

# IPv6-enabled Public WLAN Services

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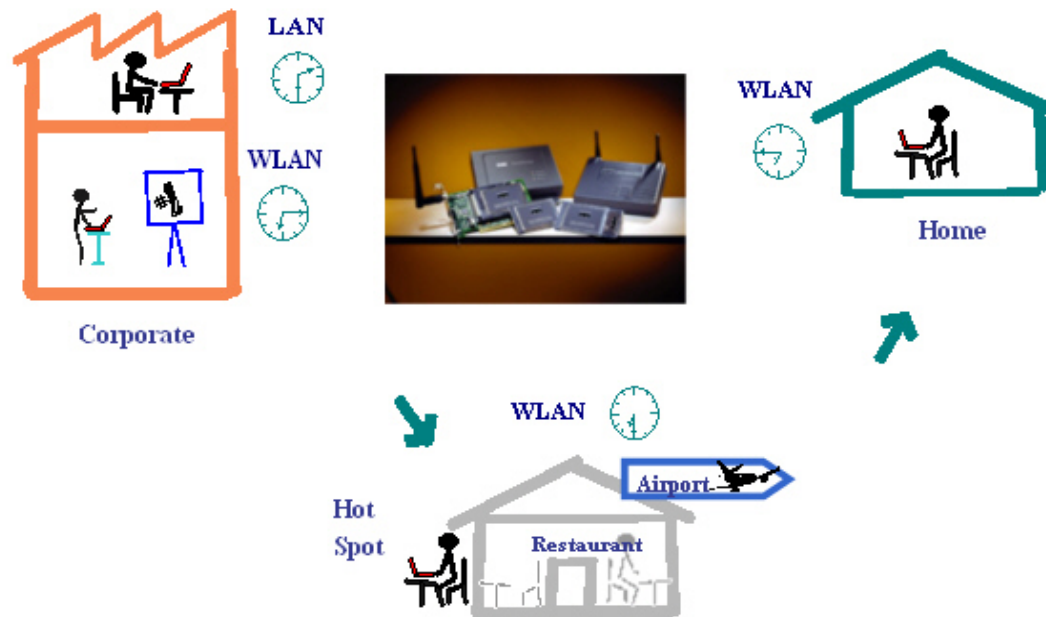
