Overview of
Task Force on IPv4 Address Exhaustion, Japan

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Studies and Activities before the Task Force

Reports on IPv4 Address Exhaustion

- JPNIC (Dec 2007) and MIC (June 2008) as separate studies
  - Japanese
    - JPNIC - http://www.nic.ad.jp/ja/ip/ipv4pool/ipv4exh-report-071207.pdf
    - MIC - http://www.soumu.go.jp/s-news/2008/pdf/080617_2_bt1.pdf
  - English
    - JPNIC - http://www.nic.ad.jp/en/research/IPv4exhaustion_trans-pub.pdf
    - MIC(full paper) - http://www.soumu.go.jp/joho_tsusin/eng/pdf/080617_1.pdf
    - MIC(summary slides) - http://www.soumu.go.jp/joho_tsusin/eng/pdf/080617_2.pdf

Reports on IPv4 Address Exhaustion

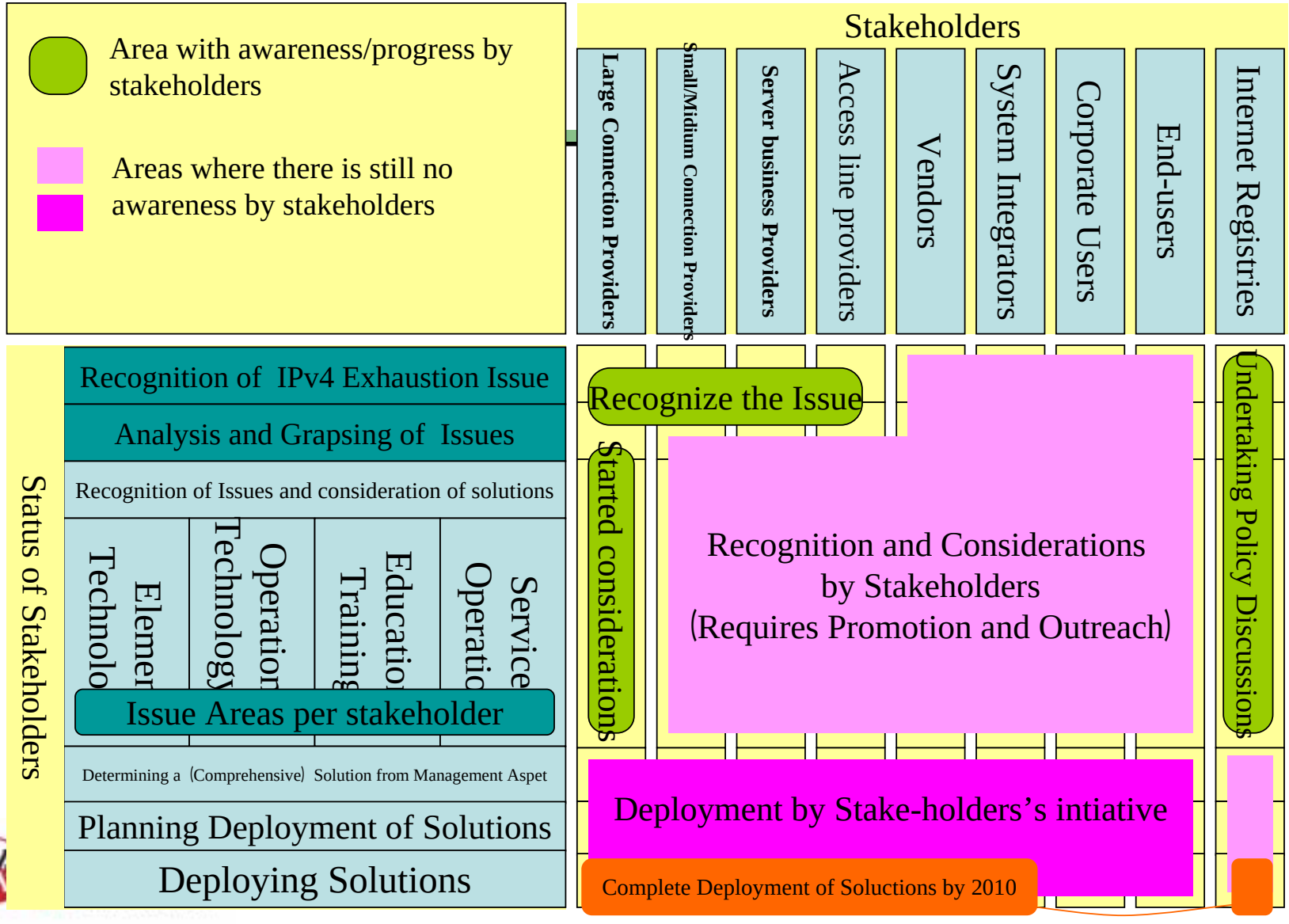
- Both reports reached a similar conclusion as the results of analyses
  - Analysis of situation surrounding IPv4 exhaustion
  - Issues listed, possible solutions and issues for each solution
  - Concluded that IPv6 is the only effective long-term solution after IPv4 address exhaustion
- MIC report makes further analysis on action plan broken down by categories of stakeholders

