Challenges and opportunities in Next Generation Mobile Multimedia Services

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Standards Roadmap, Vision,

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Vcase, immersive media, etc.

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SK Telecom Key Milestones

- SK Telecom has more than 27M(15M for LTE) subscribers, taking 50% M/S in Korea

Mobile Service Market Share in Korea

LTE Market Share in Korea

※ Reference: (Apl. 2014, Ministry of Science, ICT and Future Planning)

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SK Telecom's View on 5G : Standards Roadmap

- **Direction and expected timeline of evolution to 5G**

※ Reference: (2014, SK Telecom 5G White Paper)

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SK Telecom's View on 5G : Requirements

• In order to define 5G network, we firstly have to derive 5G requirements considering all the aspects in telecommunication area. SKT classified the key requirements in 5 domains.

User Perspective

- ms Latency & Seamless Service
- Anywhere 1Gbps/User
- New Contents & U/I Experience
- Managed QoS
- Low Battery Consumption

Perfomance Perspective

- Ultra High Capacity (x1000) (Peak Data Rate>50Gbps/cell)
- Massive Connectivity (IoT)
- 4A Connectivity (Anytime, Anywhere, Anyone, Anything)

Management Perspective

- Energy-efficient Infrastructure
- TCO Reduction
- Flexible Configuration/Mgmt. (Load/Resource Balancing)

Architecture Perspective

- Flat Structure/High Scalability
- S/W-based Flexibility & Agility (Ease of Innovation)
- Analytics-based NI/BI
- Network-as-a-Service

Operation Perspective

- High Reliability & Security
- Automatic Optimization & Recovery
- E2E QoE Control

※ Reference: (2014, SK Telecom 5G White Paper)

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SK Telecom's View on 5G : Vision

• SK Telecom has led the advancement of the telecommunication over 30 years so far, and we will lead the future evolution to '5G Connected Society' through I.C.T. strategy.

5G Key requirements and 5 Great Values

※ Reference: (2014, SK Telecom 5G White Paper)

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SK Telecom SK Telecom's LTE/LTE-A : Services (4G)

- SK Telecom has more than 27M(15M for LTE) subscribers, taking 50% M/S in Korea

tv mobile

- **Btv Mobile is SKT's Mobile IPTV service on LTE. Full-HD streaming is available on LTE-A commercialized in July, 2013. UHD 2014.**

UHD
Ultra High Definition

HD Voice

- **Voice bandwidth : 2.2 times more than 3G**
- **Call setup time : 20 times more than 3G**
- **MOS : 4.0 (3G : 3.54)**

HD Audio

MelOn

flac
free lossless audio codec

- **FLAC(Free Lossless Audio Codec) technology (lossless compression) available with LTE-A**

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SK Telecom's Contents Usage (LTE/LTE-A)

- Challenges

ARPU of Network Op.

OTT revenue forecast

※ Reference: (2016, netmanias, 2014, KCC)

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SK Telecom’s preparation for 5G : Media Platform

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Personal Broadcasting in Korea

Subscribers of
Personal Broadcast Service

(자료원:증권사자료)

(자료원:TNS 코리아, 2015.5월기준)

Monthly Usage of Personal Broadcast in Korea

- Personal Game Broadcasting
- Food Broadcasting
- Knowledge Sharing
- Music video Sharing, etc

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SK Telecom's View on 5G : Innovative Service

5G innovative services will provide the new user experience anytime, anywhere.

- Ultra high quality streaming (UHD), Virtual/Augmented Reality, Hyper Cloud
- Immersive communication : Holographic, Tele-presence → Overcome the space restriction

Multi-Angle UHD Streaming

AR / VR / 360

Hyper Cloud

Holographic Comm.

Remote Healthcare & Tele-presence

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Conclusion: Direction for 5G Multimedia Delivery

- Low latency high quality and support various devices with no constraint of user environments

Low Latency for Multimedia Streaming [~1 sec]

Beyond Ultra High Definition Quality [4K~]

Support Various Devices
[Smart Phone, Tablet, TV, Desktop, etc.]

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