Taiwan IPv4/IPv6 Status -- MOVING TOWARD IPV6 SUPPORTED NETWORK

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Agenda

- Current IPV4/IPV6 Status in Taiwan
- The Drives for IPV6
- IPV6 Development Plan NICI/MOTC/TWNIC
- The Strategy of IPv6 Development in Taiwan
- Network Setups for IPV4/IPV6 Evolution
- Summary

Current Status in Taiwan

- Total IP addressed to LIRs in Taiwan:
- IPV4:~/8(~0.7 address per person)
  - NATs, dynamic IP allocations are used to bridges the gaps
  - New LIRs (ISPs) and services keep drive the need for new IPs
- IPV6:2309 /32(~6 /48 per person)

- **Free IPv4 address reduced rapidly**
- 3G/WIMAX/Digital Cable data/voice/video multimedia integrated services require more IPs
- Personal communication requires more IPs
- New ISPs require more IPs
- To bridge digital divide require more IPs
- All-IP era (U-Japan, U-Korean, U-Taiwan, …) becomes a trend, it also require more IPs
- **DNS support in the Root become strong**
- **IPv6 ready devices grow**

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- From 2002~2007,NICI/MOTC/TWNIC have conducted an IPv6 development plan to promote the research/development in Taiwan
- Bridging Local Industries and International IPv6 Testing Bodies
- 49 Phase I and 23 Phase II ready logo devices from Taiwan
- Devices for different IPv6 services have been developed, MIPv6, SIPv6, Carv6, VoIPv6, Healthcarev6, etc
- To try out the IPv6 only subscriber network

- Equipment/services - New services and new equipments requires IPv4/IPv6 dual stack support
  - FTTX, WIMAX/3.5G etc
- Users - Elementary School/College/Government requires dual stack
- Users – new subscribers network support IPv6
- Servers - CSP servers support dual stack
- Connection - IPv6 tunnel broker to bridge IPv6 islands

- Education - ISOC Taiwan/TWNIC work together to educate users in college/schools
- Education - Demonstration and Education of IPv6 in Science Education Museum (Start Jan. 2008)
- Clean up the stones in commercial network - IPv6 ready camera in PingTung Aquarium Museum through Hinet(Start July 2007)

- Tunneling to bridge different ISPs
- Dual Stack support for new services
- Subscribers:
  - FTTx access, broadband access through IPv4/IPv6 dual stacks
- Servers:
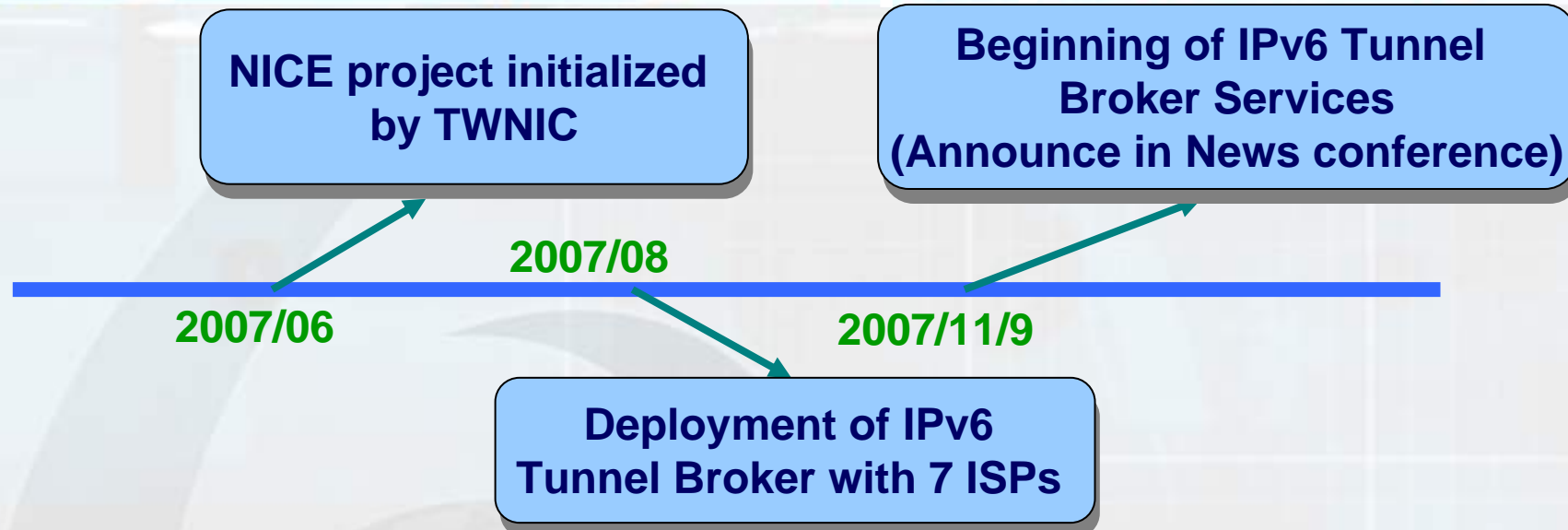 - CSP servers move to dual stack support