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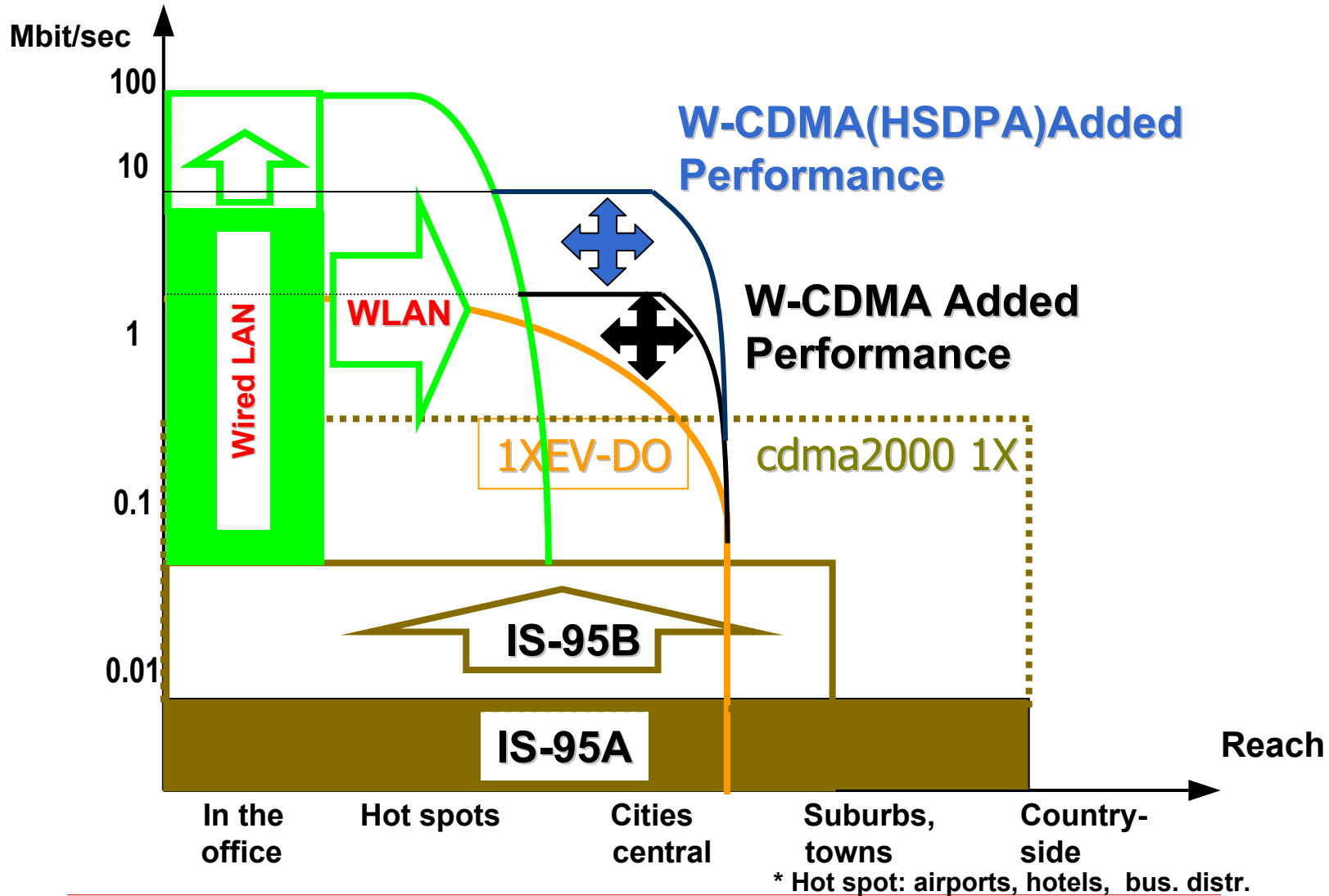
# Public WLAN - Introduction

