Taiwan's IPv6 Status Update

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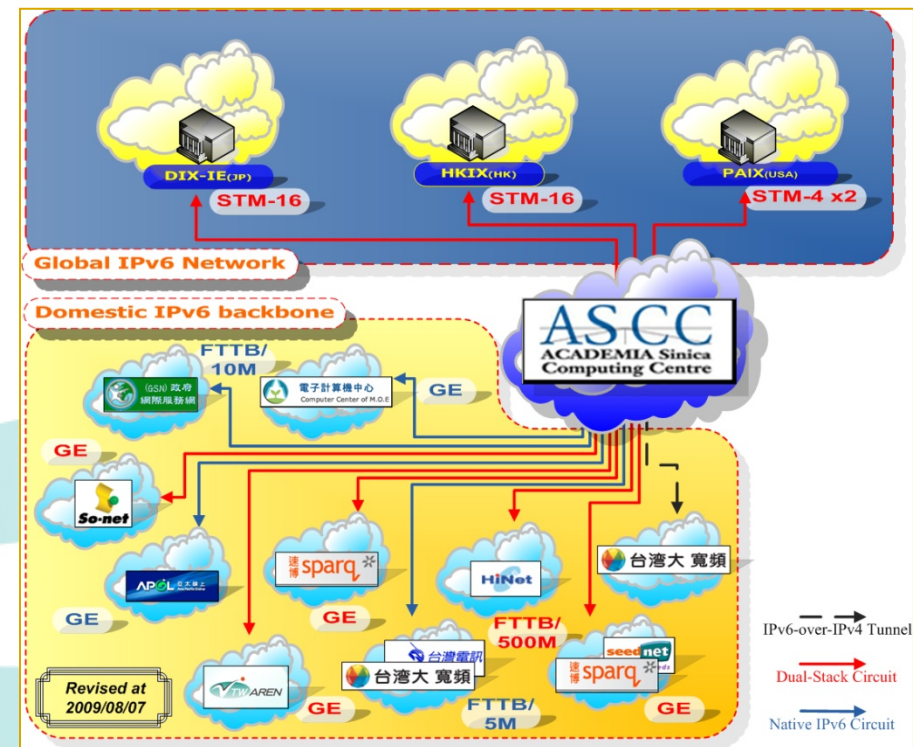
Taiwan ISPs IPv6 Current Status

- ## Infrastructure

  - ❏ 10 ISPs had depolyed IPv6 backbone.
  - ❏ IPv6 IX – ASNet Internet eXchange v6 (ASIX6)

- ## Access

  - ❏ Chung-Hwa Telecom(HiNet) NGN (FTTX) provides IPv4 and IPv6 dual services since 2011.
  - ❏ IPv6 Tunnel Services are provided in most ISPs (HiNet, Sparq, SONET, APOL, TFN) since 2007.

TANet(Taiwan Academic Network) IPv6 Network Deployment

- Fully scaled deployment of primary and high schools at 2010
  - 95% of schools provide IPv4/IPv6 dual stack access, IPv6 accessibility of WWW, DNS, SMTP
  - 68% of classes provide IPv4/IPv6 dual stack VoIP service

Taiwan IPv6 Readiness Survey

- Measure the status of IPv6 deployment in Taiwan since 2009
  - ❏ http://v6readiness.ipv6.org.tw/
  - ❏ http://v6directory.twnic.net.tw

IPv6 Readiness Items	Aug-10	Aug-11	Growth
International IPv6 Traffic (Mbps)	32.9	110.5	336%
IPv6 Server	922	8,294	900%
IPv6 Websites	716	7,341	1,025%
IPv6 / IPv4 DNS Query Ratio	0.46%	0.91%	198%

Users	• Web query from IPv6 • DNS query from IPv6
Applications	• IPv6 servers in Web, and DNS
Access Network	• Traffic in IPv6 Tunnel Broker
Core Network	• Number of ISPs within IPv6 allocations that are advertised in BGP • IPv6 traffic that in/out of Taiwan

Vendors

• IPv6 Ready Logo Phase I & Phase II

Source: Taiwan Network Information Center (TWNIC)

IPv6 UP- The Program of Taiwan government transition to IPv6

IPv6 UP (IPv6 Upgrade Promotion Program)

T0 Position Statement	Ta Main External Network Services	Tb Secondary External Network Services	Tc Internal Use & All IPv6
Government Official Support	**Web, DNS, email, infrastructure**	**Web, DNS, email, office facility room, broadband access**	**Internal access network, web site, database, applications, PC**

