



Key features for efficient deployment of future communications technologies

April 1, 2009

Donghee Shim

I. SKT Overview

II. Future communications environments

- 1. High-Frequency/High-Data Rate/Broadband**
- 2. Multi-N/W operation**

III. Key requirements for next generation network deployment

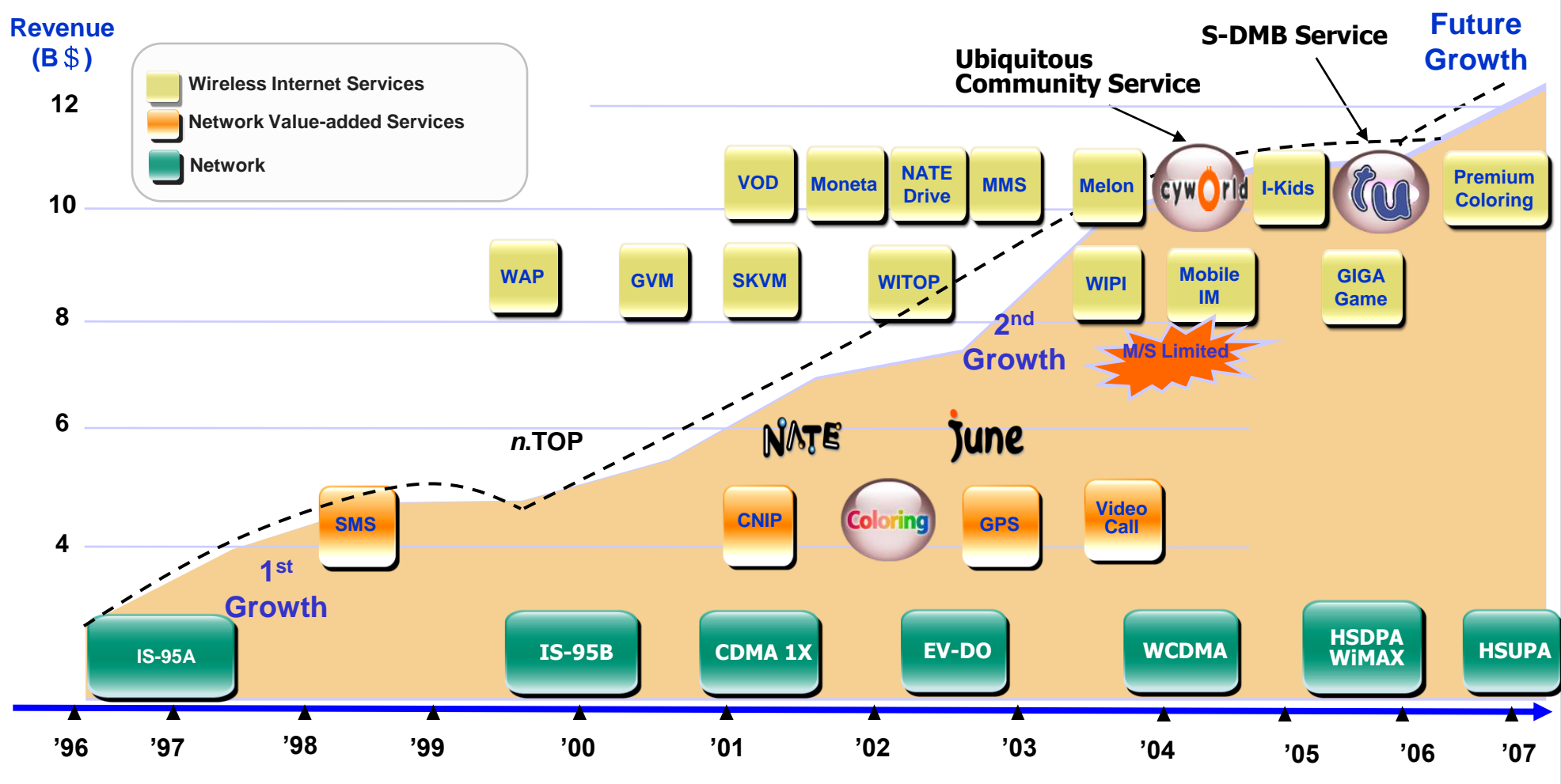
- 1. Small-cell solutions supporting various target sites**
- 2. Seamless Multi-N/W operation**
- 3. Smooth migration**

