

IPv6全面升級之利基與挑戰

亞太電信

2017/3/30



Agenda

IPv6 全球現況

物聯網趨勢

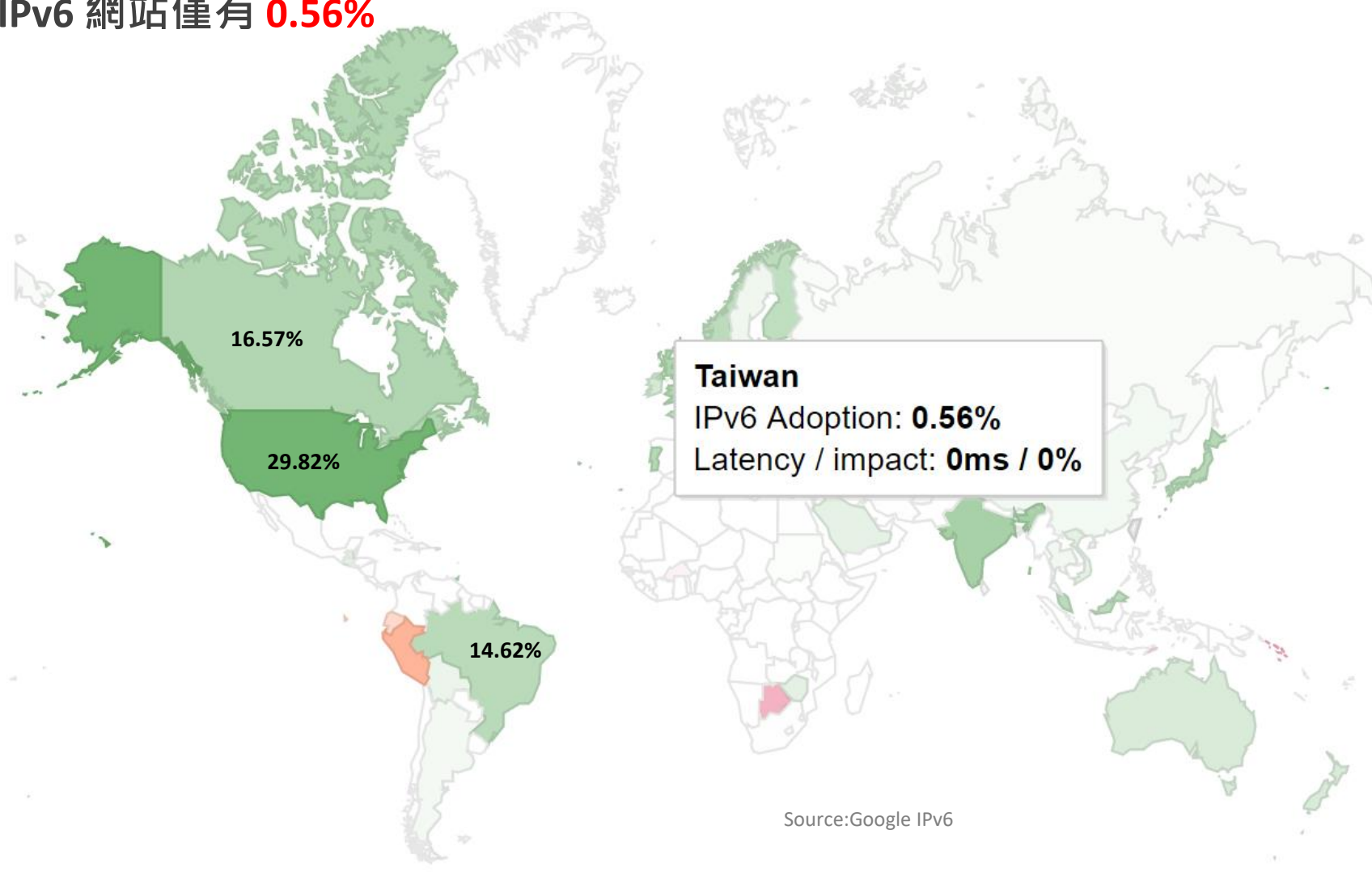
亞太電信網路現況

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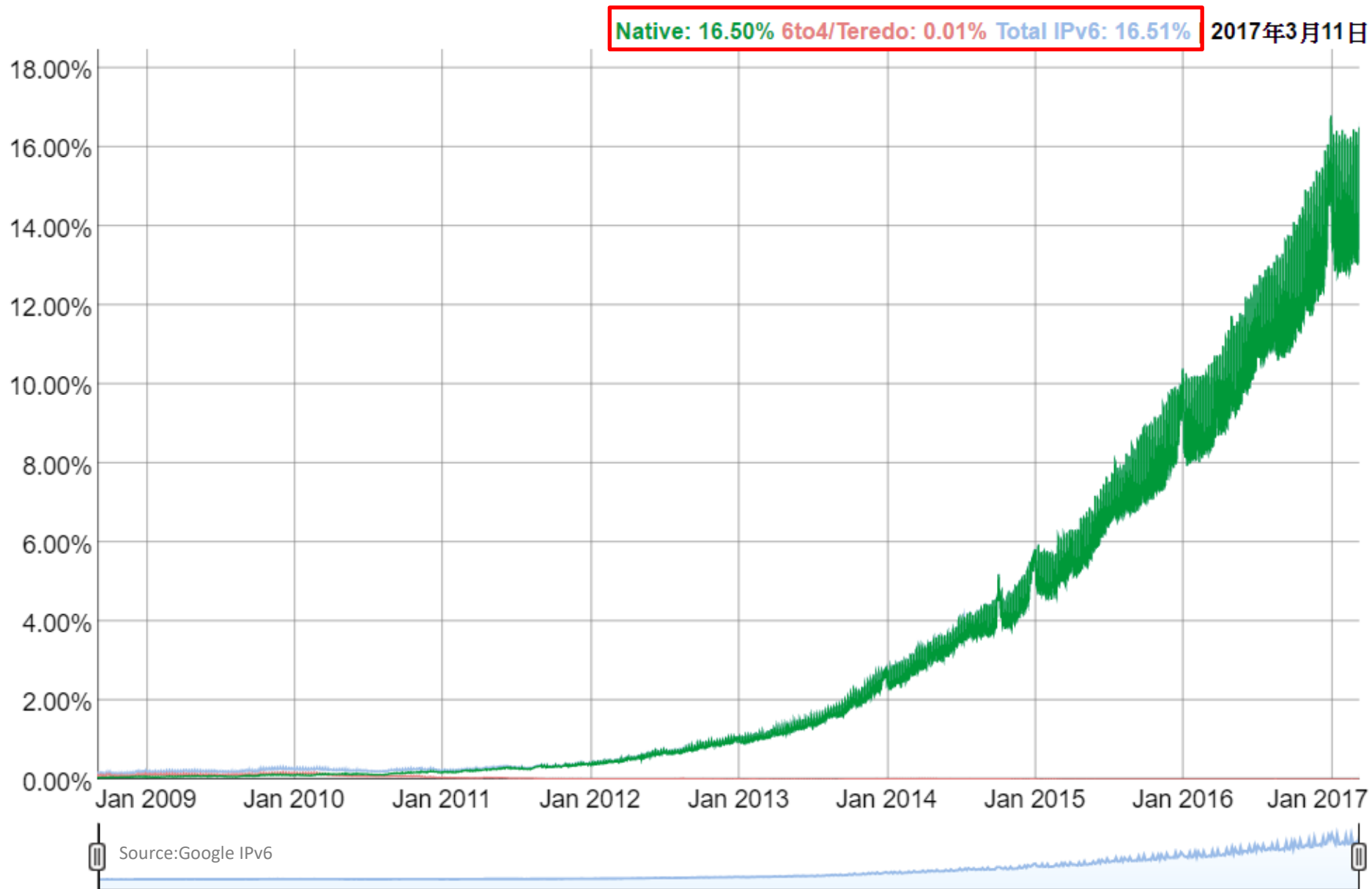
全球IPv6使用狀況

