Global Multimedia Mobility, past, present, future

- Towards Mobile Multimedia -

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Evolution toward IMT2000 and Beyond

Past

Present

Future

1G
FDMA

2G
TDMA

IMT-2000
(3G)
CDMA

Beyond IMT-2000

Voice Oriented

Voice
Low Speed Data
Up to 64 kbps

Voice
High Speed Data
Up to 384k/2M bps

Voice
High Speed Data
Up to 20M bps
Mobility - Past

Expansion of service area by one number
Expansion of service area by one number

(1) Paging within one radio zone
Expansion of service area by one number

1. Paging within one radio zone
2. Location Registration within one network
Expansion of service area by one number

(1) Paging within one radio zone

(2) Location Registration within one network

(3) Roaming among networks
Mobility - Present

Expansion to Service Portability (VHE)
VHE (Virtual Home Environment): Service portability between networks

User can enjoy the same services of home network while roaming

Mobility + Service portability
Mobility to the Future

Flexible and High Efficient Mobility Management

Much more freedom for Mobility
Requirements for Beyond IMT-2000

(2) Advanced Mobility Management

Unique Mobility Management for All Mobile Terminals

Diversified, Flexible and High Efficient Mobility Management

**Mobile Telecommunication**
- Location Registration (HLR-VLR)
- Paging, Handover

**Internet**
- Mobile IP (HA-FA)
- Cellular IP, Hawaii

**Mobility Control Layer & Transport (Routing) Layer**
- Separated

Unified
Study on Location Management

2G / 3G (unique)

diversified

Diversified area configuration dependent on moving characteristics

Diversified area design suitable for geographical structure

Concatenation for many terminals moving as a group
(a) Conventional location registration

Vehicle registers location for all mobile terminals.

(b) Concatenated location registration

Mobile terminals register locations individually.
**Requirements for Beyond IMT-2000**
- Much more freedom for Mobility -

**Contents**
- Large screen & high sound quality
- Small screen & low sound quality
- Small screen & text
- Large screen & high sound quality

**Device Seamless**
- Video Conf. Client
- Visual Phone+Headset + pen
- Visual Phone+TV

**NW Seamless**
- ad-hoc NW
- WLAN
- Cellular
- WLAN

Remote Controller

Room indoor outdoor branch office
Seamless service support

Service support layer

*Instruction of media conversion*

(1) Identification of service environment class “Vehicle” by location information

(2) Media conversion from Video to Text

Location update

IP-based transport NW

Applications

News Video

Location Information Server

Media Converter

IP Radio

Office

News Video

News Text

Text for comments

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