

IPTV-Oriented Service Blending

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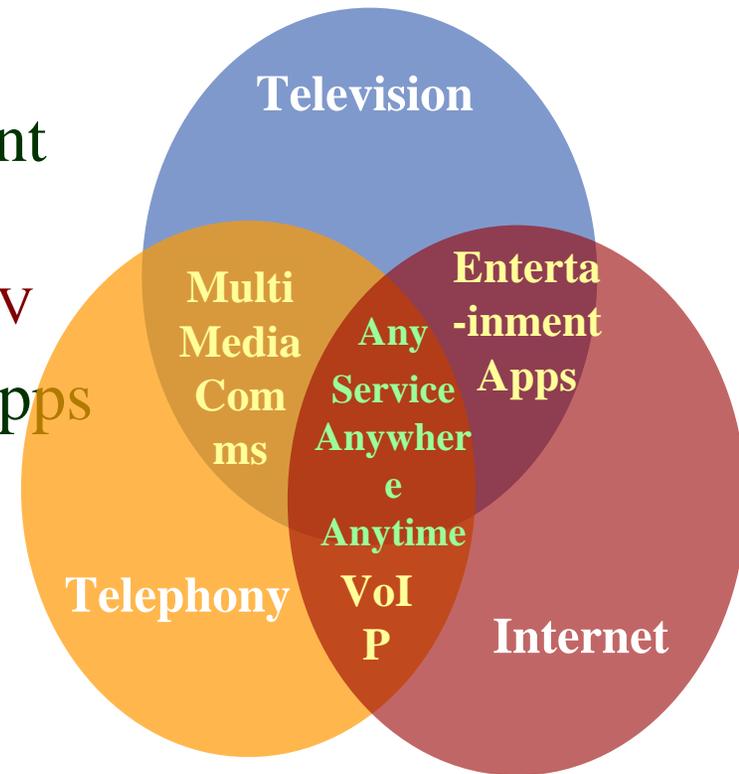
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- ❑ IPTV Over NGN
- ❑ Service Blending
- ❑ IMS Enabled IPTV-Oriented Service Blending System
- ❑ Concluding Remarks

Convergence of Broadband Services

- ❑ 2002-2005: VoIP
- ❑ 2005-2006: Integrated IPTV Solution
 - ❖ Personalized and customized Bundles
 - ❖ Internet & Gaming Integration
 - ❖ MSO Competitive Solution
- ❑ 2006-2007: Enhanced Entertainment Video
 - ❖ Integrated MM Communications & IPTV
- ❑ 2007-2008: NGN Video & MM Apps
 - ❖ Any Service, anywhere, anytime
 - ❖ Service Blending
 - ❖ Multi-Device
 - ❖ Single Subscriber



IPTV Functionality: A Generational View

IPTV Generation	Features
<i>Basic</i> <i>(First Generation)</i>	<input type="checkbox"/> Basic TV and VoD <input type="checkbox"/> Walled Garden – basic portal <input type="checkbox"/> Support basic MPEG-2 decoder STB...
<i>Intermediate</i> <i>(Second Generation)</i>	<input type="checkbox"/> PVR (DVR) <input type="checkbox"/> Support to MPEG-4 & HDTV...
<i>Advanced</i> <i>(Third Generation)</i>	<input type="checkbox"/> Architecture for scalability <input type="checkbox"/> Personalized TV experience...
<i>Convergence</i> <i>(Fourth Generation)</i>	Support convergence functionality