## □ WLAN

- High Bandwidth, short-range, two-way data communications system
- Wireless LAN uses the same technology in the office, in public hotspots and at home

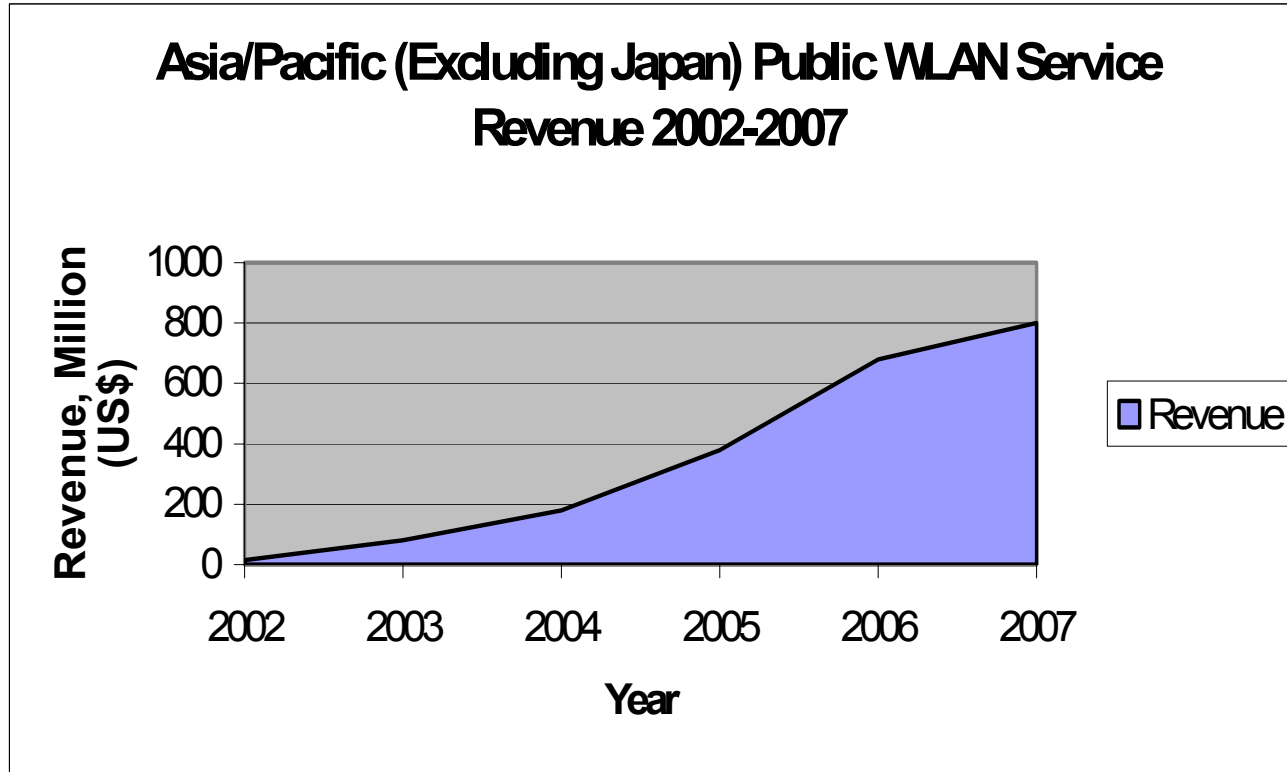


# Public WLAN - Positioning



# Public WLAN

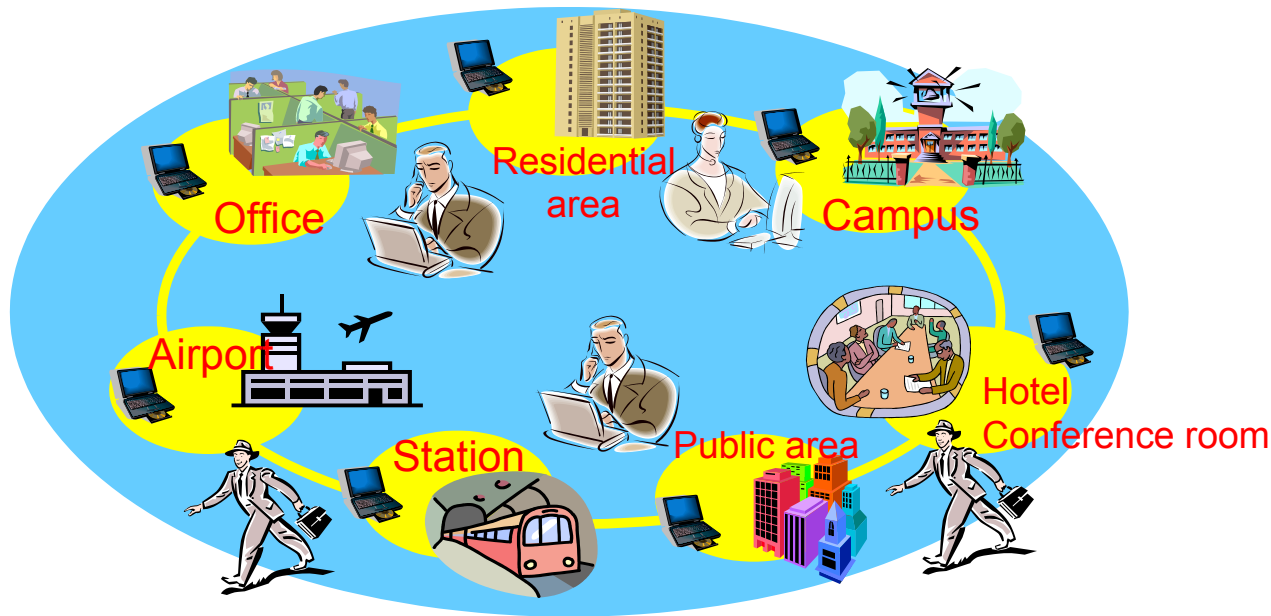
## □ Public WLAN Market



Source: IDC Asia/Pacific  
("Asia/Pacific Wireless LAN Market Forecast and Analysis 2002-2007")

