FAR EASTONE

遠傳

推動IPv6商用網路全面升級之策略探討

Agenda

- IPv6商用願景
- Status
- IoT與IPv6

IPv6商用願景

企業為什麼要進行 IT/Network IPv6 升級投資

- 有利可圖 , 主動升級
  - ✓ 升級後可順利取得政府標案 或 客戶訂單
  - ✓ 製造IPv6相關 IT/Network 設備
  - ✓ ….
- 無迫切需要, 被動升級
  - ✓ 設備老舊汰換
  - ✓ 無法以 IPv4 順利取得資訊
  - ✓ …
- 不升級又如何 …..

目標

目標是甚麼

獲利與成本是目標決定的重要關鍵

- 有利可圖 , 主動升級
  - ✓ 升級後能多賺錢
  - ✓ 不升級將流失現有營收
  - ✓ 提升有利拉開與競爭者距離

升級的範圍與時程

依目標設定 決定 投入技術 與 成本

- 盤點需升級設備，進行優先程度排序

遠傳以五年時間逐步地完成IPv6的設備汰換與建置

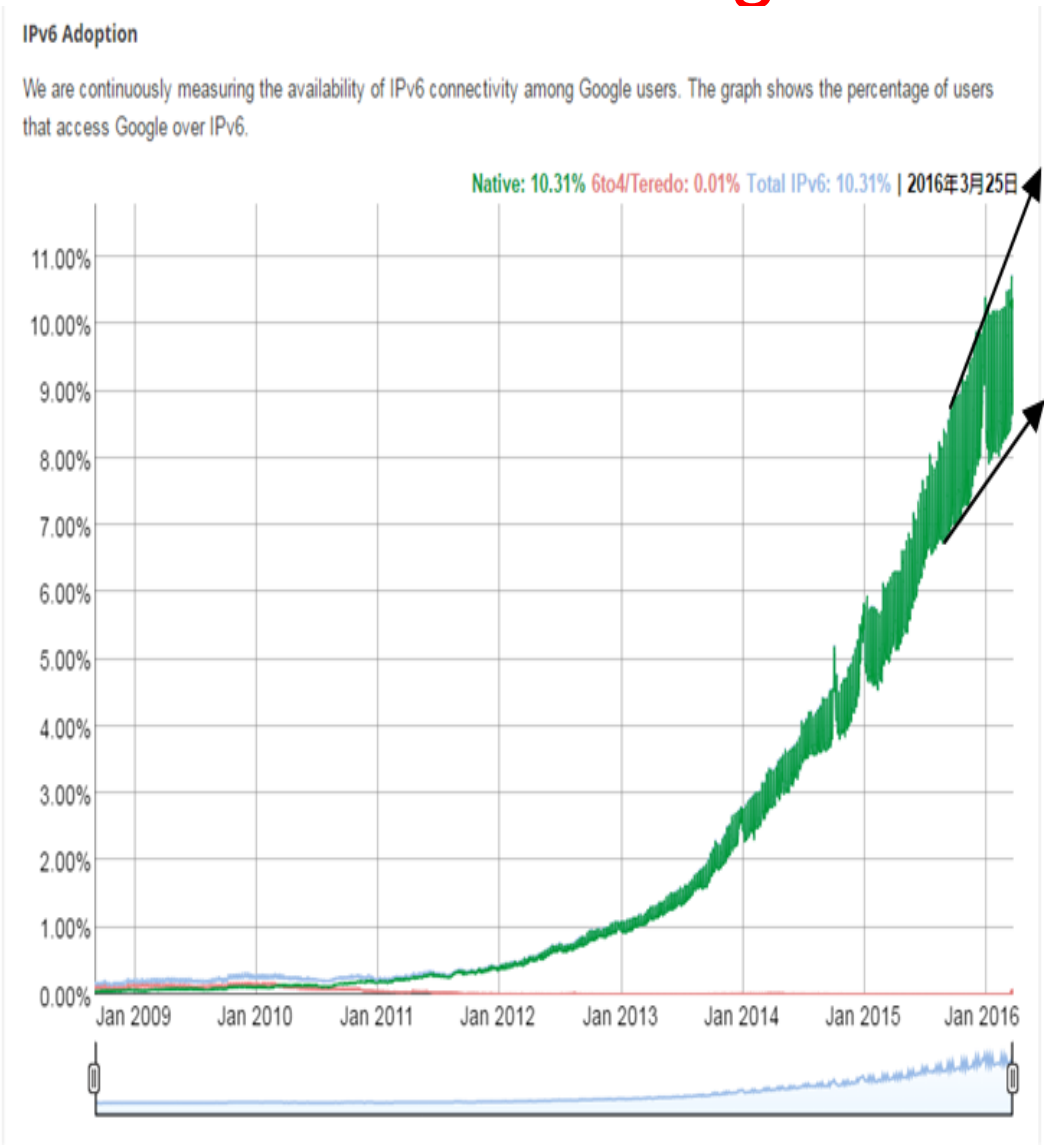
2010
啟動 IPv6 服務準備

2012
核心網路建置

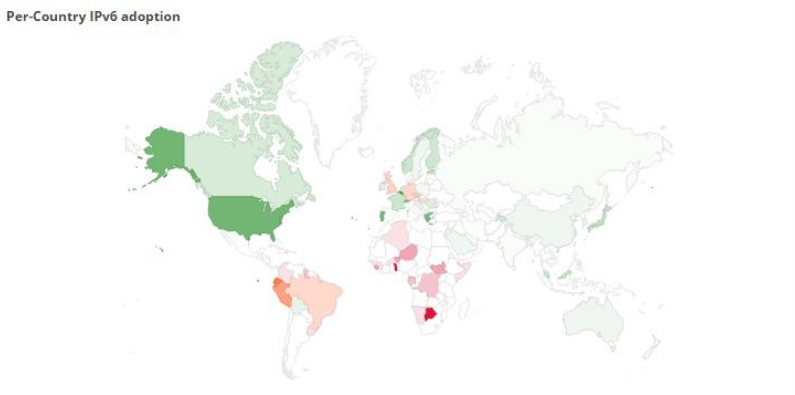
2014
用戶接取網路建置

2015 – 2016
企業 /行動用戶服務提供

Google IPv6 Access



- 隨者手機支援 IPv6 未來 存取 Google IPv6 網路連線勢必快速提升
- iPhone已率先於2015年9月iOS9版本中支援 Happy Eyeballs，透過 Happy Eyeballs 機制，選擇 IPv4/IPv6 最佳路徑

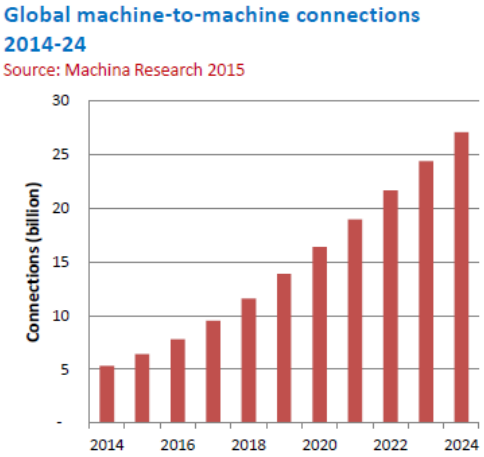


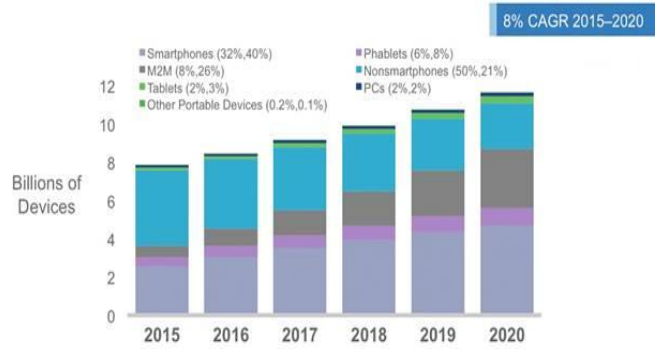
IPv6 Provider Status….

- Facebook says IPv6 increased from 1% of its global IP traffic in 2012 to 10% by September 2015, and is growing rapidly.
- IPv6 usage in the US is much higher, at 23% of total Facebook traffic. Mobile is higher, at 33%, and 4G smartphones higher still, with 45% now on IPv6 and forecast to surpass 50% by the end of this year.
- Verizon Wireless said smartphones traffic on its network is already at 50% IPv6 and that 4G traffic to Facebook is around 80%.
- Comcast said IPv6 is around 25% of traffic and growing (there's less impact from v6-capable 4G smartphones for cable operators). Chief architect for IPv6, John Brzozowski, also noted that v6 is very helpful when operators need to merge networks.
- SK Telecom said IPv6 adoption is less advanced in South Korea, but Minguen Yooon, emerging technologies project manager, said v6-capable smartphones and compatible content are driving take-up.
- Apple's move to make IPv6 support mandatory for iOS9 apps is expected to drive further adoption and will be an incentive for smaller application and content providers to make the switch from v4.