- Google 使用者行為分析，全球整體IPv6普及率呈現成長態勢
- 鄰近的亞洲地區，台灣啟用 IPv6 網站僅有 **0.56%**

- 中國 2.57%
- 韓國 4.75%
- 日本 15.41%
- 印度 18.57%
- 馬來西亞 14.02%
- 澳洲 7.98%

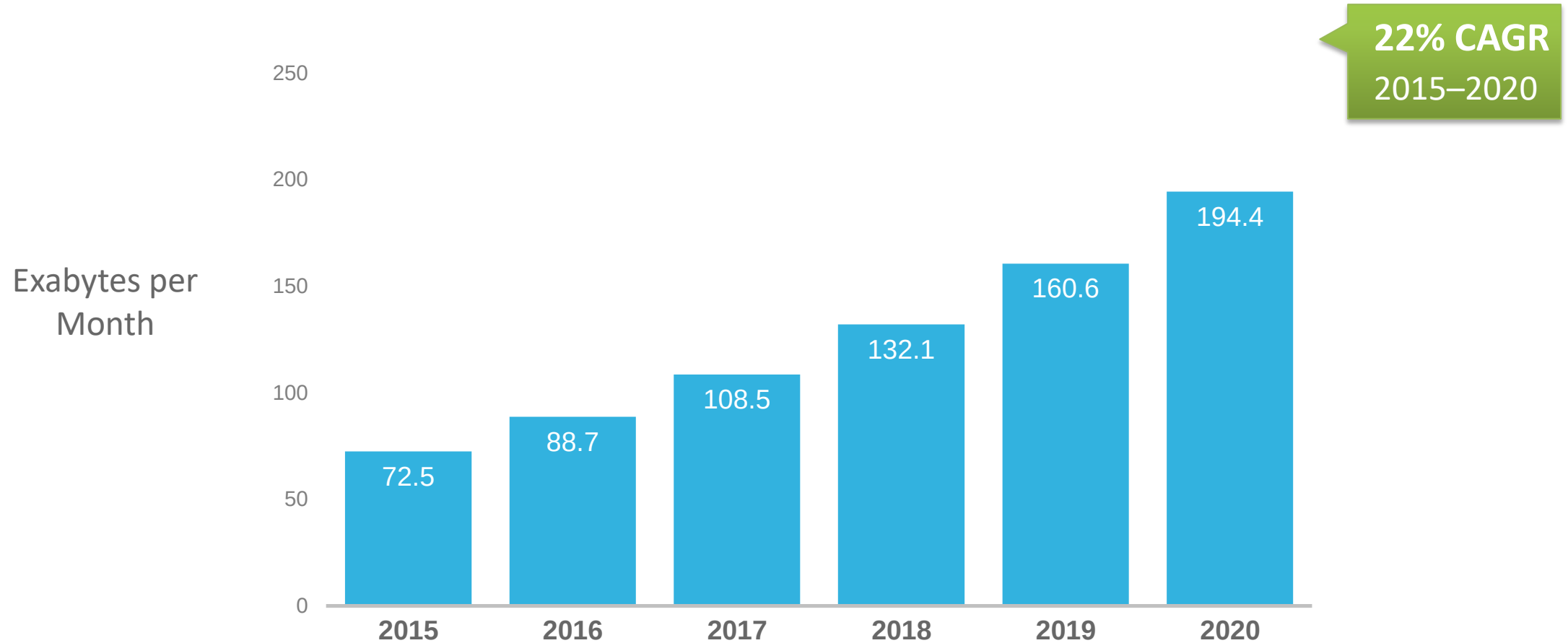


全球IPv6使用狀況



全球IP流量成長趨勢

■ 全球IP流量於2015-2020年間增長3倍

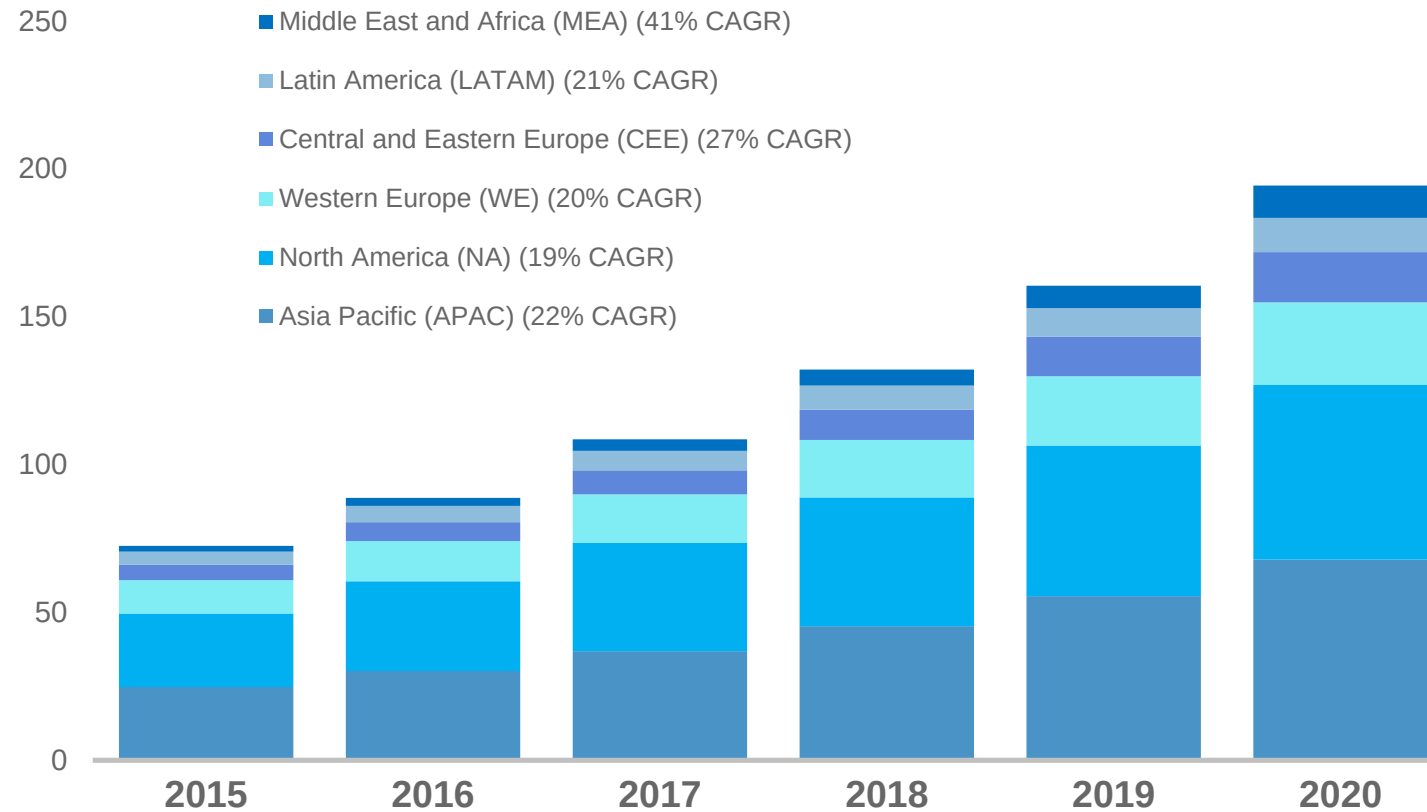


Source: Cisco VNI Global IP Traffic Forecast, 2015–2020

全球IP流量成長趨勢/地區

- MEA在2015-2020年間增長率最高度 41%
- 亞太地區在2020年將佔所有IP流量的 35%

Exabytes per
Month



22% CAGR
2015–2020

Source: Cisco VNI Global IP Traffic Forecast, 2015–2020

Agenda

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總結



A view
from the edge

Key applications

High frequency trading



Smart grid



Drones



MOOCs



Ambient experiences



Autonomous vehicles



100 dollar electronic genome



Remote surgical robots



Artificial intelligence



Devices

Smartphones



Tablets



HD TV



Smart sensors



Google glasses



Google car



4K TV



VR goggles



8K TV



Network

Wireless network

2G



3G



4G



5G



Fixed network

Copper dial-up



ADSL



FTTC



Docsis 3.0



FTTH



Gigabit network



www.vodafone.com/gigabitsociety

IMAGINE TOMORROW'S SEAMLESS TRANSPORTATION



IoT (Internet of Things)