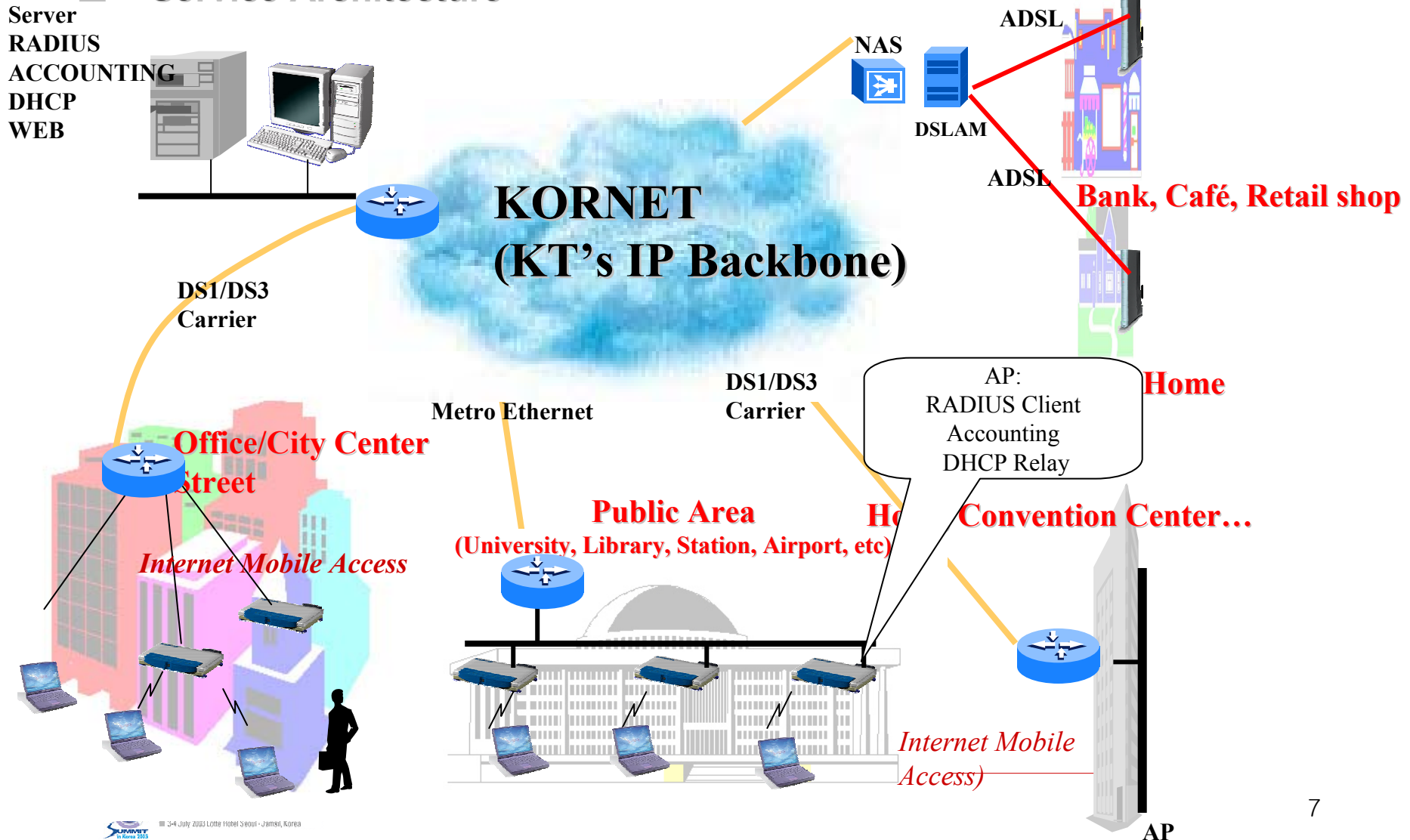
# KT NESPOT

- ❑ Internet access service based on a winning combination of Wireless LAN technology (IEEE 802.11b) and KT wireline infrastructure (xDSL, E1, DS3)
- ❑ Travelling users with notebook PCs or PDAs can access the Internet within wireless coverage area of Access Point (AP).