IV. Conclusion



- **Korea's first cellular service operator with over 20 years of operational experience**
- **Korea's leading wireless telecom service provider with 50.5% market share**
- **Pioneer in the commercial development and provision of high-speed wireless data and Internet services**
 - Jan 1996, Launched the world's first commercial CDMA Cellular Service
 - Feb 2002, Launched CDMA 1x EV-DO(3G) service
 - Dec 2003, Launched WCDMA service
 - May 2006, Launched the world's first commercial HSDPA service
 - May 2007, Launched HSUPA service
- **Strong financial performance with sound profitability**
 - Revenue of US\$12.1 billion as of 2007, (ARPU : 47.8\$)
 - EBITDA Margin of 36% as of 2007
- **The Top 100 Most Innovative Company**
The World's Top 100 IT Company
(Business Week, 2006)
- **The 20 Best Employers in Asia**
(Hewitt Associates, 2007)

SK Telecom has been leading the market by developing new mobile technologies and rolling out innovative mobile multimedia services.





Various convergent services help solidify market leadership while positioning the mobile phone as a 'Lifestyle Hub' for our customers.

Online & Mobile Integrated Services



Music Portal



Cinema Portal



Game Portal



Telematics



Commerce



Assurance Service



Personalized UI Service



Shopping



Social Networking Service



Multimedia Service



Subsidiaries

Online Internet Service



Satellite DMB



Online & Mobile Messaging Service



Online Blogging Service



I. SKT Overview

II. Future communications environments

- 1. High-Frequency/High-Data Rate/Broadband**
- 2. Multi-N/W operation**

III. Key requirements for next generation network deployment

- 1. Small-cell solutions supporting various target sites**
- 2. Seamless Multi-N/W operation**
- 3. Smooth migration**

IV. Conclusion



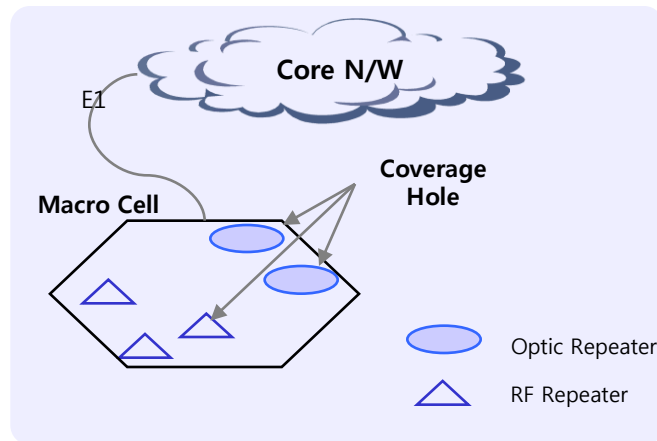
Paradigm shift from Macro-Cell N/W to Small-Cell N/W is expected due to High-speed/High-Frequency/Broadband trends.

- CAPEX/OPEX increase gradually due to Broadband/High-Frequency trends.

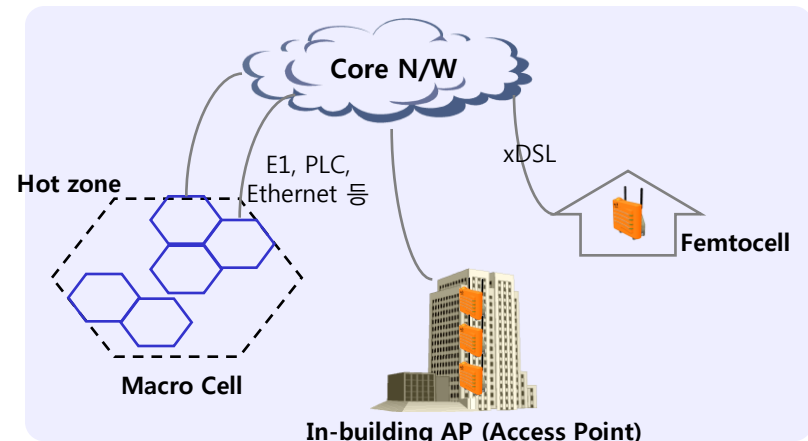
	CDMA	WCDMA	WiMAX	LTE
Target Service	Voice, Low-speed Data		Mid-speed Data	High-speed Data
Wireless Tech.	CDMA	WCDMA	MIMO/OFDM	MIMO/OFDM
Launching	1996	2003	2006	Not yet
Bandwidth	1.25MHz	5MHz	9MHz	10, 20 MHz
Frequency	800MHz	2.1GHz	2.3GHz	2.6GHz, Other
CAPEX/OPEX	Low	Mid	High	High