1trillion

100 things per person (2035)

2 devices
per person
(2010)

13bn
7bn

50bn

Population 10bn

2010

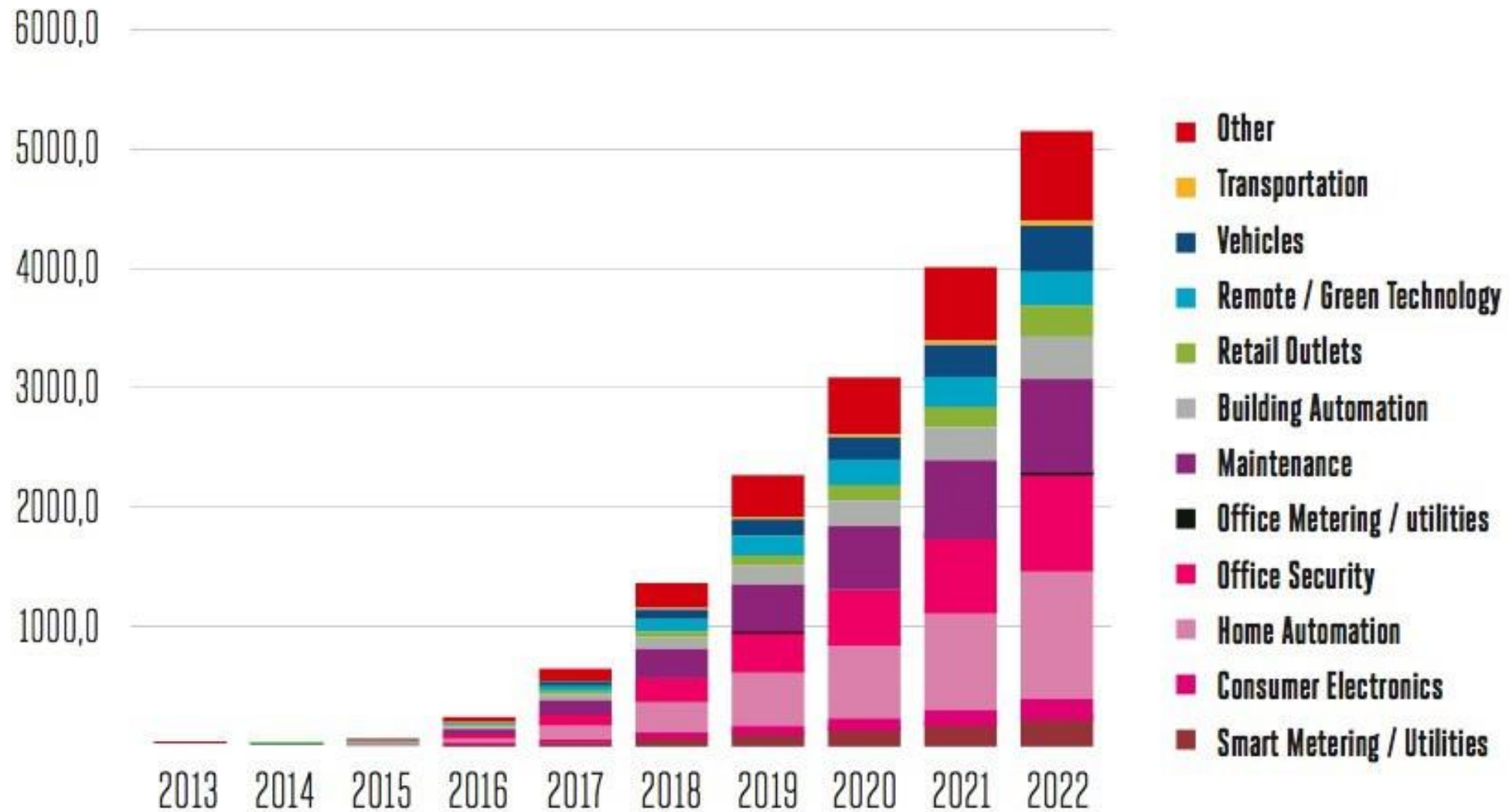
2020

2035



Note: Created by SoftBank Corp.
based on data by Cisco IBSG, 2011

M2M Connection Trend



Source: Strategy Analytics

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APT IX (EBIX) IPv6 發展現況

■ EBIX骨幹及接取網路