Source: "IPTV Middleware Ranking Report", MRG, Inc., 2007

IPTV Applications



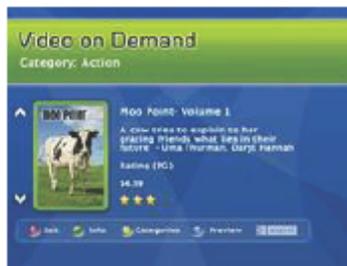
EPG

- Fast Scrolling
- Grid Based or Single Channel
- Now/Next



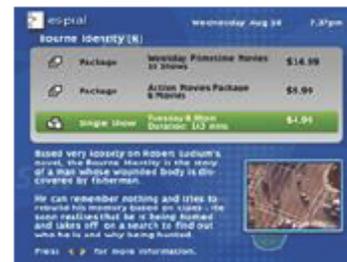
PORTAL

- Walled Garden
- Preferences
- News
- Weather



VOD/ TSTV

- Movie Selection
- Movie Info
- Movie Preview
- Time-Shift TV



PPV

- PPV Selection
- PPV Info
- PPV Preview
- PPV Packages



SETTINGS

- Main Menu
- System Setup
- User Profile
- Audio/Video Setup

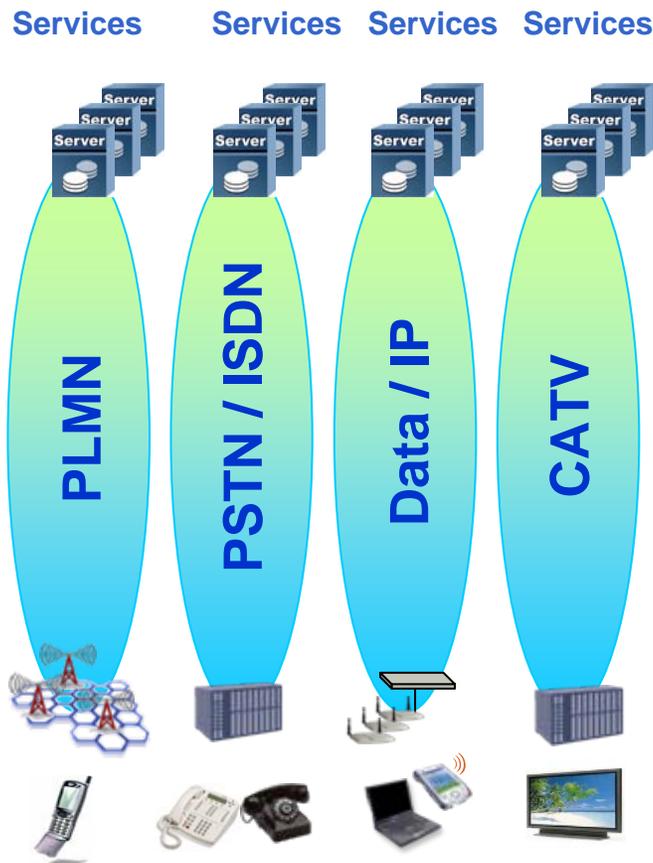


DVR/ SOTV

- Pause Live TV
- Conflict Resolution
- EPG Integration
- Start-Over TV

