

What challenges we face ?

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IPv6 : Extinction, Evolution or Revolution?

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For some years now the general uptake of IPv6 has appeared to be "just around the corner". Yet the Internet industry has so far failed to pick up and run with this message, and it continues to be strongly reluctant to make any substantial widespread commitment to deploy IPv6. Some carriers are now making some initial moves in terms of migrating their internet infrastructure over to a dual protocol network, but for many others it's a case of still watching and waiting for what they think is the optimum time to make a move.

So when should we be deploying IPv6 services? At what point will the business case for IPv6 have a positive bottom line? It's a tough question to answer, and while advice of "sometime, probably sooner than later" is certainly not wrong, it's also entirely unhelpful as well!

I'm not sure that anyone can provide a clearer date in response to that question, but what may be useful is to explore why IPv6 will be useful to have sometime in the near term future and how IPv6 and IPv4 are likely to interact. And then the "when" of IPv6 may be a little clearer — or maybe not!

To start off with this exploration it may be useful to compare where we started with the Internet with where we are today, and then see how this relates to the IPv6 story.

Why IPv6?

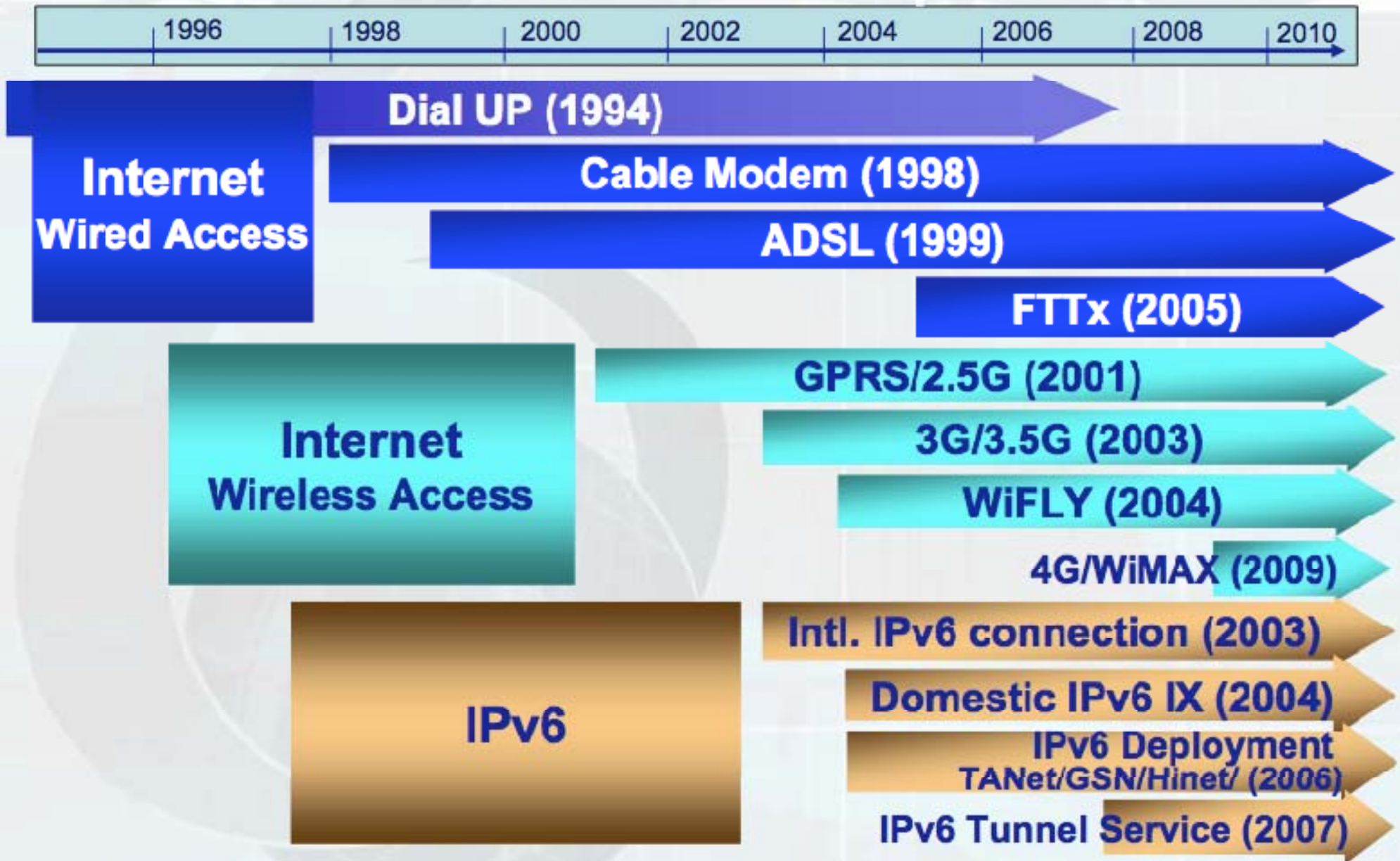
- IANA allocated last 5 /8 v4 addresses to 5 RIRs on Feb. 2011
- APNIC announced last /8 on April, 2011
- New services/devices continue to introduce to the market
 - most of top 10 web sites happened no more than 10 yrs (or even 5 yrs)
 - Smart phones/tablet PCs widely use around last 5~10 yrs (or even 3 yrs)