Activities by other bodies

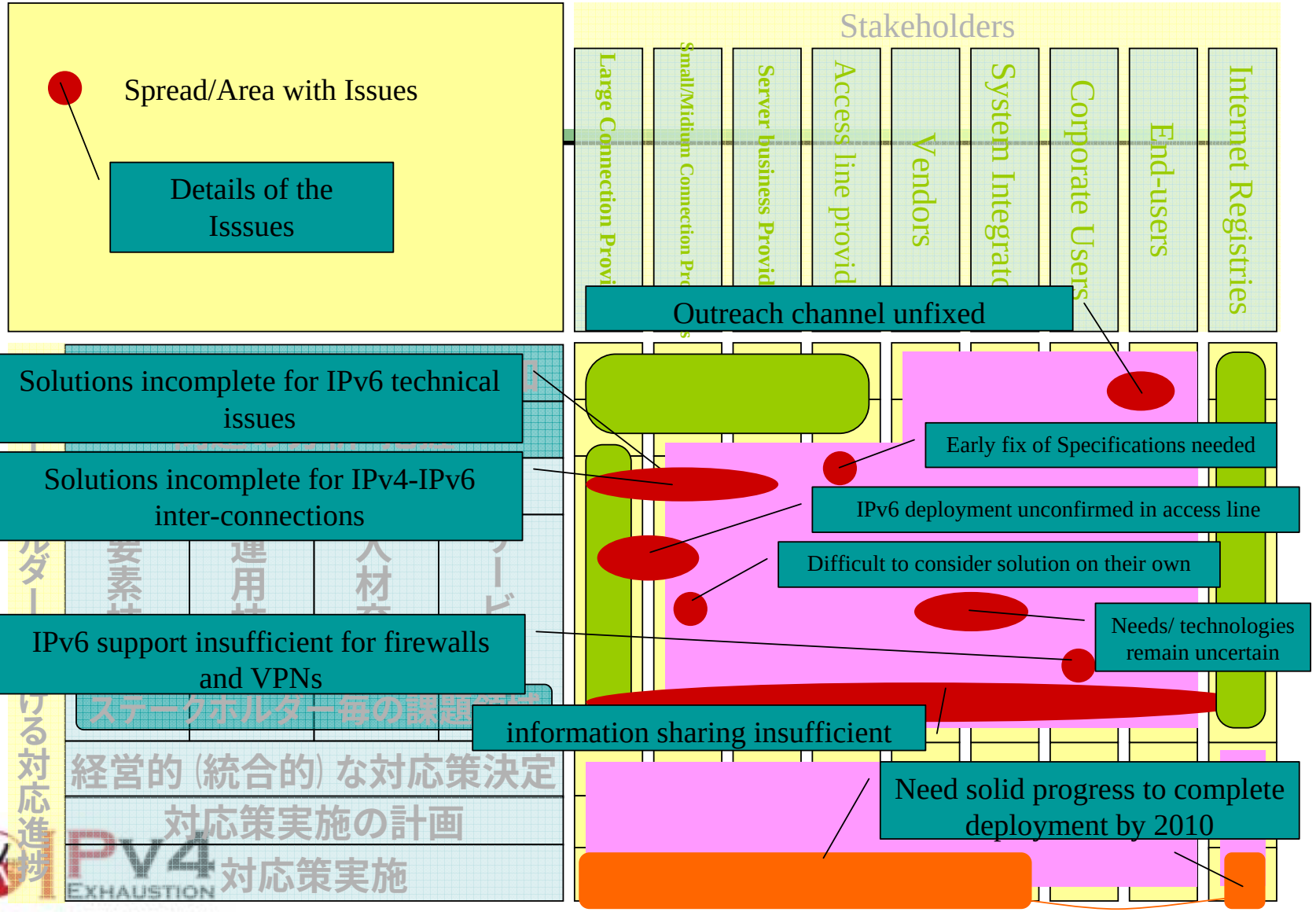
- IAjapan (Internet Association Japan)
  - Consider formations for collaboration with other bodies its Commitee
- IPv6 Promotion Council
  - Listing issues in IPv4/IPv6 Coexisting environment in its WG
- JAIPA (Japan Internet Provider Association)
  - Proposing & negotiating with NTT to support IPv6 in its FLETS service (which provides connection lines infra for ISPs)
- JANOG
  - Topics handling IPv4 exhaustion/IPv6 transfer discussed in every meeting since JANOG18 (July 2006)
- DISTIX (Distributed IX Project)
  - Working on technical issues in DNS/Translators in its WG
- JPNIC
  - Set up a website specialized to publish information related to IPv4 exhaustion

