



Technology Roadmap Seminar: Convergence within
a Next Generation Network: The role of IMS
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Circuit and Packet Based Combinational Services in Multimedia Telephony over Cellular Systems

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VOICE VIDEO & DATA SERVICES

About 3PlayPlus

- 3PlayPlus Ltd is an Irish Telco start-up founded in 2005 and funded privately
- Will provide Triple Play services to the Irish residential and business market
- Plans to become a major player in Triple Play and Quad Play services in a multi-network environment

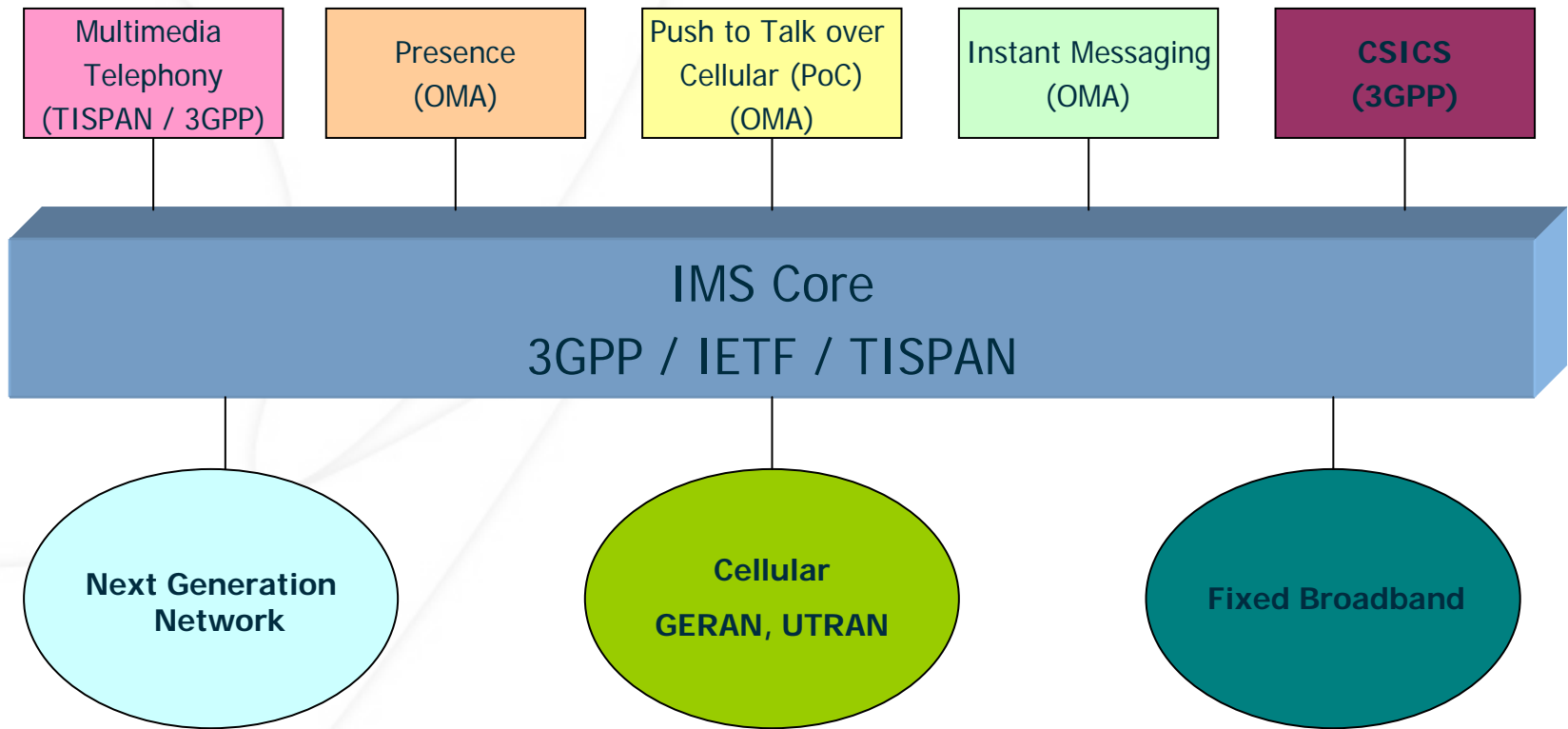
What is IMS?

- IP Multimedia Subsystem (IMS) is a set of specifications that describes the Next Generation Networking (NGN) architecture for implementing IP based telephony and multimedia services (3GPP-TISPAN).
- IMS defines a complete architecture and framework that enables the convergence of voice, video, data and cellular network technology over an IP based infrastructure.
- Provides convergence between cellular and internet technologies.

What is CSICS?

- **CSICS:** Circuit Switched IMS Combinational Service
- The idea of CSICS is to combine simultaneously used CS call and IMS based services in such a manner that the subscriber will perceive them as single service
- A simple example of the combinational service is the combined video and speech session in which the voice part is a regular circuit switched voice call and the video part is provided as an IMS based service