1	Google
2	<u>Facebook</u>
3	<u>Youtube</u>
4	Yahoo
5	Windows
6	<u>Beidu</u>
7	Wikipedia
8	Blogger
9	QQ
10	Twitter
	
	Social Network App

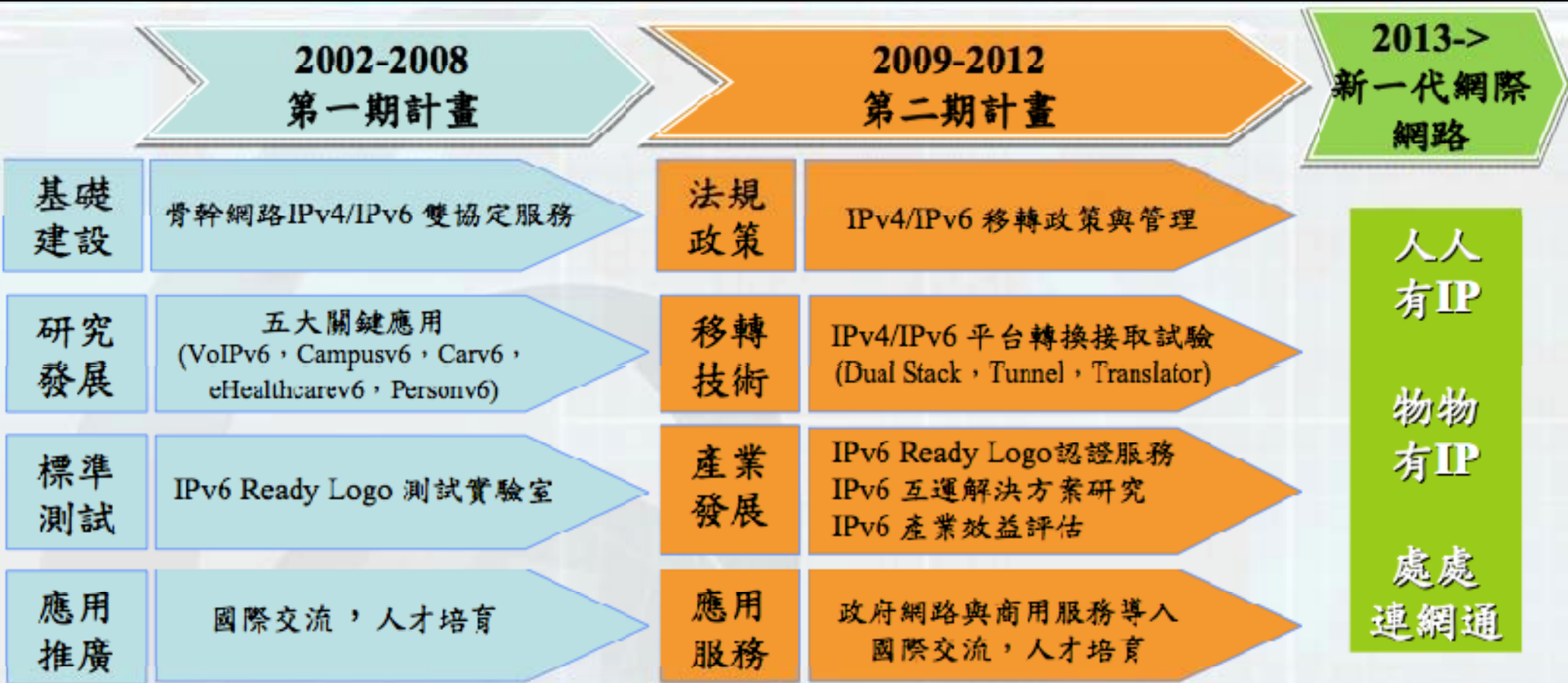
IPv6 in Taiwan

* Please see the file from <http://www.ipv6.org.tw/resource.php>

IPv6 began in Taiwan at 1997, and..



IPv6 Projects (2002~2011) in Taiwan



- 分析全球 IPv4/IPv6 發展策略
- 研究 IPv4/IPv6 網路互通技術
- 進行 WiMAX, FTTx, PLC IPv6 接取試驗

- 推動學術網路與政府網路進行 IPv6 移轉
- 與各項大型研究計畫合作推動 IPv6 應用服務

Status

● Infrastructure

- Taiwan Advanced Research and Education Network (TWAREN, TANET Backbone) provides **IPv4 and IPv6 dual services** since Mar. 2004
- **Chung-Hwa Telecom NGN (FTTX)** will provide IPv4 and IPv6 dual services
- **IPv6 Tunnel Services** are provided in most **ISPs** (HiNet, SeedNet, TTN, NTT, TFN, Gigamedia)

● Standard Testing Lab

- Standard and logo promotion: **Phase I (promotion), Phase II (certification)**
- Product testing: **IPv6 Ready Logo, 3rd in the world**
- **Products: VoIPv6 phone, Home Gateway, Wireless Router, IPsec Router,**
- Applications & Services
- **6 Killer Applications** has been developed
- **VoIPv6, EcoGridv6, Carv6, Personv6, Campusv6, Healthcarev6**
- Several Service Transition Projects: **IPTV, Flood Forecasting, eHealthcare, Energy Saving**

● Promotion

- Industry integration: **IPv6 Forum, IPv6 Summit**
- Knowledge dissemination: **IPv6 Pavilion, IPv6 Showroom, education & training, publications**

Problems

- v4/v6 is not compatible, and we have to live with two networks at the same time for a while
- v6 is not a “single” space, and create problem for user-friendly
- Limited services provided by ISPs

What government v6 policy in Taiwan?

- Public Sectors should take the lead
 - implement v6 services for new services and devices
 - buildup experience to share
- Develop incentives for Private Sectors
 - willing to provide v6 access services
 - willing to provide v6 content services

What else we can do?

- Make sure all the TLDs DNS turn on v6 services
- Encourage Domain Name Registrars to inform names' holders to set AAAA records? So the data centers will deploy v6 services to fulfill the needs?
- What else?

World IPv6 Day

- Let's work together to get connected with v6
- To develop the potential business for v6
- Link every islands of v6 into a single space (if we can)
- Continue to introduce services and devices on the Net
- Confidence, Oppoutunity, and Future in v6