The major problems identfied

Stakeholders and their status

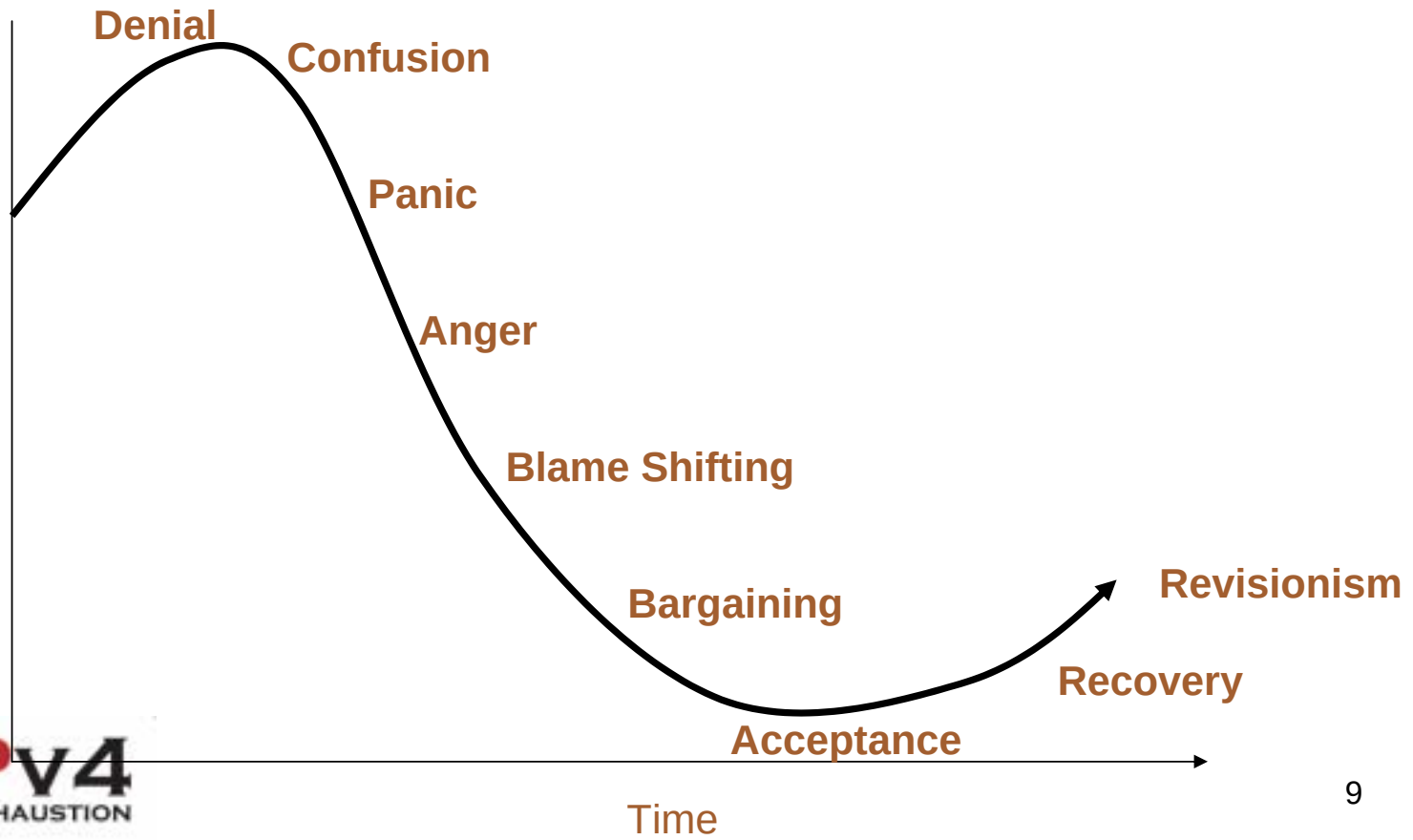


Stakeholders and their remaining issues



Coping with Crises

http://www.potaroo.net/presentations/2008-06-19-ipv6-keynote-a.ppt



The major problems

- Although there is higher awareness by major operators/LIRs on personal level…
  - IPv6 Deployment requires additional cost in short term and difficult to justify
  - Little real-life deployment experience in IPv6 and no sufficient expertise by vendors
  - Technology for interworking between IPv4 and IPv6 is inevitable during the transition phase, but no technology at production level so far
  - Service providers and venders are watching and waiting to see each others to take action
- A collaborated activity is necessary as a break through from “watching to see what the others will do” state

Task Force on IPv4 Address Exhaustion, Japan

Synchronized action toward exhaustion

- Set up a TF to make co-ordinated actions among all stakeholder groups
- Task Force on IPv4 Address Exhaustion, Japan – IPv4**アドレス枯渇対応タスクフォース**
  - Various associations from Telco and Internet industries
  - MIC participates

IPv4 EXHAUSTION

Charter – the taskforce

- Formulating a taskforce to synchronize the activities by various associations
- 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

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Members – the taskforce (1/2)

- Internet Associations
  - IPv6 Promotion Council, Japan http://v6pc.jp/
  - Internet Association of Japan (IAjapan) http://www.iajapan.org/
  - Distributed IX Project http://www.distix.net/
  - Japan Internet Providers Association http://www.jaipa.or.jp/
  - JPCERT Coordination Center http://www.jpcert.or.jp/
  - Japan Network Information Center (JPNIC) http://www.nic.ad.jp/
  - Japan Network Operators' Group (JANOG) http://www.janog.gr.jp/
  - Japan Network Security Association (JNSA) http://www.jnsa.org/
  - Japan UNIX Users Society (jus) http://www.jus.or.jp/
  - Japan Registry Services (JPRS) http://www.jprs.co.jp/
  - WIDE Project http://www.wide.ad.jp/