- 支援IPv4/v6 Dual Stack

■ 國際 & 國內IX 網路介接

- 國際ISP與ICP介接業者

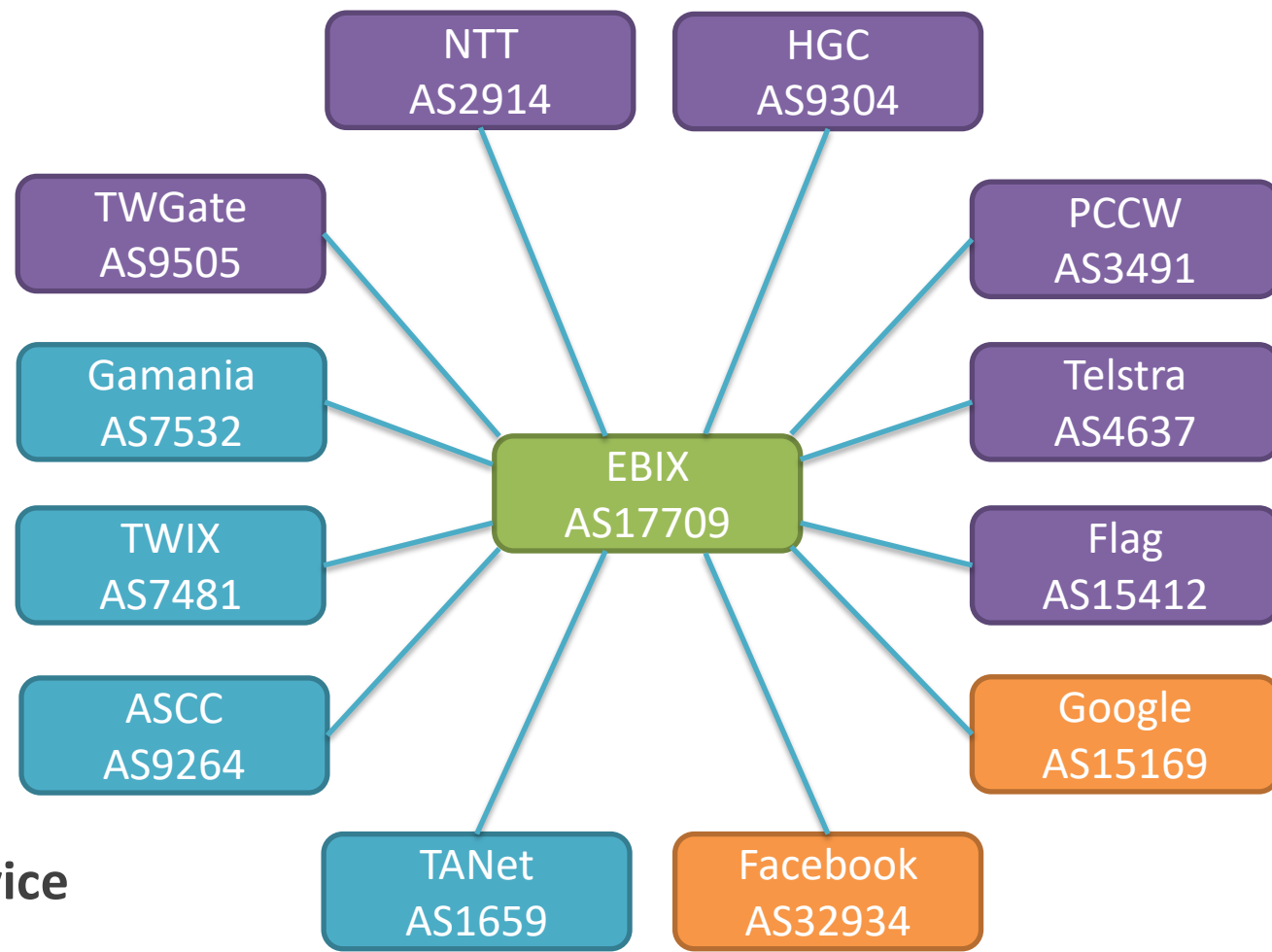
- TWGate、NTT、PCCW、Telstra、HGC、Flag
- Google、Facebook, etc.

- 國內 IX、ISP、學術單位及ICP業者

- TWIX、TPIX、Chief、Gamania
- ASCC、TANet

■ IPv6 連接與交換服務

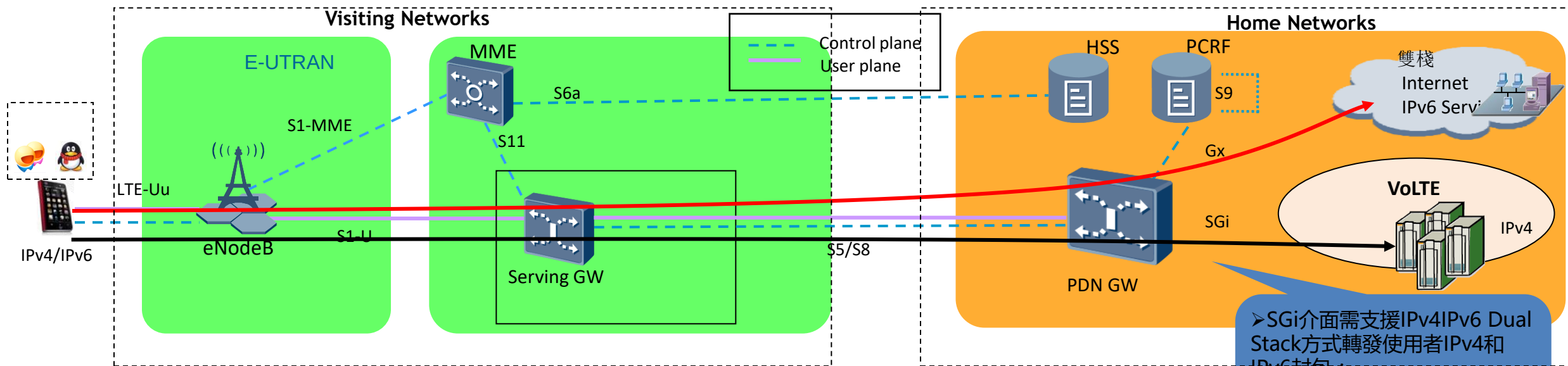
- IPv6 tunnel broker service
- IPv6 peering and transit service
- IDC and lease line IPv6 connectivity service



