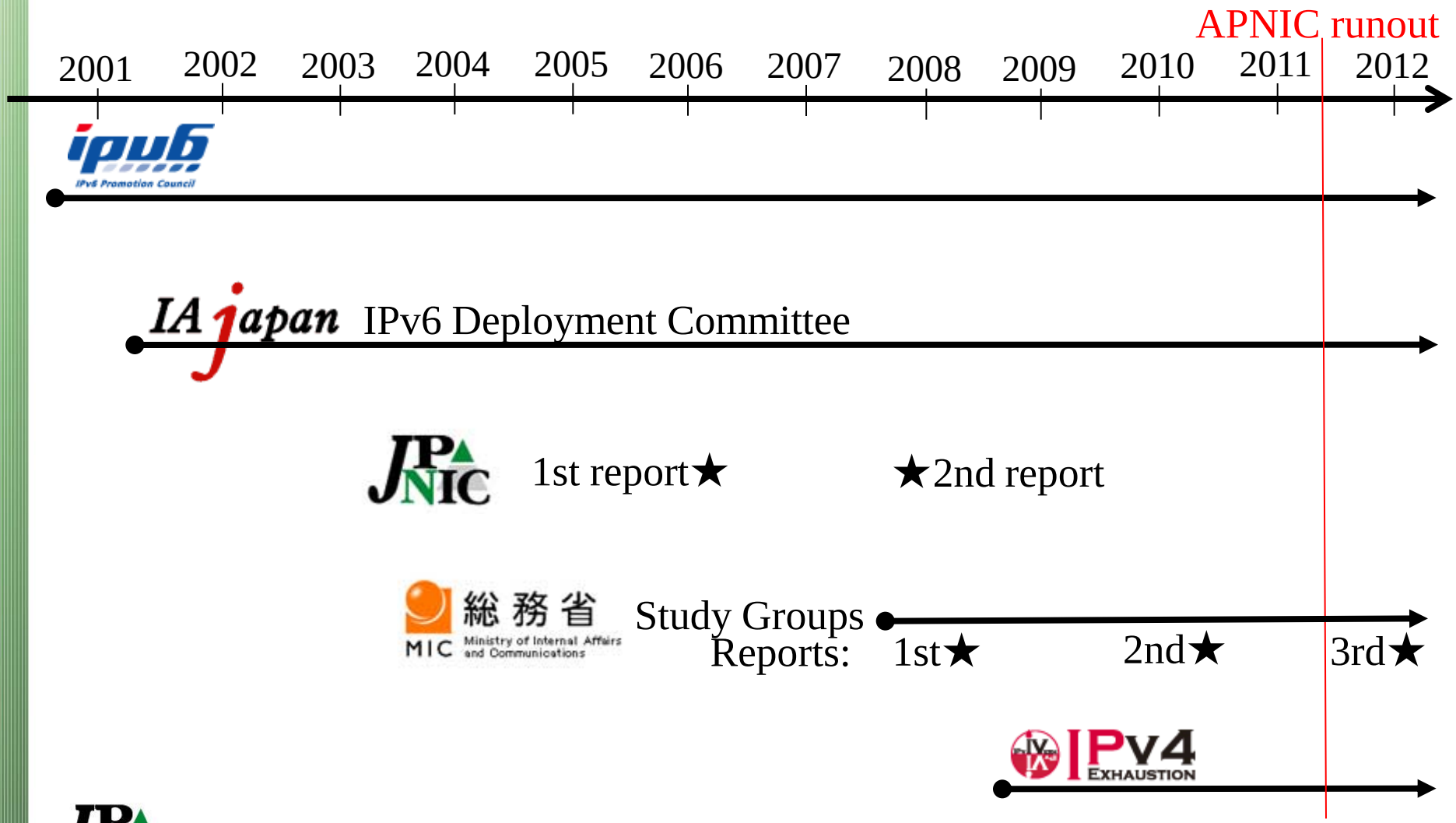
Two recent developments

Timeline



Synchronized action toward exhaustion

- Sept. 2008: Set up a TF to make co-ordinated actions among all stakeholder groups
- Task Force on IPv4 Address Exhaustion
  - Various Internet bodies from Telco/CATV/Data Center/ISP Associations, JANOG, IPv6 Promotion Council, Internet Registry(JPNIC)
  - MIC participates as a regular member