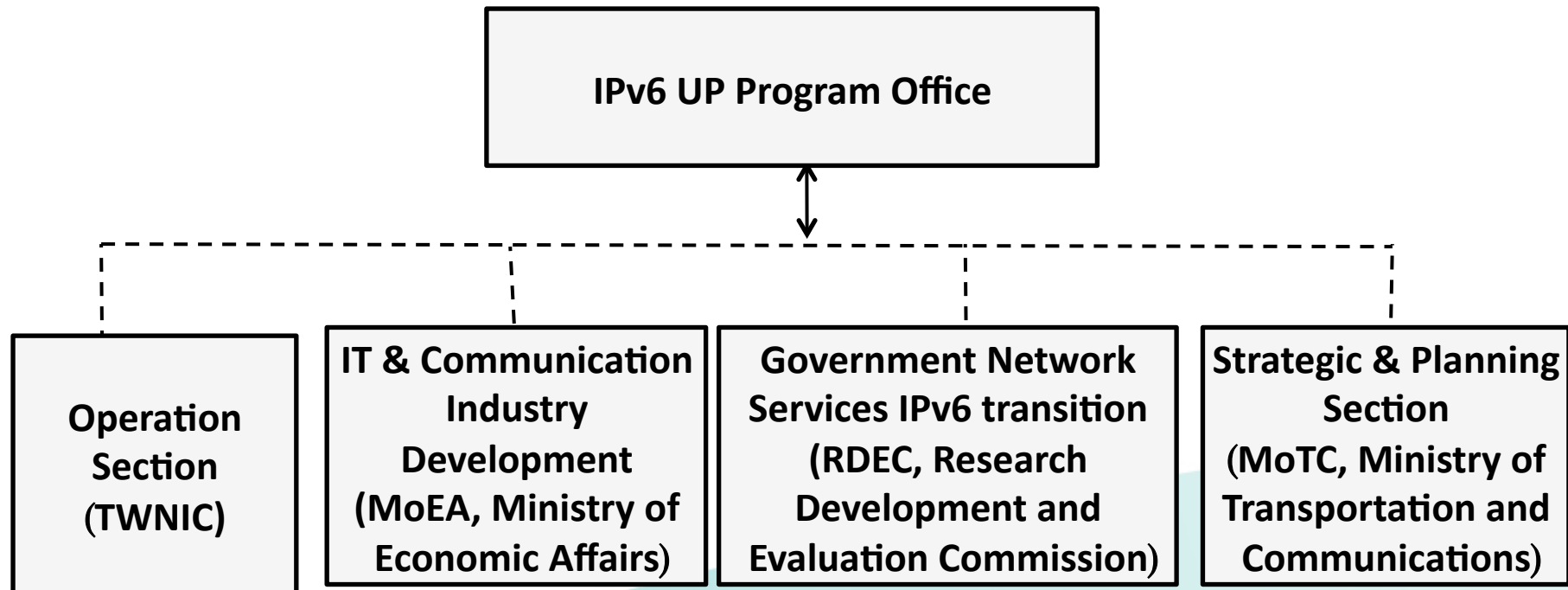|	Schedule	Reason	Remark
T0	**2011/12/30**	Ref : Activation Time	necessary
Ta	**2013/12/31**	1. Taiwan ISPs will face IPv4 address exhaustion within 3 years.	necessary
Tb	**2015/12/31**		necessary
Tc	**2016~**	2. Ref other country policy	Adjusted by Budget

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IPv6 UP Program Vision and Strategies

- Vision
  - Seamless network service (seamless transition to IPv6)
  - Innovative and intelligent network applications (IPv6)

- Strategies
  - Seamlessly update Government Service Network (GSN) to IPv6
  - Promote information and communication industry to enable IPv6 feature
  - Promote innovative and intelligent IPv6 applications

The Architecture of IPv6 UP Program

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                        │  IPv6 UP Program Office  │
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Operation Section (TWNIC)	IT & Communication Industry Development (MoEA, Ministry of Economic Affairs)	Government Network Services IPv6 transition (RDEC, Research Development and Evaluation Commission)	Strategic & Planning Section (MoTC, Ministry of Transportation and Communications)

- The program was official approved by Executive Yuan and was launched on 2011/12/30.

- The program office is under National Information and Communications Initiative Committee(NICI), a Committee under Executive Yuan.

The tasks of the program

- Every government agency must
  - ❑ Designate an IPv6 Transition Manager by Jan. 31, 2012.
  - ❑ Finish detail stocktaking of infrastructure and application related devices by Mar. 31, 2012.
  - ❑ All the government IT staffs take IPv6 training course by Jun. 31, 2012.
  - ❑ Finish the list of proposed procurement for IPv6 transition by Jun. 31, 2012.
  - ❑ Upgrade 50% public network service (Web, DNS, Email) to be dual stack enabled by Dec. 31, 2013. (Necessary)
  - ❑ Upgrade the other 50% public network service to be dual stack enabled by Dec. 31, 2015. (Necessary)
  - ❑ Upgrade the internal network by Dec. 31, 2016. (Suggestion)

Efforts made by Program Office

- Stocktaking training
- Forms/system designs to facilitate stocktaking
- Form service team to provide consultation
- Provide IPv6 training
- Provide samples, references, and manuals for IPv6 transition
- Periodical review of progress
- Award meritorious staffs/officers

World IPv6 Launch

- Taiwan IPv6 Launch
  - 3/29/2012~6/6/2012
- Invite participants
  - Internet users
  - >20 ICPs
  - >10 ISPs
  - 7 device manufactures
- Activities
  - Press conference
  - Web site for Taiwan IPv6 launch activity
  - Workshops, tutorials, training programs
  - On-line games, lottery

Conclusion

- IPv6 UP
  - "IPv6 UP" Program is not only preparing, but also doing actual Taiwan Government IPv6 transition.
  - It will also help ISPs, ICPs, SIs, training units, software developers, equipment venders to be ready for the upcoming transition of commercial units.

- World IPv6 launch
  - Plan on Taiwan IPv6 launch
  - Join the world IPv6 launch