

Open Standards and Interoperability for IP Multimedia Subsystem (IMS)

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Outline

- Introduction
- Characteristics of IP multimedia Subsystem (IMS)
- Open standards for IMS
- Interoperability (testing) of IMS and its applications
- Conclusion

Market Acceptance of the Open GSM Standard with Interoperability

- GSM networks on air: 626
- GSM countries/territories on air in all continents: 198
- GSM total subscribers: 1,35 Billion*
- Global monthly SMSs: 36/user
- GSM accounts for 75% of the world's digital mobile market and 74% of the world's wireless market*

Source GSM A and CellularOnline. December 2004 and May 2005*

Characteristics of IMS

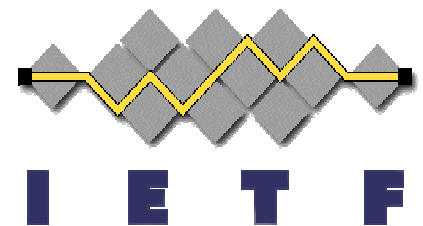
- IMS, based on the 3GPP IMS architecture, will enable **new person-to-person services**, which will enrich the way that people communicate with each other combining **voice, imaging and video** within a single session.
- SIP (Session Initiation Protocol) is the underlying protocol used to set-up and initiate the communication of session-based services.
- Some examples of IMS based services
 - Push to talk over Cellular (PoC),
 - Combinational services (IMS services in addition to circuit switched voice),
 - Presence,
 - Instant Messaging,
 - Video telephony,
 - Multiplayer games,
 - ...

where the session remains open although traffic may be sporadic.

IMS in 3GPP Release 5

Frozen in March 2002

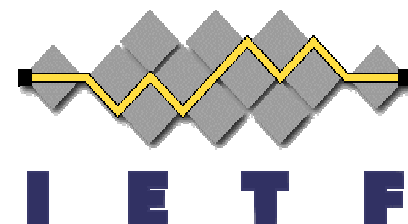
- IP Multimedia Subsystem (IMS) - Phase 1, *basic*
 - Basic architecture
 - Session Initiation Protocol (SIP) control
 - Session Definition Protocol (SDP) control
 - ...