(SK Telecom N/W Portfolio)

- Various small cell solutions for capacity centric deployment will be popular



Current Cellular N/W

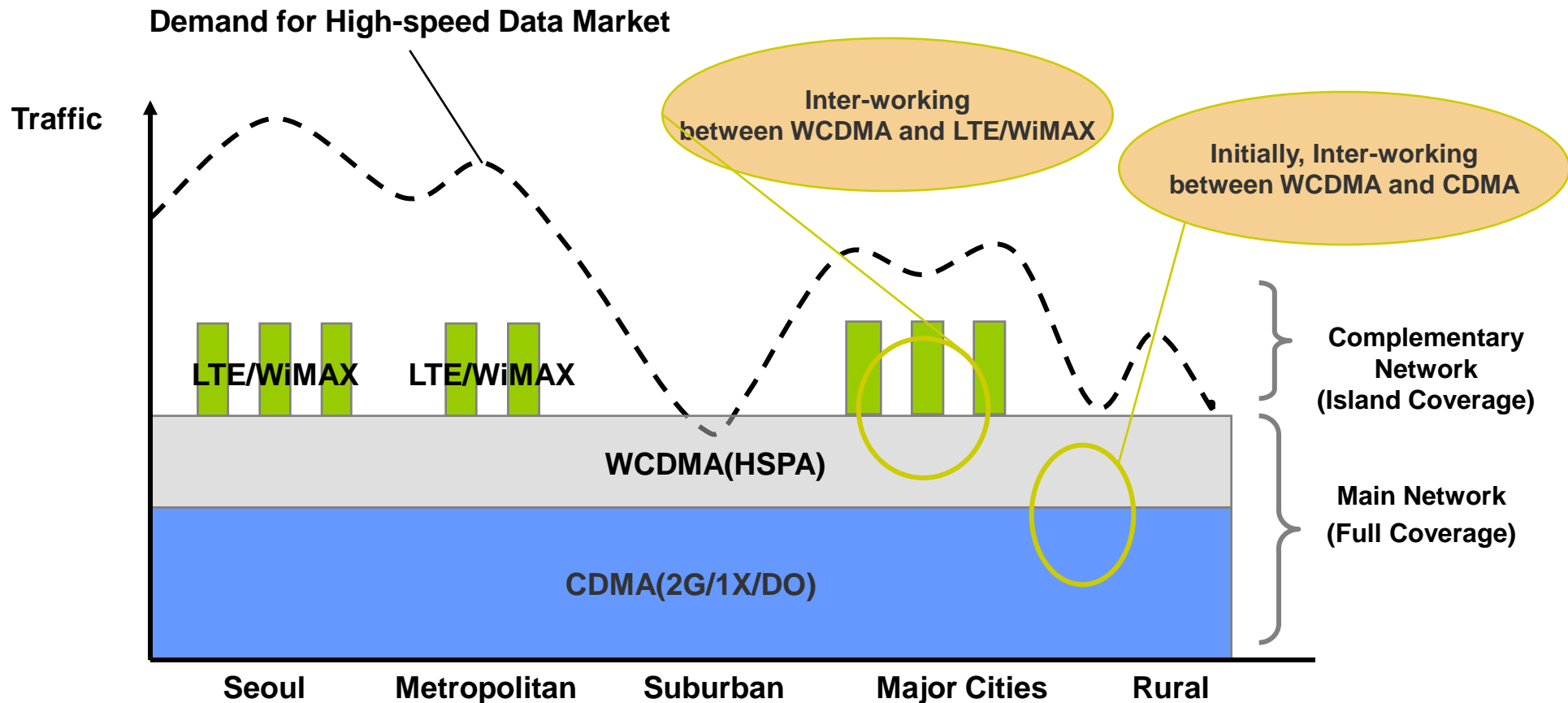


In-building AP (Access Point)

Next Generation N/W



Due to the flexible network deployment depending on traffic volume, Multi-N/W consisting of WCDMA/HSPA+/LTE will be dominant.