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Members – the taskforce (2/2)

- Telecommunications Associations
  - Telecom Services Association http://www.telesa.or.jp/
  - Telecommunications Carriers Association http://www.tca.or.jp/
  - Japan Cable and Telecommunications Association http://www.catv-jcta.jp/
  - Japan Data Communications Association (JADAC) http://www.dekyo.or.jp/
  - Japan Approval Institute for Telecommunications Equipment (JATE) http://www.jate.or.jp/
- Vendors Associations
  - Communications and Information network Association of Japan (CIAJ) http://www.ciaj.or.jp/

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Action Items for the TF

1. List up the issues to solve by each player
2. Information sharing among member organizations
3. Establish the Q&A center
4. Design and Operation of the testbed
5. Issues and its solution of security during the transition process
6. Outreach to new stakeholders suffering from IPv4 address exhaustion

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Working Groups within the TF

WG	In charge of	lead	members
Publicity	Assistance for events/conferences of member associations, Regular press conferences Planning of outreach	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

Activities of Publicity WG

- Web Page has been set up
  - http://kokatsu.jp/ (kokatsu is for **枯渇**)
  - http://4xtf.jp/ (IPv4 eXhaustion TF)
- Stakeholder Survey in progress
  - To question the awareness and progress on the IPv4 exhaustion and its countermeasure
  - Semi-annual surveys planned
- Streamlining all the events by members
  - Assistance to provide the contents of IPv4 exhaustion, organizing the events as a series

Activity of Education and Testbed WG

- Education
  - Prototyping the education program at members' event
  - Normalize and deploy through commercial training providers
  - Request the technical certificate programs to include IPv6 contents
- Testbed
  - MIC's FY2009 budget for constructing a testbed
  - Network design, securing dedicated engineers for the testbed, Operation plan