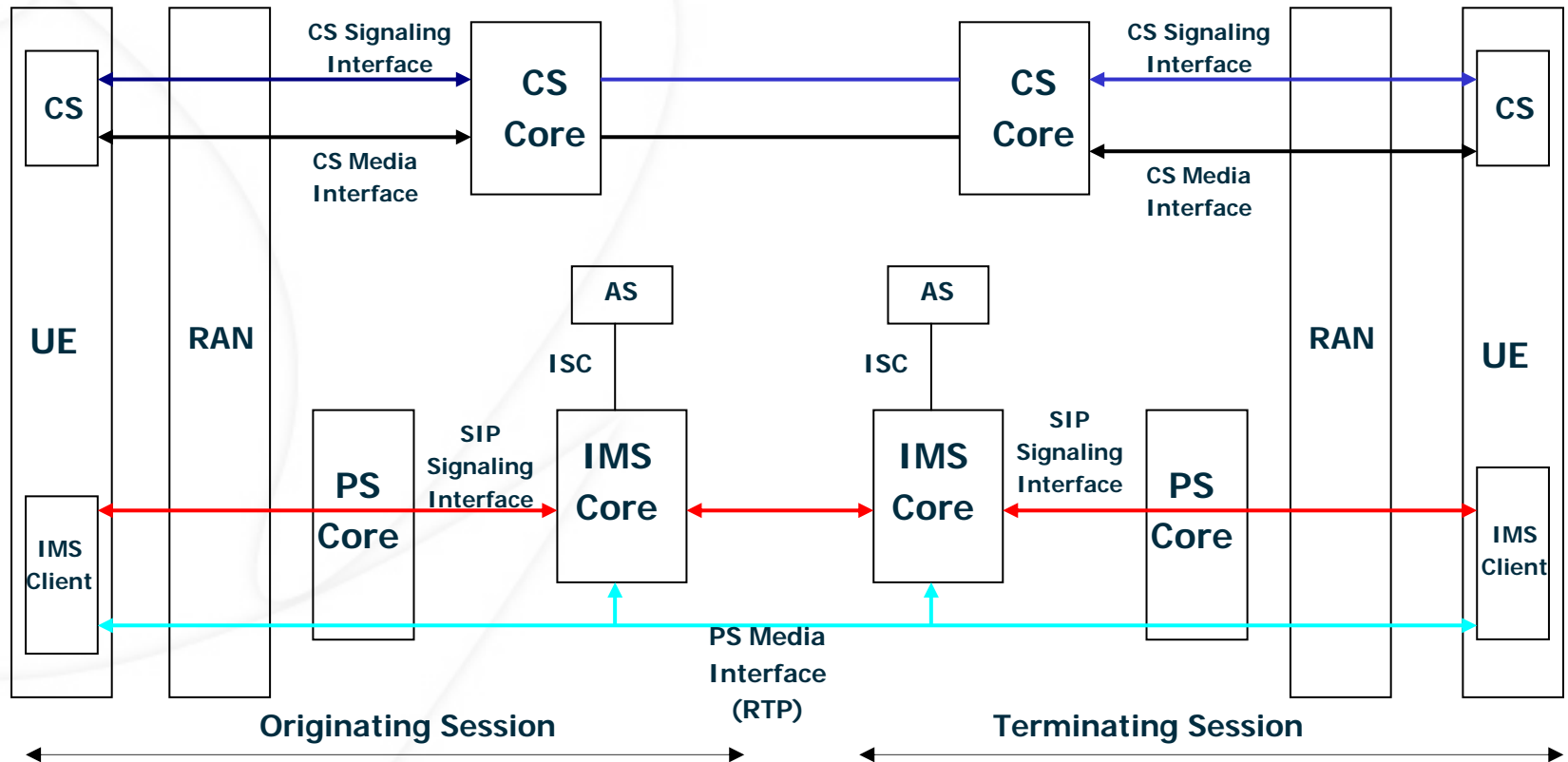
IMS Communication Services



3GPP Definitions

- **Combinational Service:** A combinational service is created by adding one or more IP multimedia component(s) to a CS call. The CS and IMS components are established between the same participants.
- **Combinational Call:** A circuit switched speech teleservice which is enriched by adding an IMS session where both services are originated in one single UE and terminated in another single UE
- **Combinational Session:** A service in which an ongoing IMS session between two users is enriched by adding a circuit switched based call where both services are originated in one single UE and terminated in another single UE
- **CSICS capable UE:** UE that supports Combinational Service.

CSICS Architecture



CSICS Service Capabilities

When using CSICS, the CSICS client implemented in the mobile terminal presents the CS call and the IMS session within one context to the user. To facilitate this, the following capabilities should be supported:

- exchange of information related to the current access
- exchange of terminal capability information
- addition of an IMS session to an ongoing CS call
- addition of a CS call to an ongoing IMS session
- user privacy

CSICS User Experience

- When one of the participating users terminates the CS call of a combinational service, the IMS session may continue
- When one of the participating users terminates the IMS session of a combinational service, the CS call may continue
- When the user A sends media to a user B, the user B can accept or reject the media (confirmation from the receiving party is needed) and vice versa
- If media, or parts thereof, accepted by a user cannot be rendered by the UE simultaneously with the CS call, conflicts shall be resolved such that the user is presented with:
 - CS speech with preference over IMS speech/audio
 - IMS video and images with preference over CS video

CSICS Service Example

- WeShare Image
 - allows users to share images during a CS call
- WeShare Motion
 - allows user to share live video during a CS call
- WeShare Media File
 - allows user to share stored media during a CS call
- WeShare Whiteboard
 - allows user to share a whiteboard session during a CS call

Future Challenges

- Interaction with supplementary services
- Impacts on other services
 - Support of Teleservices (e.g SMS) during a combinational service
 - Support of Location Services during a combinational service
- Charging aspects
 - charging information on the CS call and IMS session
- Provisioning
 - combinational service should not place additional provisioning requirement on the operator

References

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- [3] 3GPP TS 23.002 V7.1.0 (2006-03): 3rd Generation Partnership Project, Technical Specification Group Services and Systems Aspects, Network architecture (Release 7)
- [4] Daniel Enström, Anders Nohlgren, Håkan Olofsson, Janne Peisa and Per Synnergren: Multimedia telephony for IMS – Interoperable VoIP with multimedia support, Ericsson Review No. 2, 2007
- [5] General Reference - 3GPP, ETSI, TISPAN, OMA

Thank You

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