I. SKT Overview

II. Future communications environments

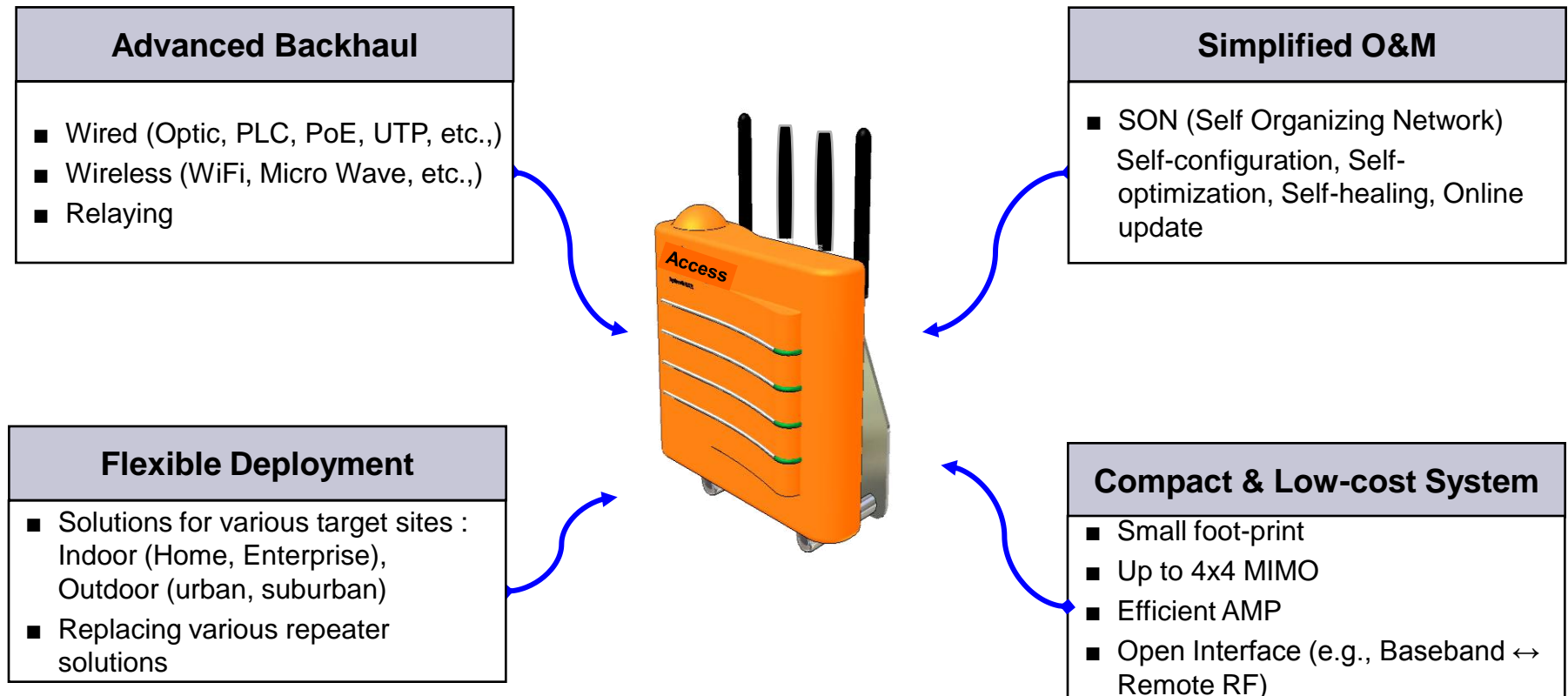
- 1. High-Frequency/High-Data Rate/Broadband**
- 2. Multi-N/W operation**

III. Key requirements for next generation network deployment

- 1. Small-cell solutions supporting various target sites**
- 2. Seamless Multi-N/W operation**
- 3. Smooth migration**

IV. Conclusion

For efficient capacity centric deployment, next generation small-cell solutions are expected to support the following features : Advanced Backhaul, Simplified O&M, Compactness, Open Interface, Flexible Deployment,



PLC : Power Line Communications, PoE : Power over Ethernet, UTP : Unshielded Twist Pair

For seamless service provision and N/W efficiency in Multi-N/W environment, Seamless Handover and N/W Selection/Redirection should be supported.