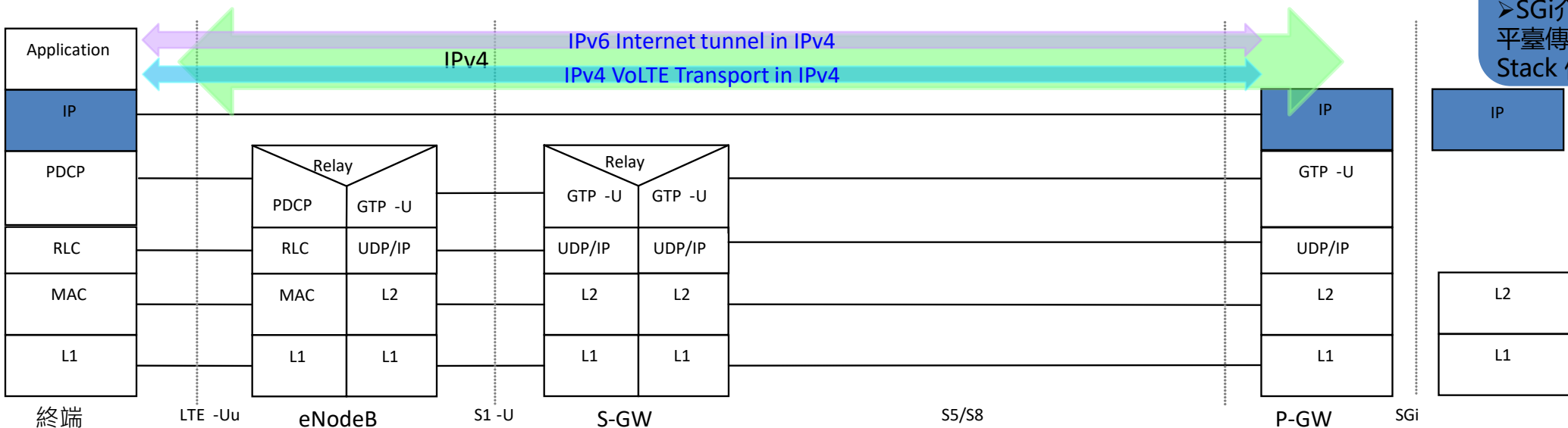
APT IPv6網路現狀及演進策略

Network	Plan and Status
IX Backbone	EBIX Backbone 支援IPv4/IPv6 dual stack
都會乙太網路	IPv4/IPv6 dual stack 上網服務
ADSL/FTTx	IPv4/IPv6 dual stack BRAS
IDC	導入IPv4/IPv6 dual stack
MBH (Mobile Backhaul)	導入6PE、6VPE、IPv4/IPv6 dual stack
LTE IP Transport	導入6PE、6VPE、IPv4/IPv6 dual stack
LTE Core	PS core 導入IPv4/IPv6 dual stack
	VoLTE 導入IPv4/IPv6 dual stack

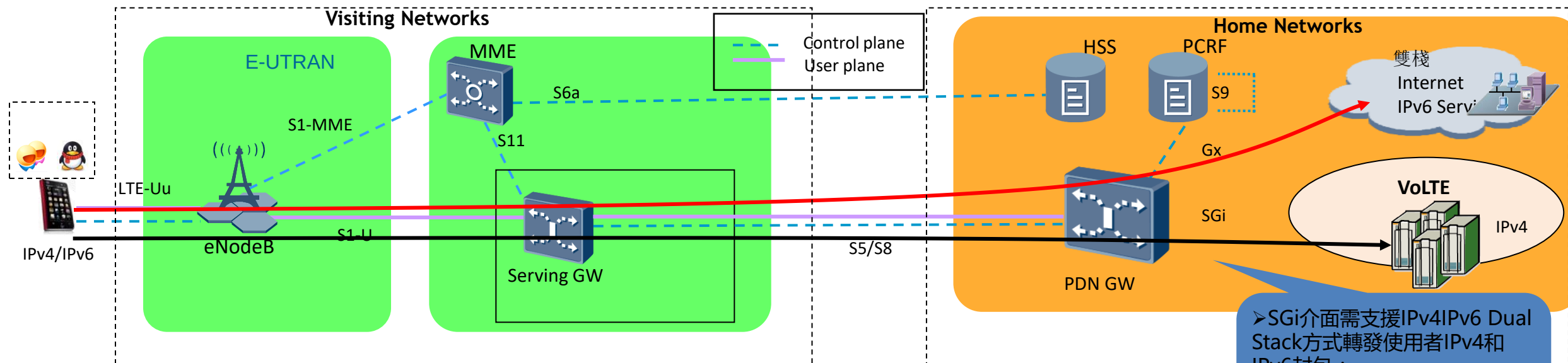
LTE Roaming Scenario for IPv6 (Visiting in v4 Tunnel)