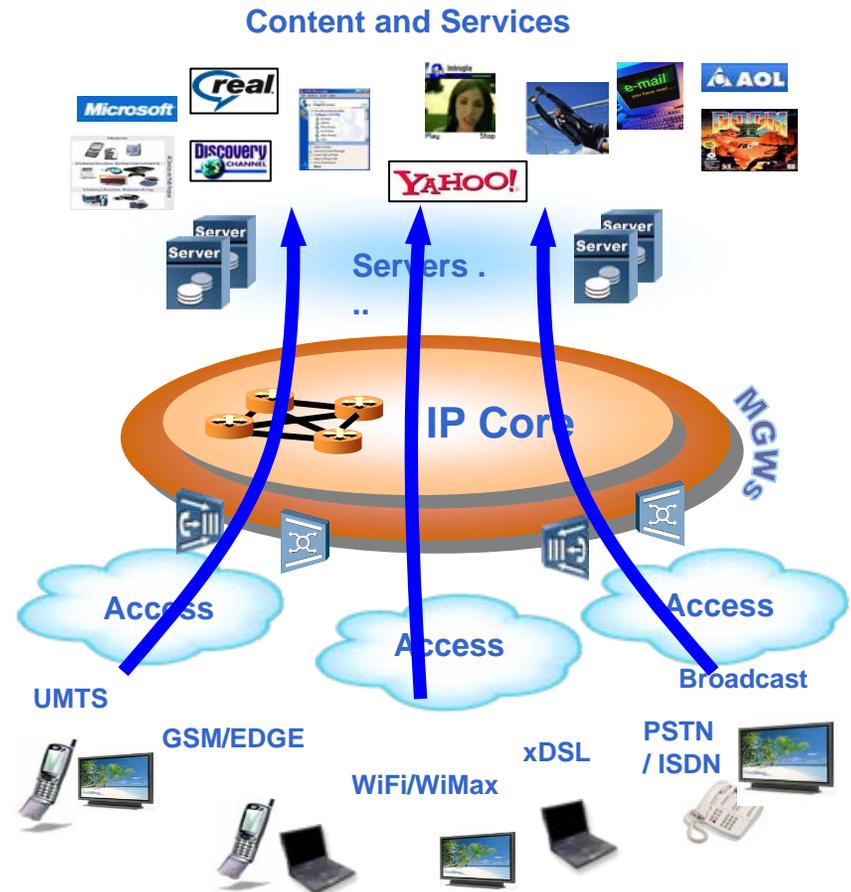
NGN for Service Convergence

Before NGN
“Stovepipe” service model

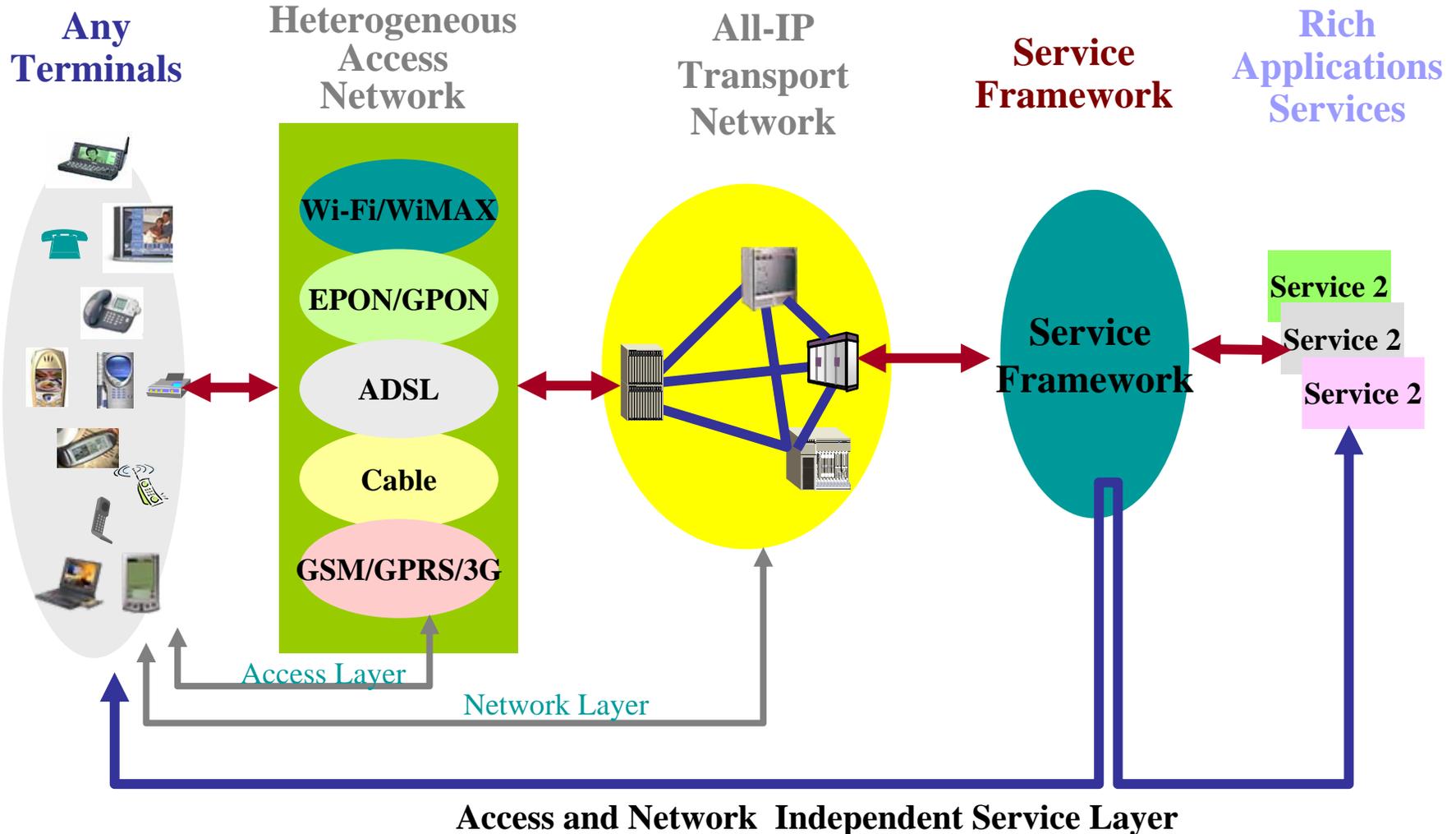


Dedicated technologies – duplicated functions

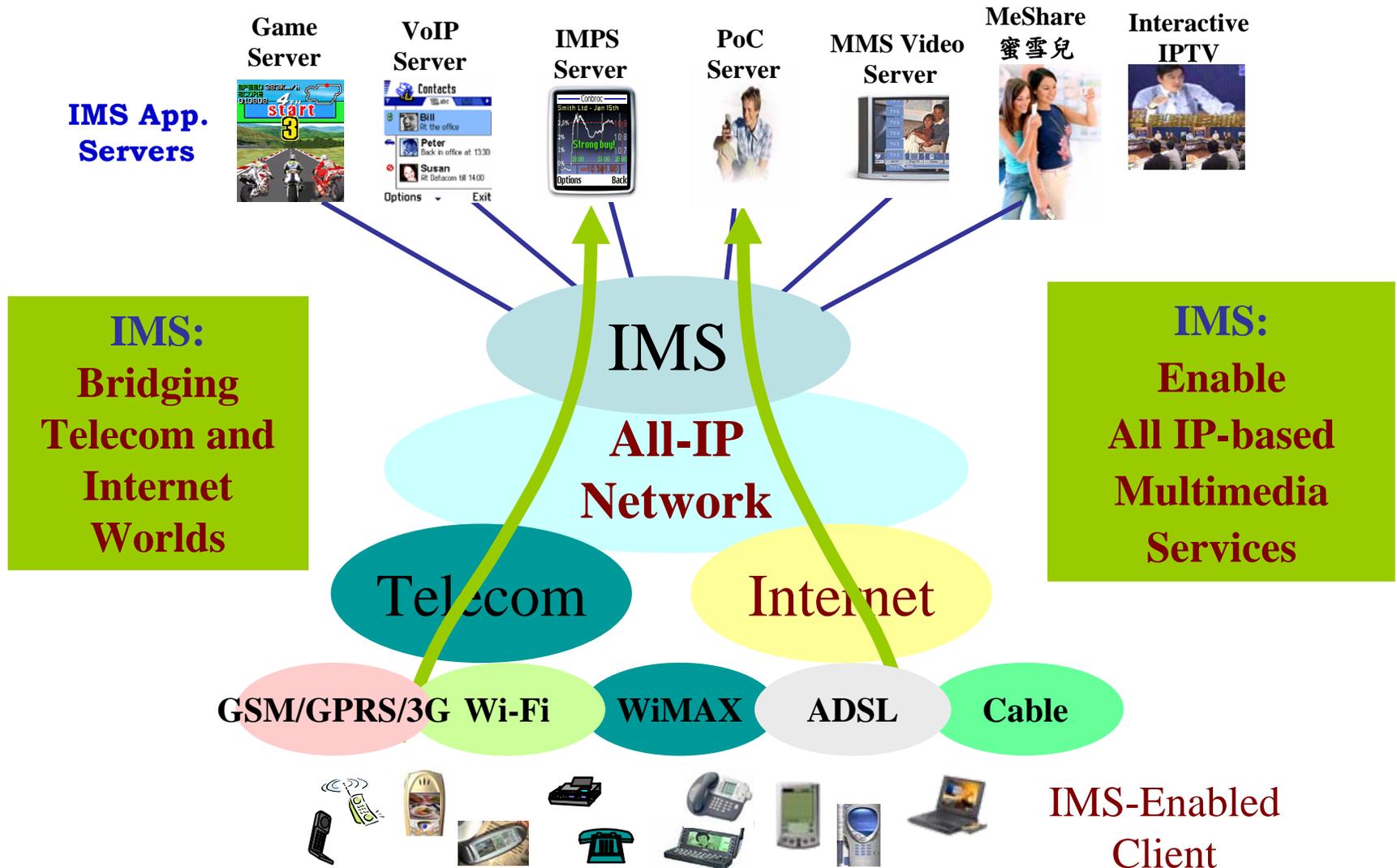
NGN promises
“simplified” service model



NGN System Architecture



IP Multimedia Subsystem (IMS)