Seamless Handover

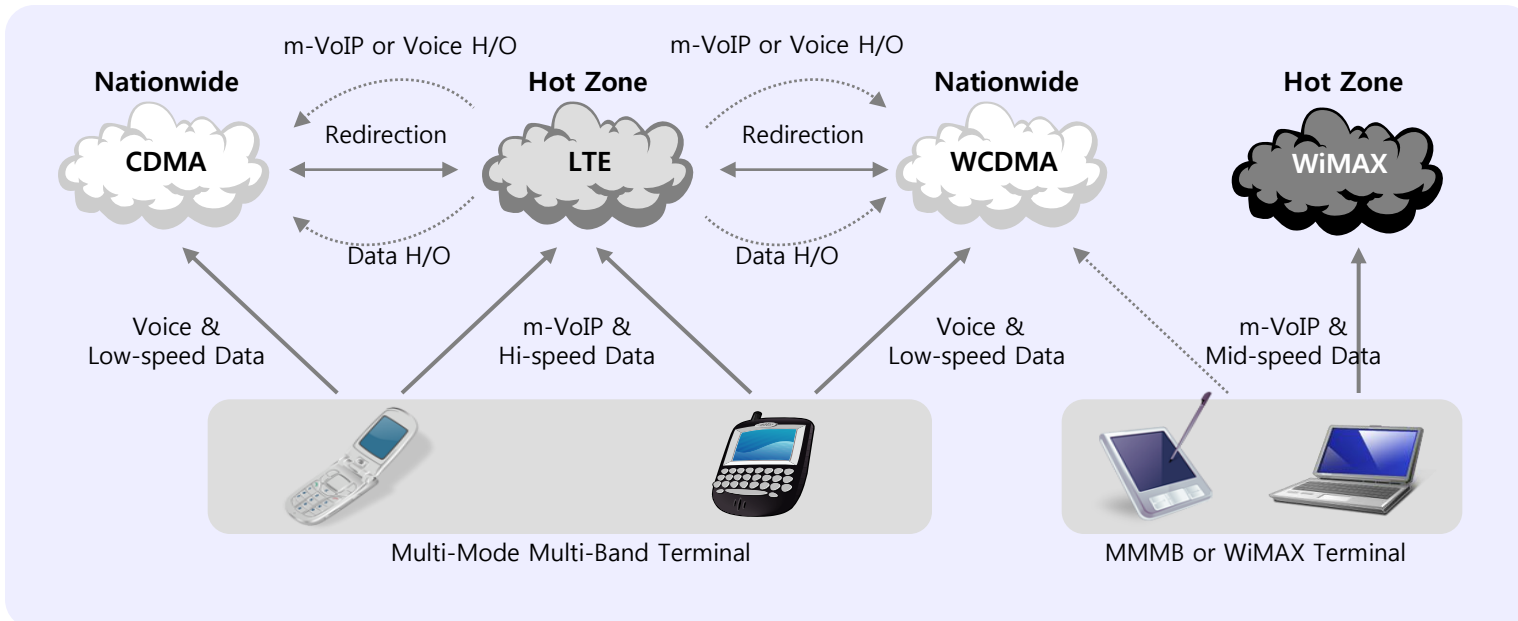
Supporting continuity and mobility of voice/data calls

N/W Selection

Selecting serving N/W based on customer profiles, operator policy and terminal types

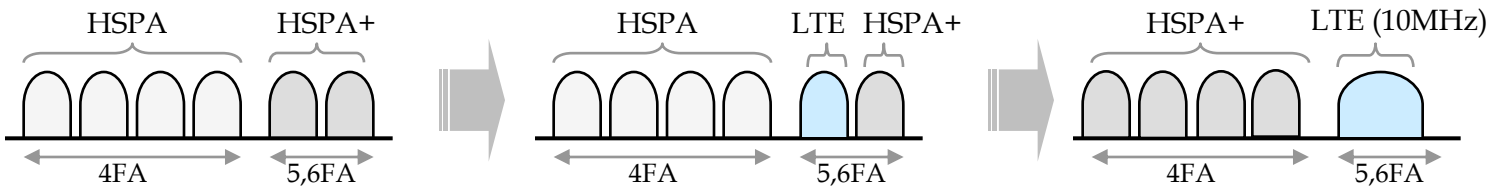
N/W Redirection

Redirecting requested calls into other N/W (e.g., CS Fallback)