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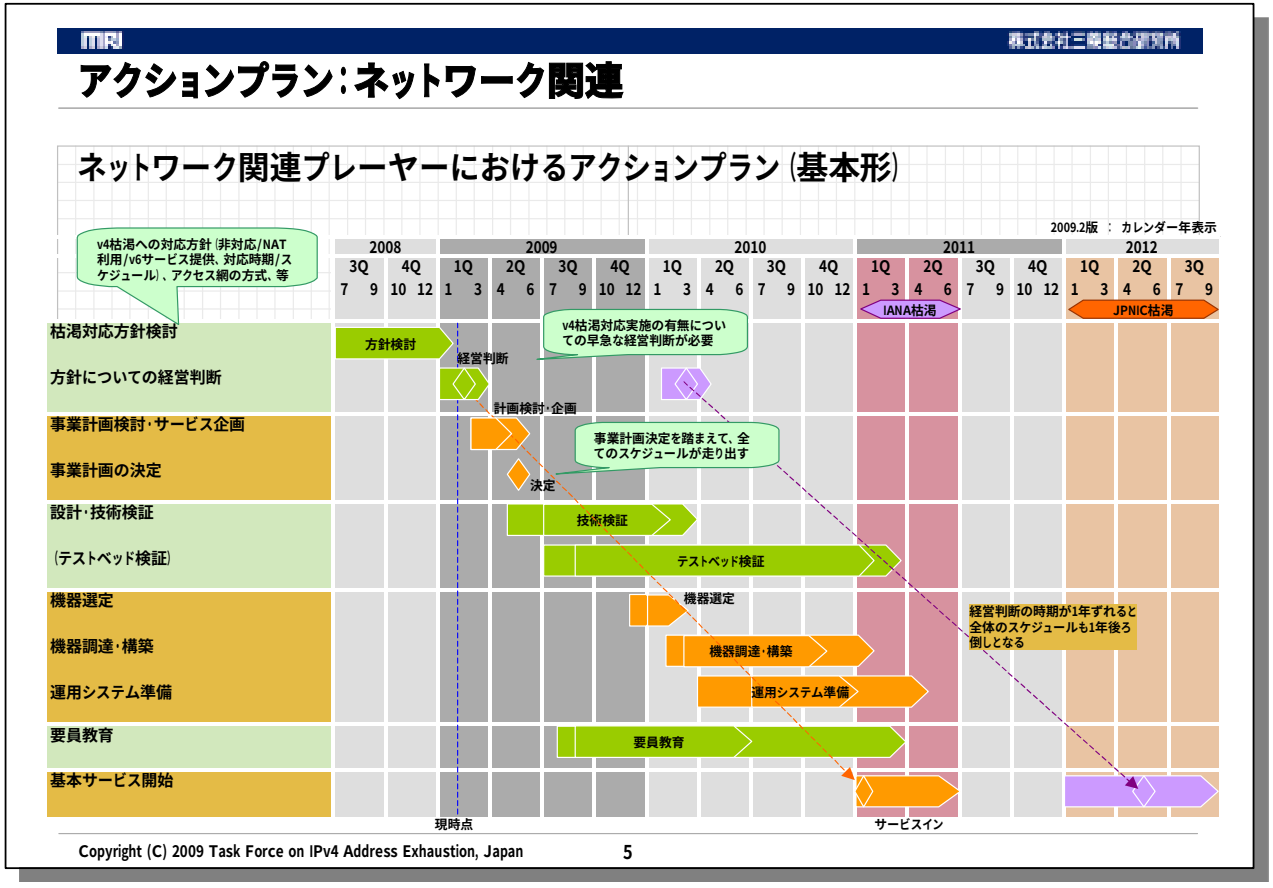
Activity of Action Planning WG

- Recommended timeframe has just been published



Some other activities harmonized with TF

Some other activities harmonized with TF

- v6PC: v4v6 co-existence WG
  - Study by workshops with a small testbed to experience the practical IPv6 deployment and produce reports
- v6PC: Home Gateway WG
  - Operators and Vendors to compile recommended specification for home gateway device
- IPv6 Operations Forum
  - Voluntary conference on the operators dealing with IPv6 to share the practice

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