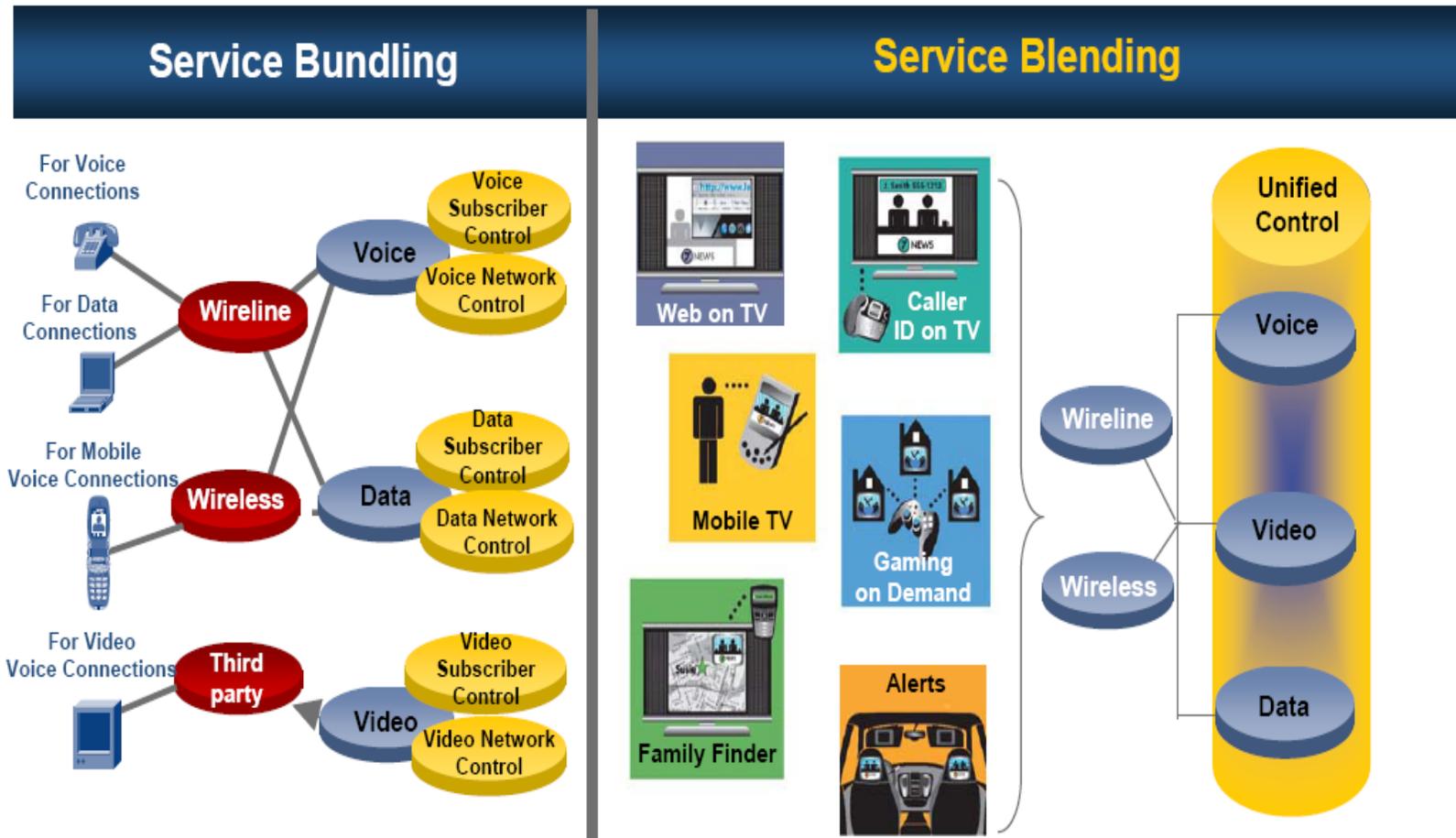


IMS:
Bridging
Telecom and
Internet
Worlds

IMS:
Enable
All IP-based
Multimedia
Services

Service Bundling vs. Service Blending

- Service Blending enables different services to control one another, providing new services



Service Blending

□ A New Service by

- ❖ Integrating Multiple Independent Services Together

- Service Feature Interaction

- ❖ One Services, Not Multiple Services

□ Examples

- ❖ TV-Phone

- TV → Caller ID

TV-Phone Service

□ Digital TV + (Video) Phone + IPTV + IM:

❖ Digital TV (Regular TV)

- TV, Mute, Suspend, Record, Resume, ...