IPv4 EXHAUSTION

- http://kokatsu.jp/en/

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Charter – the taskforce

- Formulating a taskforce to synchronize the activities by various association
- to overcome the crisis of the IPv4 address exhaustion in a coordinated manner
- In four aspects of
  - Solution of the issues – technique, operation and management
  - Enlightenment and publicity
  - Education
  - Progress management

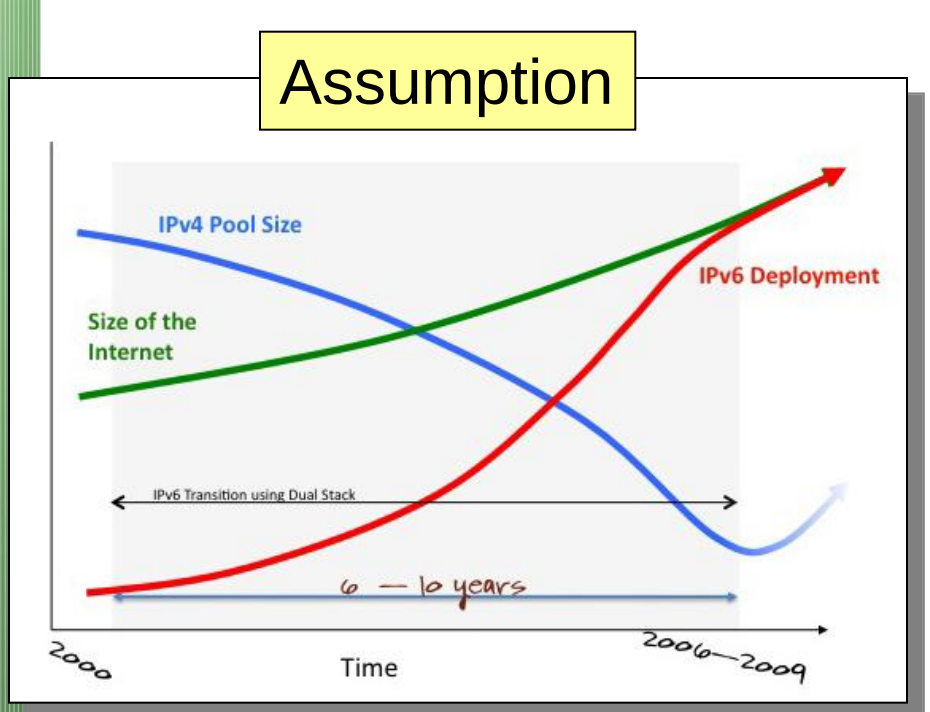
Working Groups within the TF

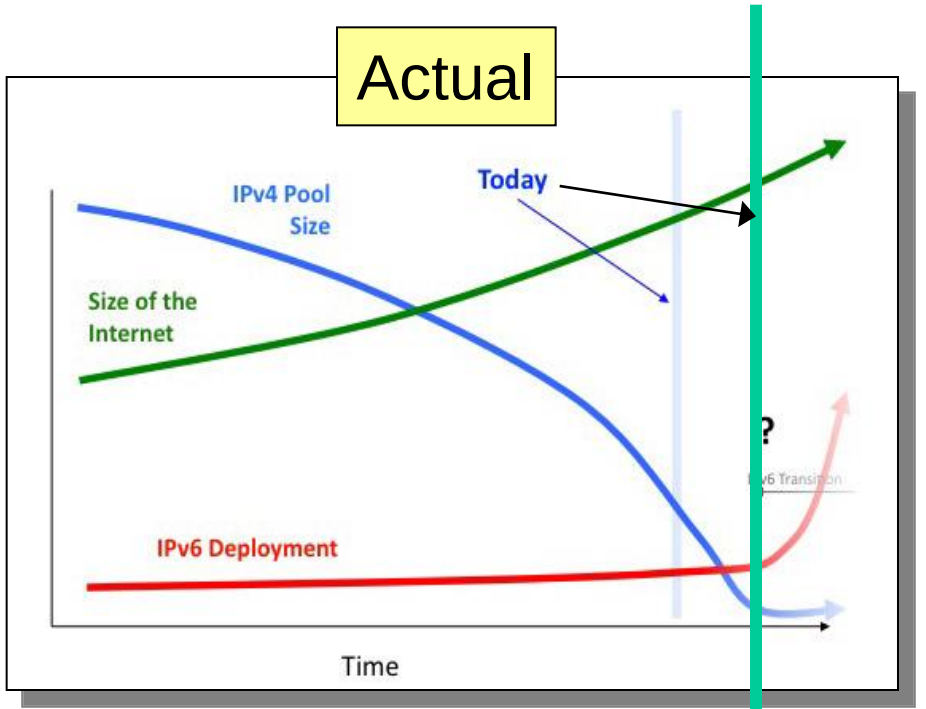
WG	In charge of	lead	members
Publicity	Planning for the publicity, Assistance for events/conferences of member associations, Regular press conferences	Maemura, JPNIC	IAJapan、Telesa, JAIPA、ｖ6PC
Education and Testbed	Education programs, negotiation with certification providers, planning the testbed	Hiromi and Fujisaki, v6PC	JPNIC、JATE、JAIPA、JCTA/JCL、JANOG、jus、WIDE、DISTIX
Action planning support	Supporting the action planning by every stakeholder	Tsukuni and Arano, v6PC	IAJapan, Telesa, JAIPA、JPNIC
Applications	Enlightening the SIers,	Nakamura, v6PC	JUS、JISA
Access Network	Negotiation with Access Network providers	Kimura, JAIPA	TBD
Secretariat		Nakamura and Arai, v6PC	JPNIC

Observation from Operators being successful

IPv6, standardized in 1995,

- And assumed to be deployed gradually replacing IPv4 *by the exhaustion of it*
- But it *never* happened until now