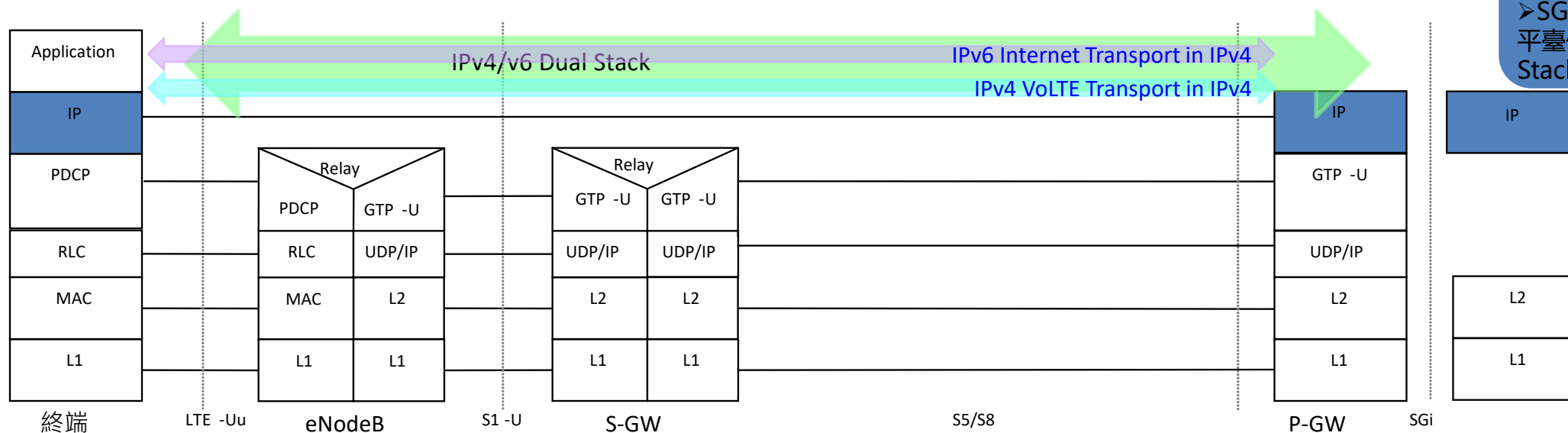
➢SGi介面需支援IPv4IPv6 Dual Stack方式轉發使用者IPv4和IPv6封包；
 ➢SGi介面需要支援同時向業務平臺傳遞用戶IPv4IPv6 Dual Stack 位址；



LTE Roaming Scenario for IPv6 (Visiting in Dual Stack)