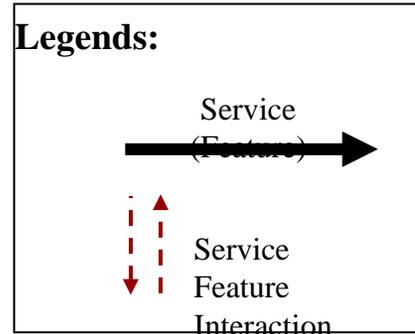
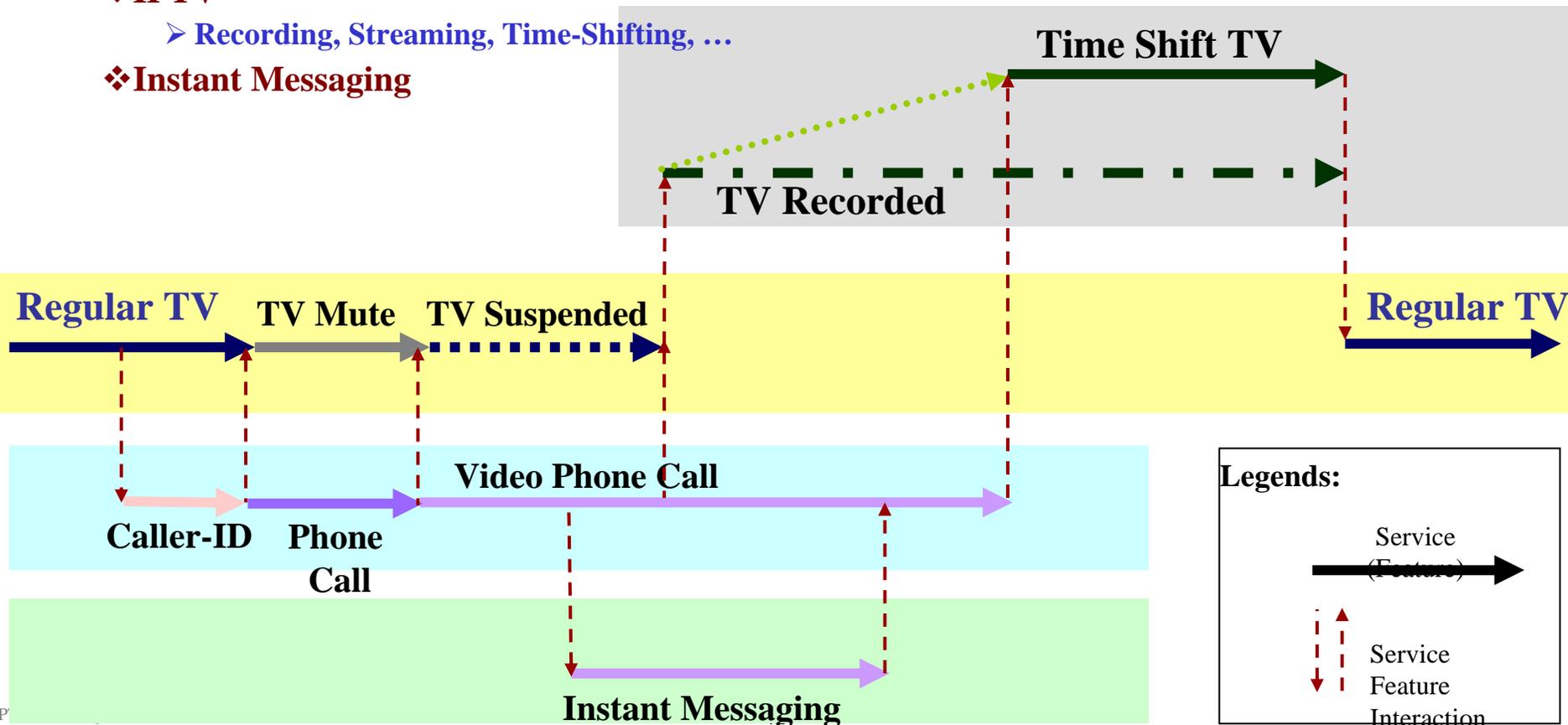
❖ (Video) Phone