IMS in 3GPP Release 6

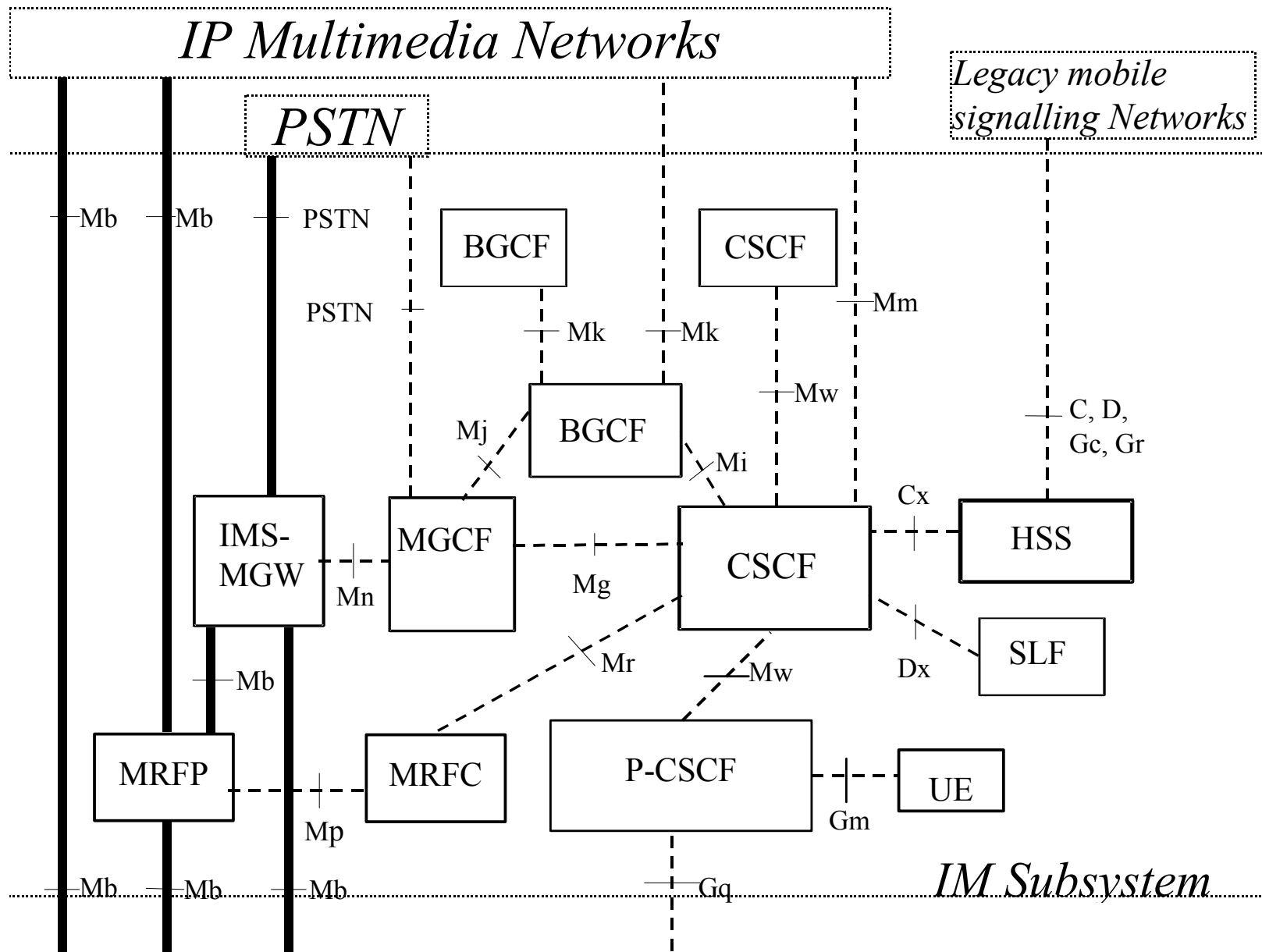
Frozen in March 2005

- IP Multimedia Subsystem (IMS) - Phase 2, *enhancements*
 - 3GPP enablers for services like Push to Talk over Cellular (PoC)
 - Group Management
 - Conferencing
 - Messaging
 - Interworking with CS networks
 - Lawful intercept