>SGi介面需支援IPv4IPv6 Dual Stack方式轉發使用者IPv4和IPv6封包；
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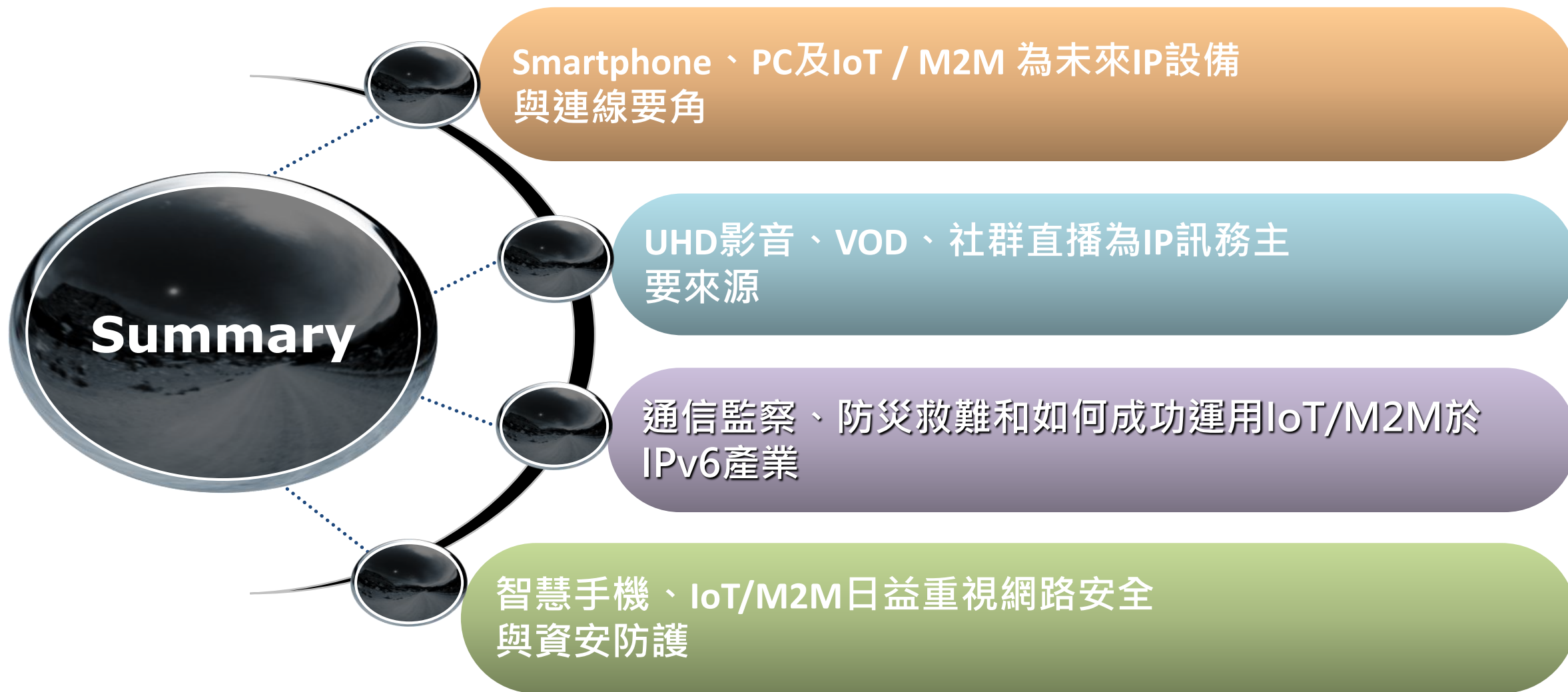
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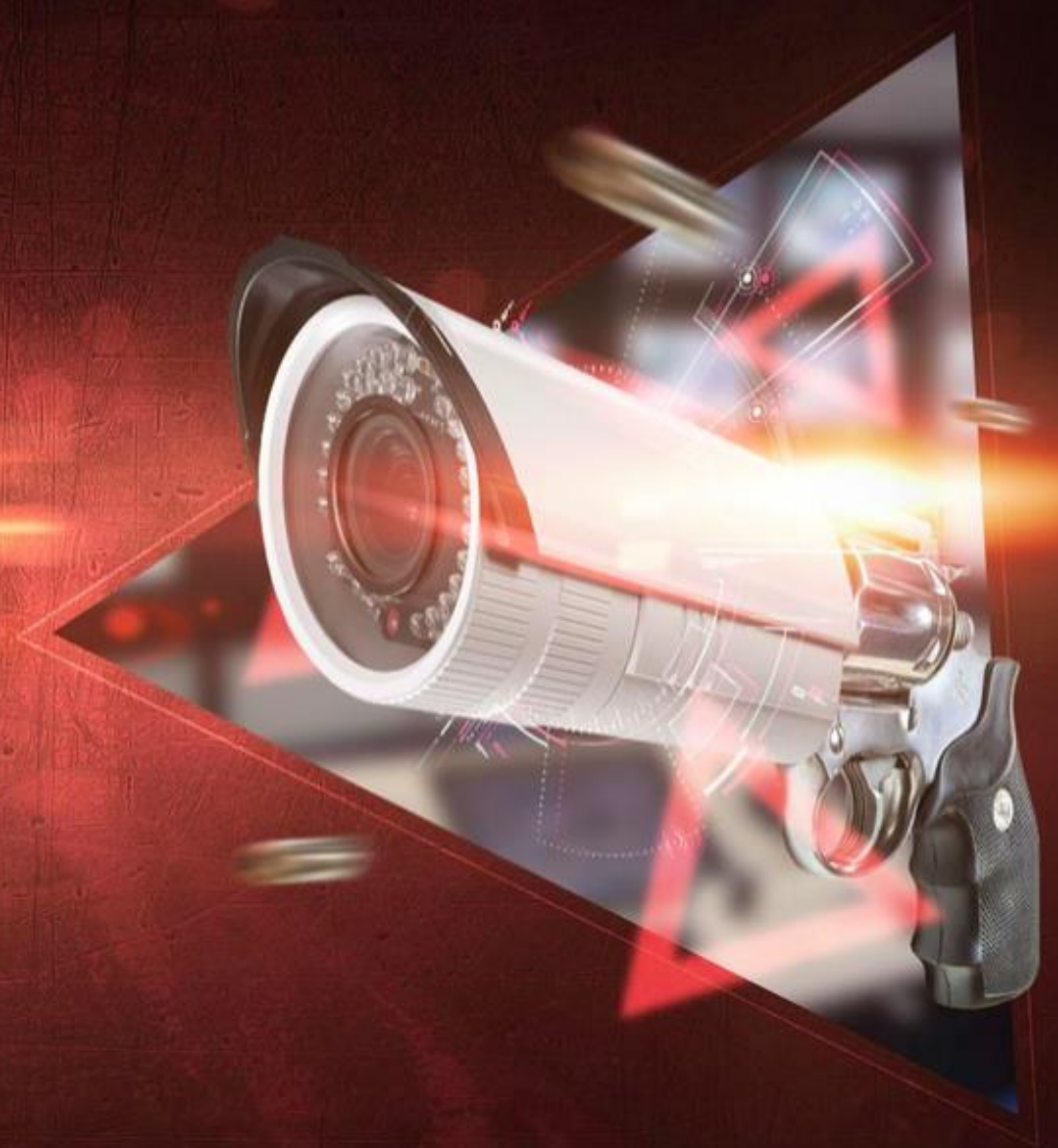
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CAMERAS UNITED IN BOTNETS ATTACKING THE INTERNET *



CARS HACKED*



Thanks