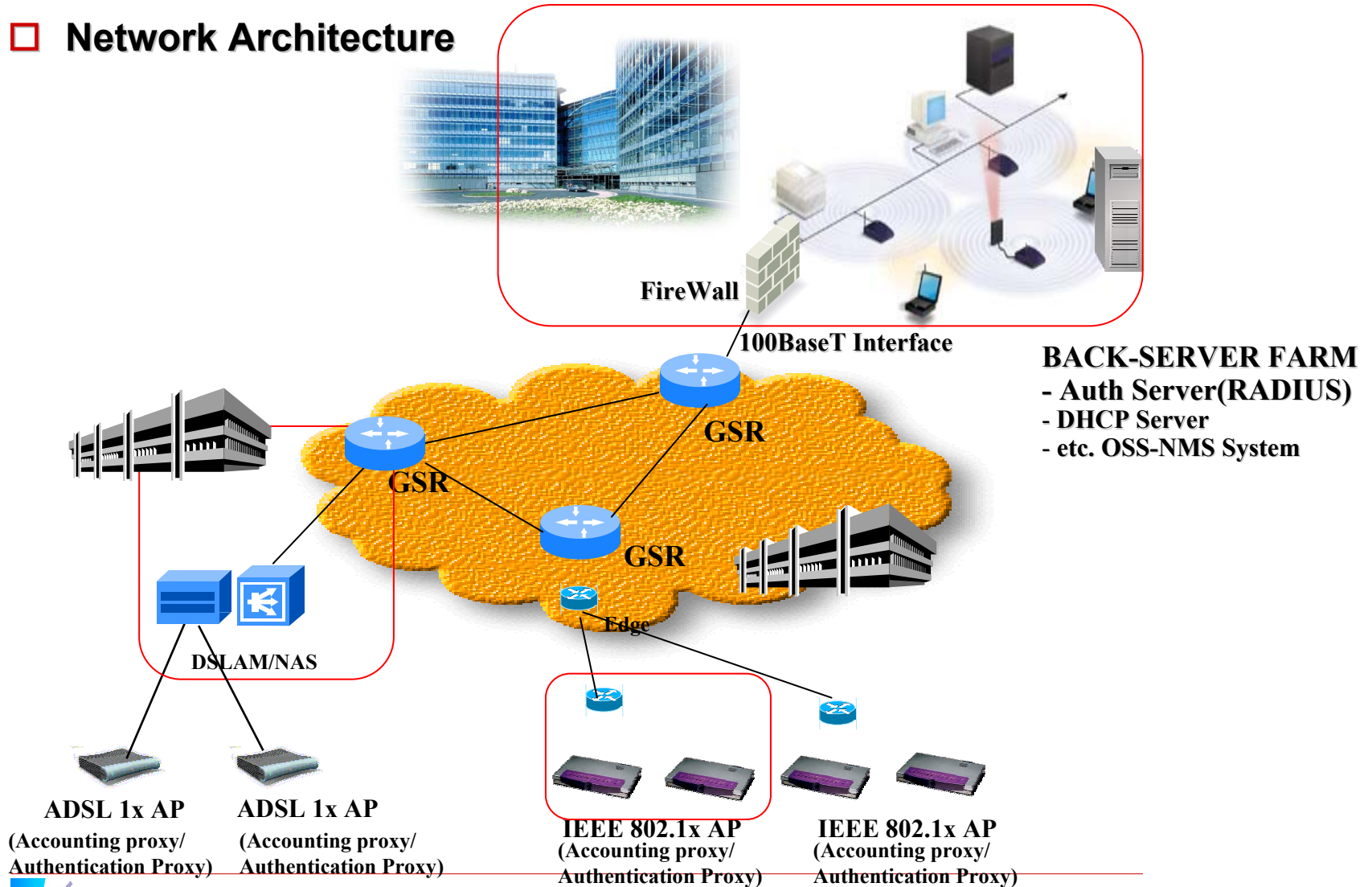
# KT NESPOT

## □ Service Architecture



# KT NESPOT

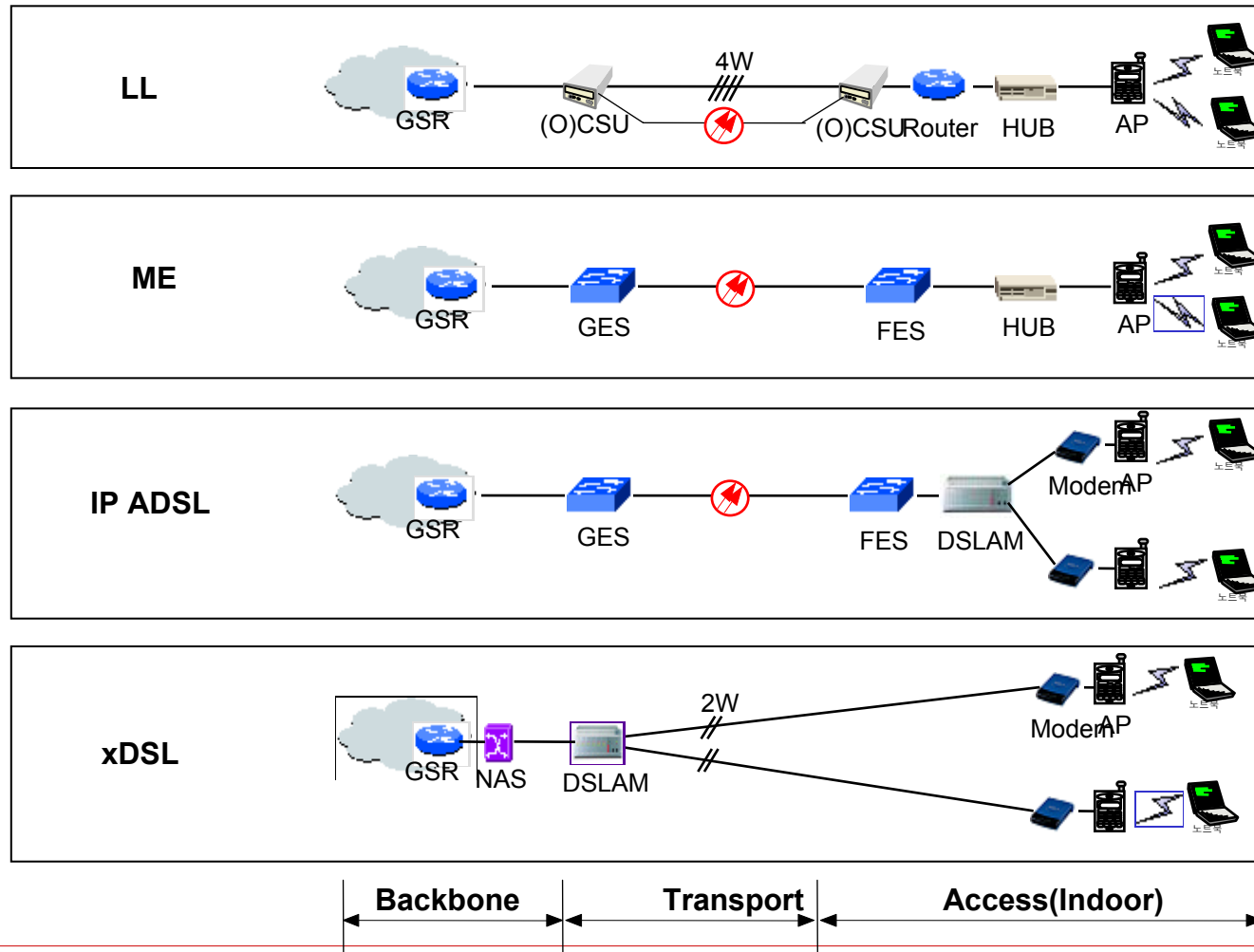
## □ Network Architecture





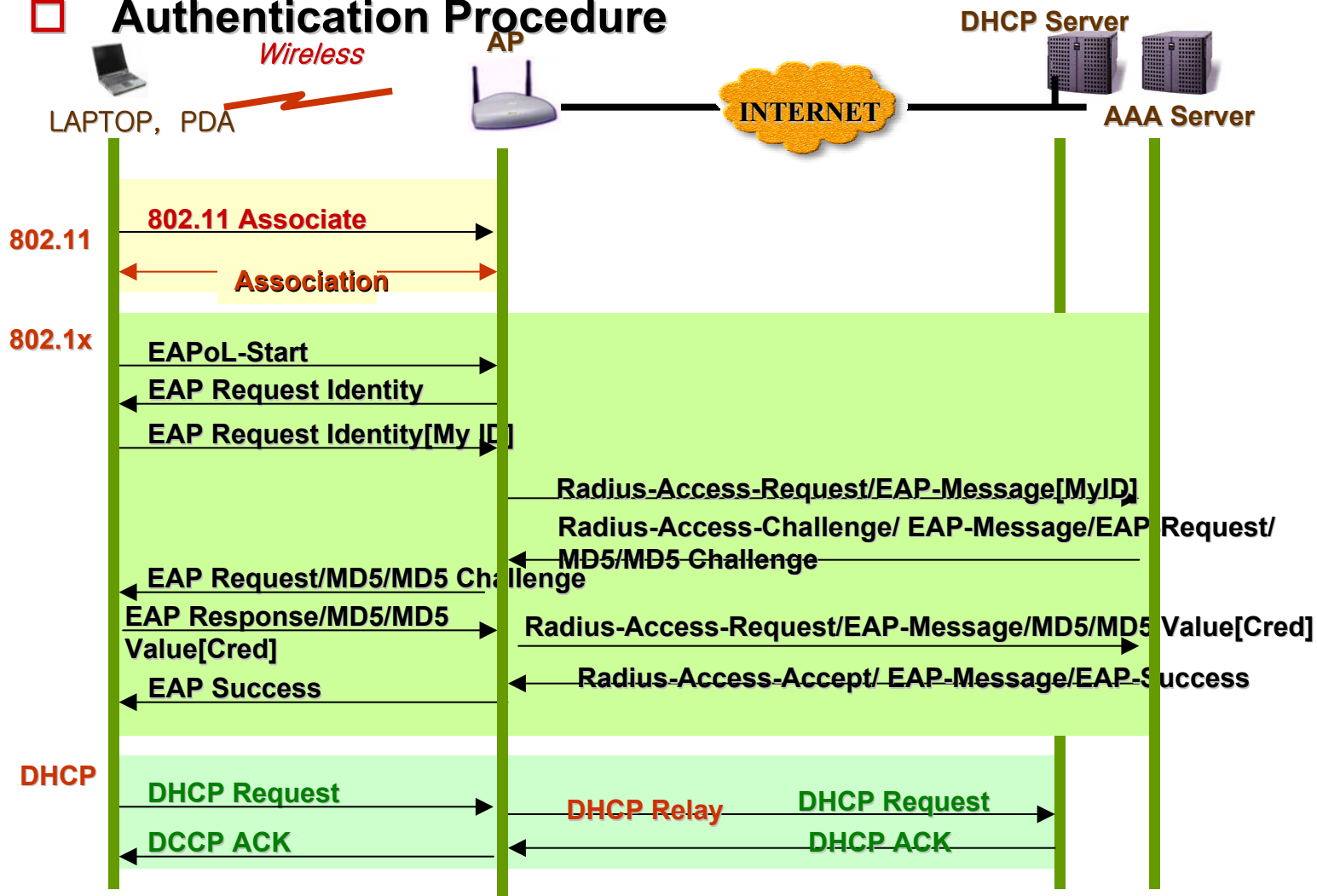
# KT NESPOT

## □ Connection Configuration



# KT NESPOT

## □ Authentication Procedure



# IP Issues in PWLAN

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- ☐ Short of IP address
- ☐ Delay & Instability of Auto Configuration
- ☐ Mobility Support

# IP Issues - Address Space

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## ☐ Short of IP address space

- maximum reservation for hotspot
  - ☐ Lack of dynamic IP space allocation(reconfiguration)
  - ☐ Require more than actual usage
- Nation wide hotspots