- Caller-ID, POTS/VoIP Phone, Video Phone

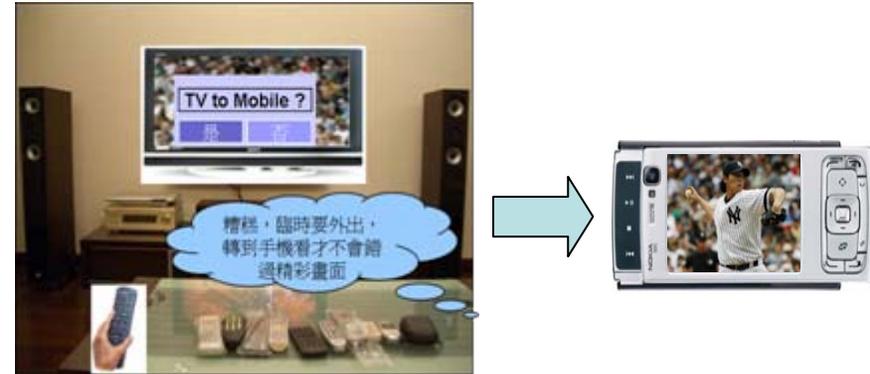
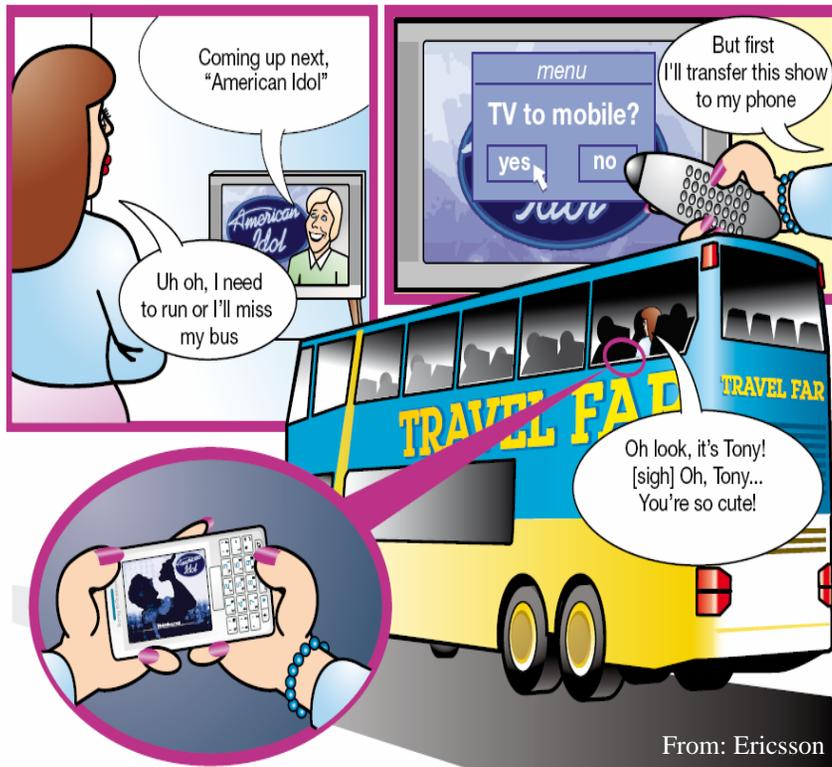
❖ IPTV

- Recording, Streaming, Time-Shifting, ...