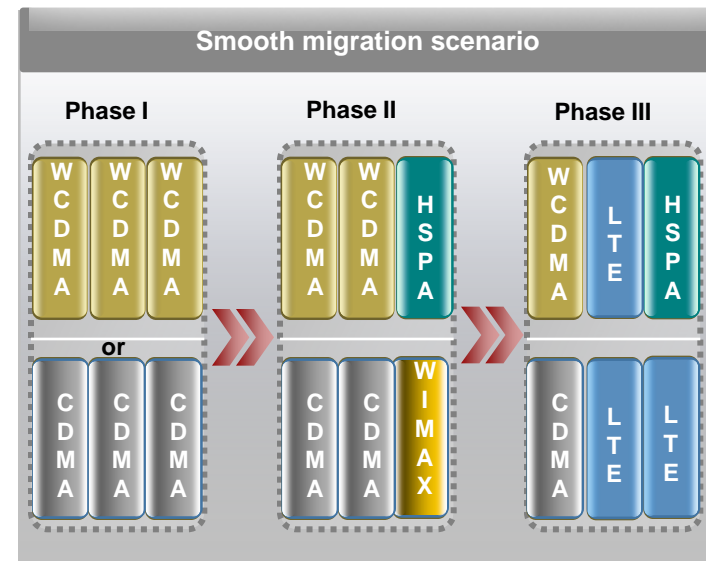
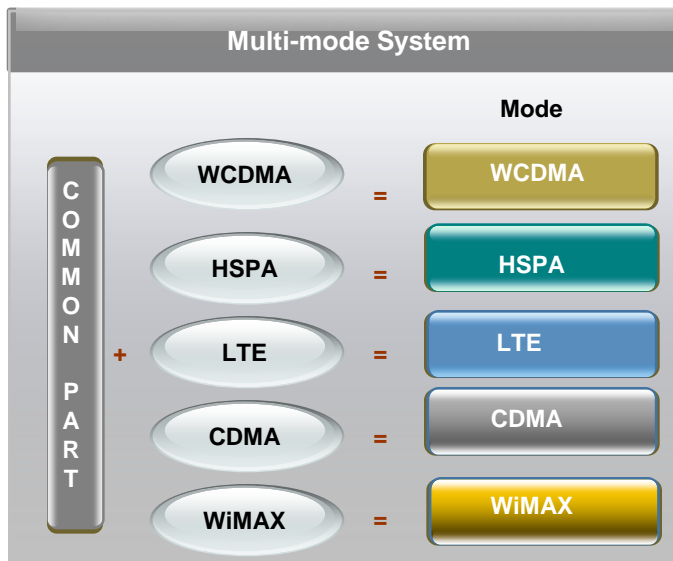


Access N/W will migrate gradually with technology evolution. For the smooth migration, NGMN system should support Multi-mode operation with low cost and high performance.

- Example scenario of LTE migration



- Multi-mode System for smooth migration (※ two options (1) SDR (2) H/W replacement)



IV. Conclusion



Future communications environment is compelling N/W deployment paradigm shift, which requires new systems supporting Advanced Backhaul, Multi-N/W operation, Smooth Migration, and so on.

Tech. Environments

Tech. Trend

Broadband/High-speed
/High-Frequency

Commercialization of
Multi-Antenna Solutions

Capacity centric
N/W deployment

Multi-Standard emerging

Issues

Covering weak-spot

Lowering CAPEX/OPEX

Providing In-building QoS

Supporting Multi-N/W
operation

Accommodating
Multi-Standard

Tech. Requirements

Capacity centric Solutions for various target sites

Advanced backhaul
(e.g., Ethernet, PLC, Micro-Wave, Relaying)

Self Configuration/Optimization

Seamless Multi-N/W operation
(Inter-RAT Handover, N/W Selection/Redirection)

Smooth migration
(Multi-Mode System)



THANK YOU