  - ☐ Huge number of last one mile accesses
  - ☐ Lots of Managed NE(AP, router, switch, hub, ...)
- New mobile wireless service in 2.3GHz, 5GHz
- Multi-PC home environment(default 2 user in NESPOT)
- Mobile Subscriber(Mobile IP)
- All IP

# IP Issues - Auto Configuration

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## ☐ Delay & Instability of Auto Configuration

- Delay of DHCP request/response Relay
- Possibility of IP exhaust in hotspot
- Risk of Centralized DHCP server(fault, failure, etc)

## ☐ Mobility

- Mobile IPv4
  - ☐ COA : Require many HA/FAs
  - ☐ CCOA : Require more address space
- Mobile IPv6

# IPv6 Roadmap

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- ❑ **Next Generation IPv6**
- ❑ **Phase 1(2003~2004):IPv6 Testbes**
  - Connection between 6PE(IPv6 Dual Stack Provider Edge Router)s via MPLS VPN
  - Dual Stack End User
  - IPv6 DNS Operation
  - Mobile IPv6 Terminal Trial
- ❑ **Phase 2(2005~2006): Preparation to IPv6 Commercial Service**
  - Using conventional abroad POP
  - Launching of IPv6 Commercial Service
  - Dual Stack in Access, IPv4 MPLS Tunneling in Backbone
- ❑ **Phase 3(2007~): IPv6 Commercial Network**
  - Deployment of Dual Stack Router
  - IPv6 Commercialization, propagation
  - Distribution of IPv6 VoIP Terminal
  - IPv6 Equipment replacement depending on the demand

# Barrier to IPv6

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## ☐ **NESPOT Network is not isolated**

- It is a just extension of Backbone Network
- It require backbone to be changed to IPv6

## ☐ **Operator's View**

- It is not urgent
- It is much cost
- It requires all the networks and operation systems should be changed
- There is no special application with IPv6

# Conclusion

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- ❑ **Introduction of new IP consuming services**
  - Public WLAN Service
  - Personal Handheld Internet Service in 2.3GHz
  - 4G Wireless
- ❑ **New services require IP mobility**
  - Mobile IPv4 is not complete
  - Mobile IPv6 is needed
- ❑ **Evolution to All-IP NGN**
  - Require more IP spaces
  - Require strong QoS support
  - Require Mobility
- ❑ **IPv6 will be indispensable in near future**
  - It's the issue of time



# THANKS

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