IoT (Internet of Things)

- Wireless and big data technology evolution driven IoT ecosystem
- More devices connected -> More IP required





The M2M category is going to grow at 38-percent CAGR from 2015 to 2020 (Cisco VNI Mobile, 2016)

Internet of Things

- Connected device# growth -> more IP session required
- More user access cloud base IoT service -> more IP session requirement

Things Domain

Device Domain (Generate Data)

- **Mass device**

Network Domain (Collect Data)

- **large quantity of IP sessions**

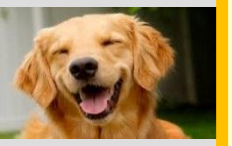
Service Domain (Management Data)

- **Cloud base Customization service**
- **Self care**

User Domain (Access Data)

Required IP session from device

Required IP session from user



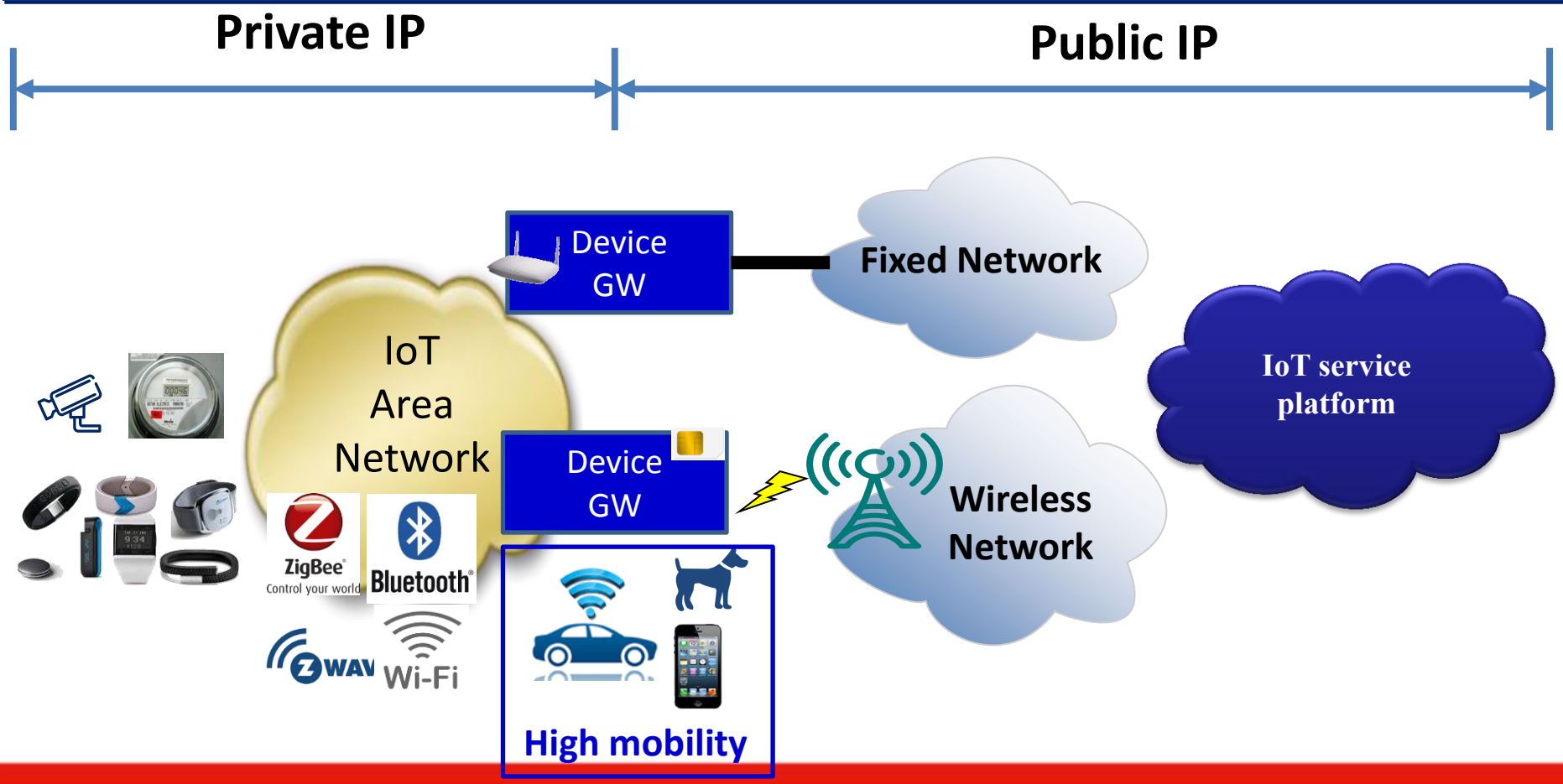
Fixed Network

Core Network

Wireless Network

IoT & IPv6

- IoT Area network using local LAN solution, therefore public IP requirement not mandatory
- Device GW and high mobility device might require public IP.
- IoT could be another driver to trigger IPv6 usage.



Summary

- 企業仍以成本獲利考量自身設備汰換與否
- IPv6 現況以公部門標案驅動為主
- 未來行動網路用戶IPv6 服務勢必提高 IPv6 現有訊務流量，但是否會加速 IPv6 普及仍需進一步觀察
- IoT趨勢是否能驅動IPv6的發展仍有待觀察


THANK YOU!