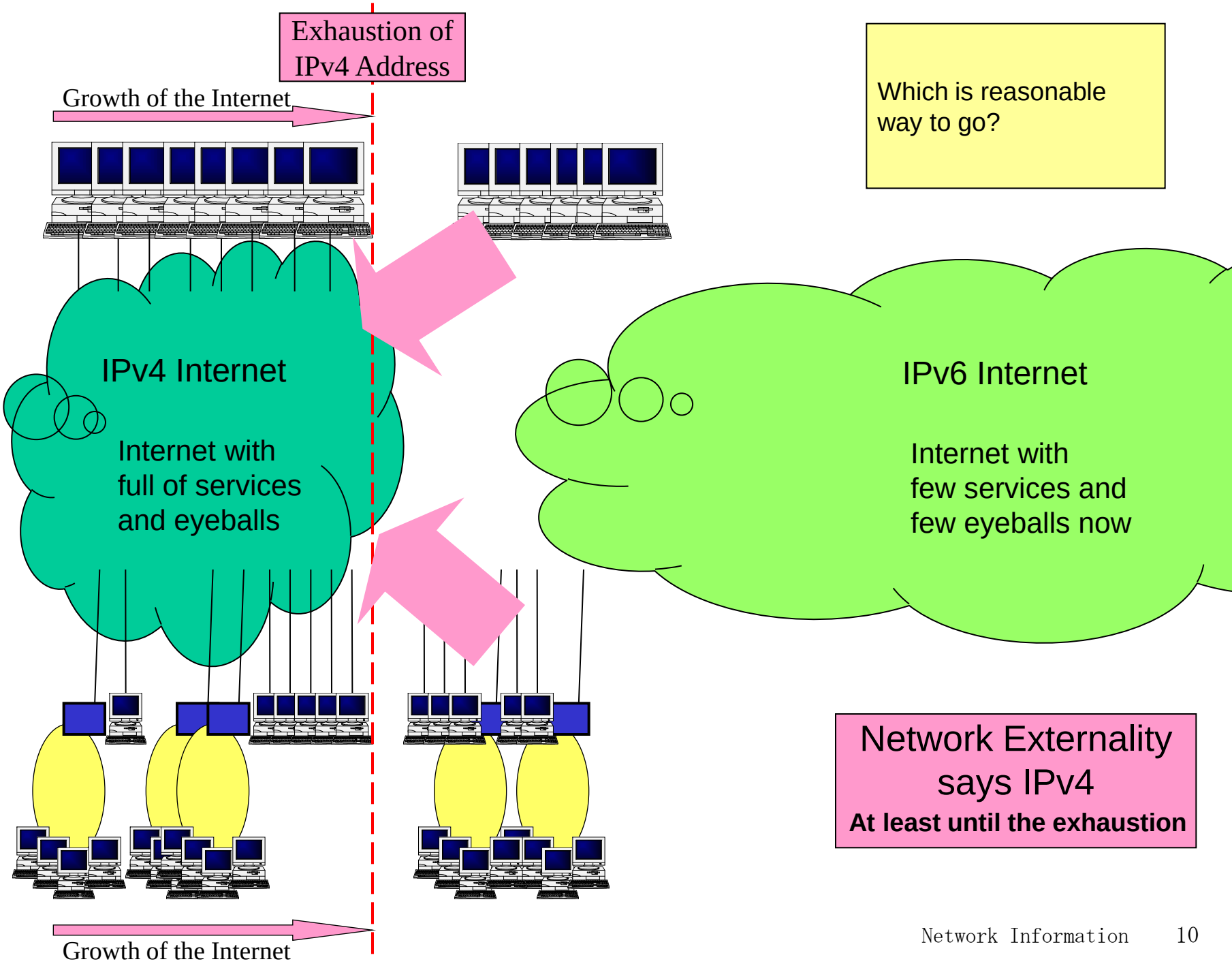




http://www.potaroo.net/ispcol/2008-10/v4depletion.html

Why not?

- No compatibility with IPv4
- No direct merit for users
- Significant cost



Which is reasonable way to go?

Network Externality says IPv4

At least until the exhaustion

Dilemma of Operators and solution for it

- They know they definitely need IPv6 for Future
  - to accommodate more services and eyeballs
- But for now, significant cost for no direct merit for customers

- Need a miracle?
- Need Government fund?

Observation of successful operators

- Long, steady, low-key and patient endeavors make it happen
  - Many small investments are easier to be justified than few big investments
  - IPv6 enabled equipment to renew on depreciation
  - Firmware upgrade when IPv6 enabled version got available reasonably
  - Play with lab network and learn about IPv6 to gain the expertise: literacy reduces the cost
- *“It’s not due to IPv4 addess exhaustion, but because there is a protocol upgrade”*

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Ideally without any action

- There are two contrasting cases:
  - Operator turns on IPv6 while Customer is not aware, without any additional fee
  - Customer needs multiple applications to have IPv6 turned on
- It is apparent which it should be!

Cảm ơn bạn　Thank you!
ありがとうございます

References:

The Taskforce on ipv4 Exhaustion	http://kokatsu.jp/en/
	info@kokatsu.jp
JANOG	http://www.janog.gr.jp/en/
IPv6 Promotion Council, Japan	http://v6pc.jp/en/

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