Next-generation Internet Connectivity Environment (NICE)

- **IPv6 Tunnel Broker Service**
  - 7 major ISPs join project
  - They provide their users to use free IPv6 tunnel broker service since 9 November, 2007.
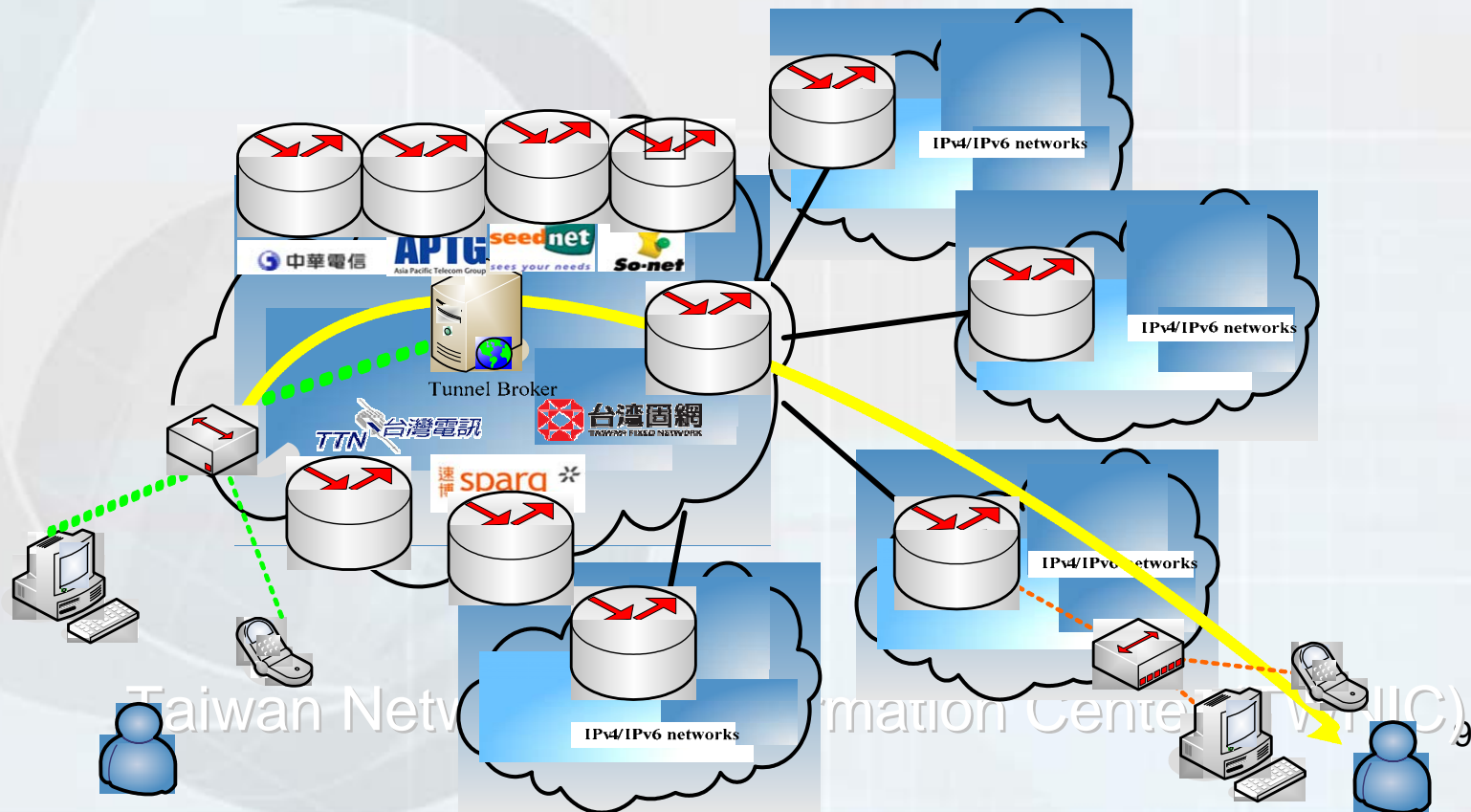
Timetable and services of NICE project

NICE project initialized by TWNIC

Beginning of IPv6 Tunnel Broker Services (Announce in News conference)