3GPP IMS Release 6 Architecture

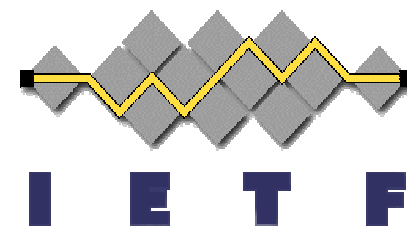
TS 23.002 v.6.7.0



IMS in 3GPP Release 7

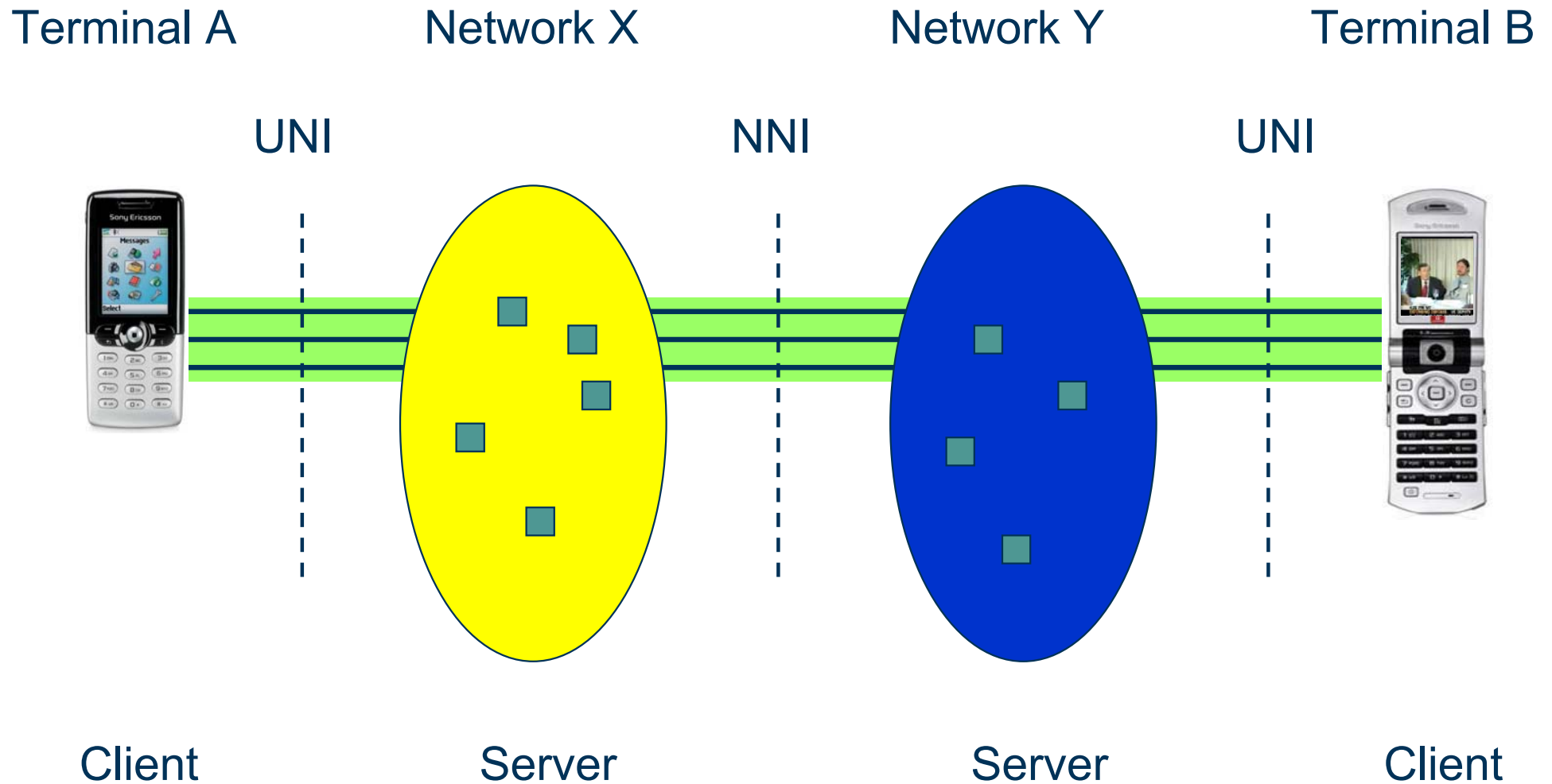
Draft

- IP Multimedia Subsystem (IMS) – **further enhancements**
 - Emergency calls
 - System enhancements for fixed broadband access to IMS
 - Multimedia telephony
 - ...
- Combination of CS bearers with IMS
- Voice call continuity
- ...



IMS Interoperability Testing

Principle



IMS Interoperability Test Activities

Overview

- GSM Association
- Open Mobile Alliance (OMA)
- 3GPP - *new*
- Bilateral vendor-to-vendor



IMS/SIP Interoperability Trials

GSM Association



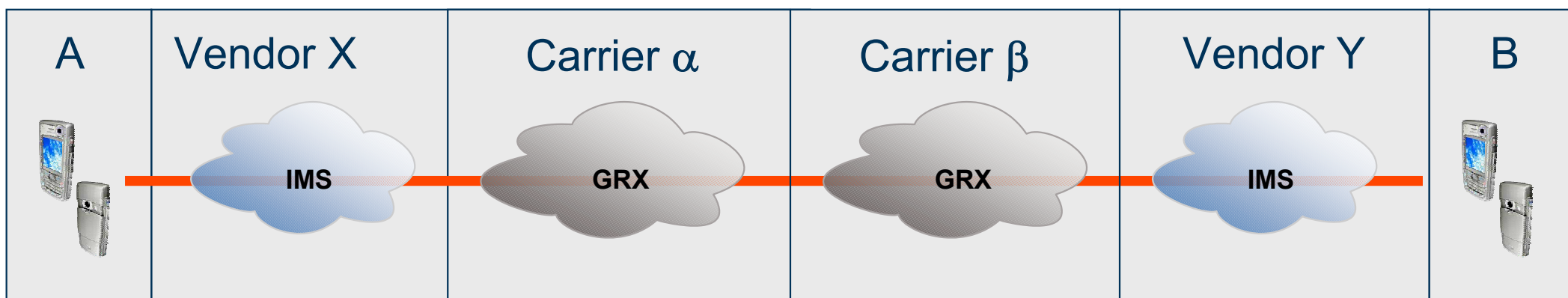
- Establish trials involving operators, GRX carriers, infrastructure and terminal vendors
- Basic SIP interoperability testing
- Focus on technical and operational aspects of inter-working:
 - Demonstrate interoperability of IMS SIP-based services across different mobile networks, GRX backbone, and vendor IMS systems
 - Assess the level of maturity and availability of IMS-based network products
 - Gain practical experience of SIP-based applications
 - Produce guidelines for deployment
 - Highlight and forward any interoperability issues for resolution to appropriate Standards Development Organizations

IMS/SIP Interoperability Trials

GSM Association



- SIP based IMS services
 - E.g. OMA PoC, VoIP, real-time video sharing, gaming, instant messaging. ...
- First event in conjunction with the 3GSM World Congress in February 2005 in Cannes
- Next event end of May in Asia
- ...



Open Mobile Alliance

OMA TestFests are Interoperability Testing Events

The objectives of the OMA TestFests are:

- To verify the interoperability, stability and quality of the participating company implementations in a multi-vendor environment
- Provide feedback on implementation and operational issues to OMA members developing the specifications, and
- Provide a peer-to-peer networking environment for participants to improve their own implementations and their contributions to the OMA specifications

Interoperability Testing of PoC

OMA



- Example: OMA PoC “TestFest”
 - First “TestFest” held 16-20 May in Helsinki
 - Hosted by TeliaSonera
 - Several client and server implementations
 - Client to server, server to server and server to client
 - ...

3GPP Interoperability Testing



- Proposal: 3GPP to set up interoperability testing activities for specific, new services/features, e.g.
 - CS bearers combined with IMS

- NB! This is different compare to the already well established work on conformance test specifications.

Conclusion



- GSM, 3G, IMS, PoC, ..., are all examples of **open standards with interoperability**
- **Telecom industry wide standardized end-to-end services including interoperability testing** is a key element in ensuring operational excellence in a multi-vendor and multi-operator environment
- **Enhancements/improvements** of the standardization process and interoperability testing **through evolutionary steps** – rather than revolution!
- **Natural evolution:** 3GPP start interoperability testing activities for specific, new features/services; e.g. CS bearers combined with IMS

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