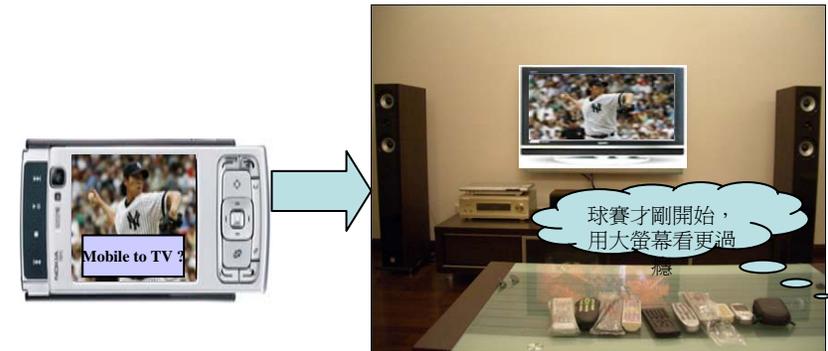
❖ Instant Messaging



Service Blending --- Follow-Me TV

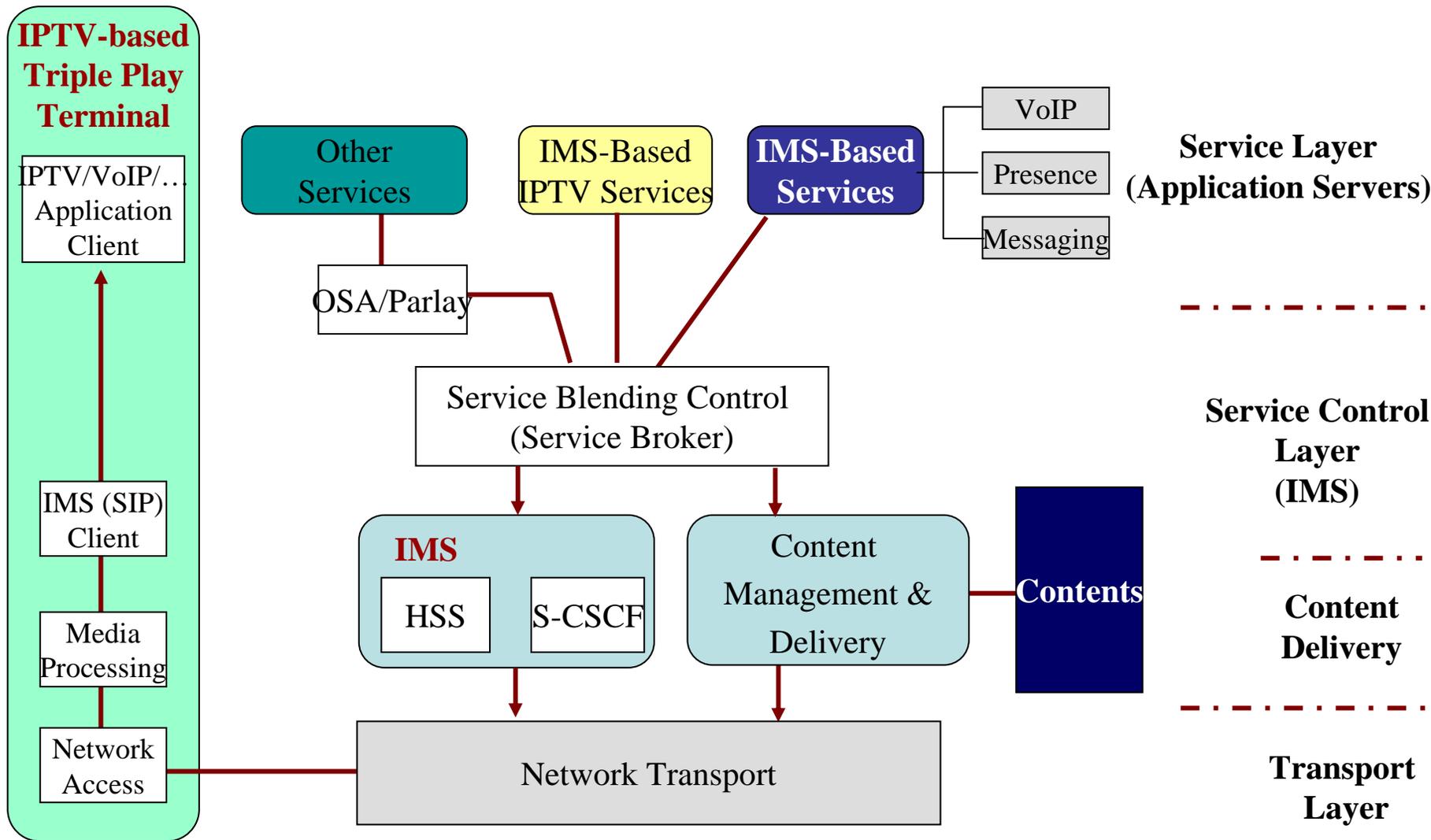


Scenario: TV to Mobile



Scenario: Mobile to TV

IMS-Enabled Service Blending System



Transport Layer

□ Network Access Control

- ❖ Users Authentication
- ❖ How to Support Multicast IPTV Service?

□ Resource Control

- ❖ Support the QoS Policy for Different Services
- ❖ Enhancement to Support Multicast IPTV Service

Content Delivery Function

- ❑ Content Acquisition and Aggregation
- ❑ Content Delivery to End User
- ❑ Media Session Control
- ❑ Video Streaming Control
- ❑ Media Processing Function
 - ❖ Media mixing.
 - ❖ Media Recording and Storage
 - ❖ Trans-coding

Service Control

□ CSCF (Call Session Control Function)

- ❖ IMS Component
- ❖ Users Registration, Authentication
- ❖ Session Management
 - Support Multiple Sessions ?
- ❖ Service Routing

□ Service Broker --- Service Capability Interchange Management (SCIM)

- ❖ Control the Interaction among Multiple AS to form A Blended Service
- ❖ Make Application Servers Transparent from Supporting Multiple Service Blending.

Service Broker SCIM

□ SCIM

- ❖ Process All Signaling (SIP) Between S-CSCF and Application Servers
- ❖ Modify the Signaling Messages as needed for Implementation of Service Blending

□ Multiple Sessions Supporting

- ❖ IMS (S-CSCF) Have to Support Multiple Independent SIP Sessions
 - So that, Service Feature Can be Done Among Them

Concluding Remarks

- ❑ IPTV Seems to Become Dominate Service over the NGN
- ❑ Telco/ISP will Heavily Involve in Providing IPTV Services
- ❑ IPTV Blended with Telephony/Data Service will Make it More Attractive to Users
- ❑ IMS System is Most Suitable for IPTV Service Blending