2007/08

2007/06

2007/11/9

Deployment of IPv6 Tunnel Broker with 7 ISPs

ISP	IPv6 Services	IPv6 web
Hinet	Access, Web, DNS, IPv6 MOD	http://www.ipv6.hinet.net
TFN	Access, Web, DNS	http://ipv6.tfn.net.tw
Sparq	Access, Web, DNS	http://www.ipv6.sparqnet.net
APOL	Access, Web, DNS	http://www.apol.com.tw
Seednet	Access, Web, DNS	http://ipv6.seed.net.tw
So-net	Access, Web, DNS	http://www.beyou.com.tw
TTN	Access, Web, DNS, Blog	http://www.mw.net.tw

November 9, 2007 in
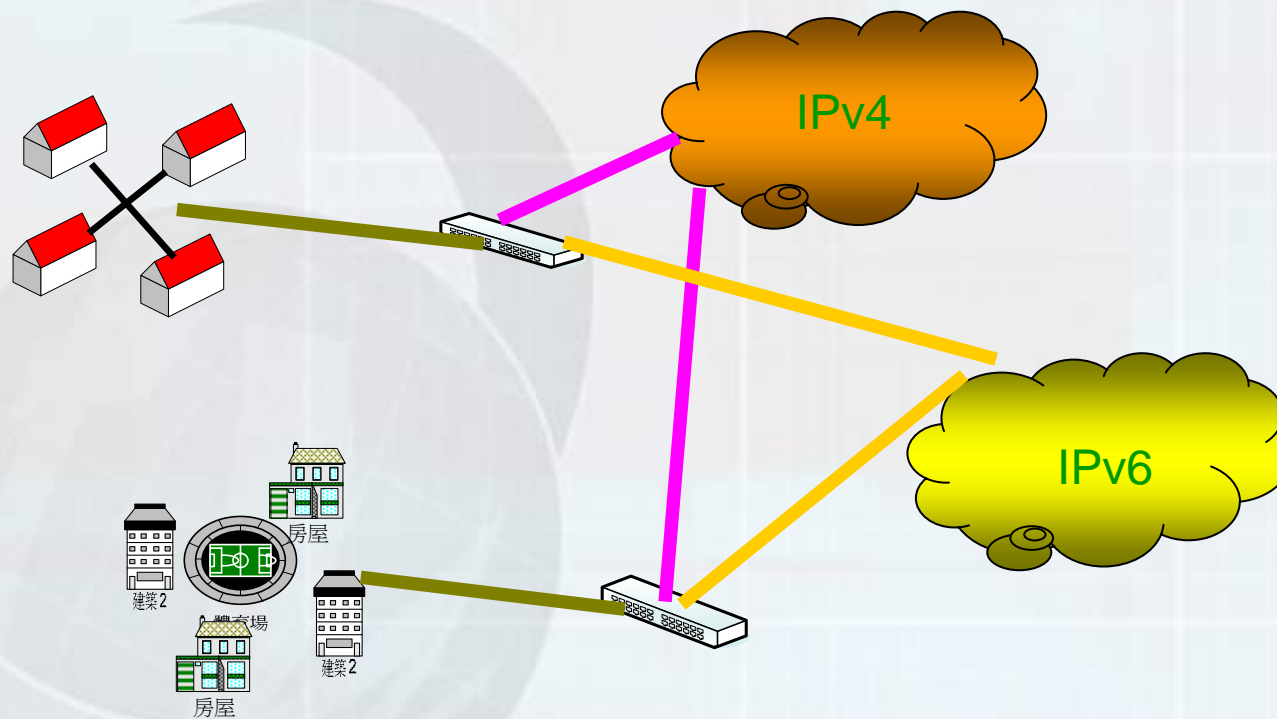
Taipei, Taiwan

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Universally Accessible IPv6

- **Optical Fiber plus Dual Stack Services v4/v6 in specific communities**
  - **Expect to provide FTTx dual stack services v4/v6 since Q2 2008**

IPv4

IPv6

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Content Service Providers

- IPv6 content service provider is one of the most important player in the development
- TWNIC/ISOC Taiwan is working with Hinet/TFN/Sparq etc to bring CSPs in IDC to support IPv4/IPv6 dual stacks

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- http://www.ipv6.hinet.net

IPv6 Content Services

- http://ipv6.taco.hinet.net

IPv6 Content Services

- http://showroom.twnic.net.tw

Summary

- TWNIC is working actively with government and ISPs to bring the local internet to support IPv6

- An IPv4/IPv6 dual stack network support commercial network is developing

- To incorporate CSP servers to support IPv4/IPv6 is the next goal

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THANK YOU !

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