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DEVELOPMENT PERSPECTIVES FOR IMS AND RCS SERVICES IN EUROPE

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Outline of presentation

- Status of IMS Development perspective
- GSMA and VoLTE Initiative
- GSMA and RCS-e initiative
- Conclusions

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Status of IMS Development perspective

IMS Networks today is going to be deployed as:

- PSTN Replacement
- FMC (Fixed Mobile Convergence)
- VoLTE (Voice over LTE)
- RCS (Rich Communication Suite)

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PSTN Replacement Scenario

- PSTN/ISDN Technology is reaching end of their useful lifetime
- VoIP is continually establishing itself and expanding rapidly as the Voice standard
- Voice is becoming a commodity
- It started with fixed voice and the trend continues with mobile
- More IP PBXs are being sold
- Non traditional players are entering the Voice market (Google, Microsoft, Yahoo,…)

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Fixed Mobile Convergence Scenario

Simple, easy to use services that customers can use via all their available devices/access… for both our business and residential customers.

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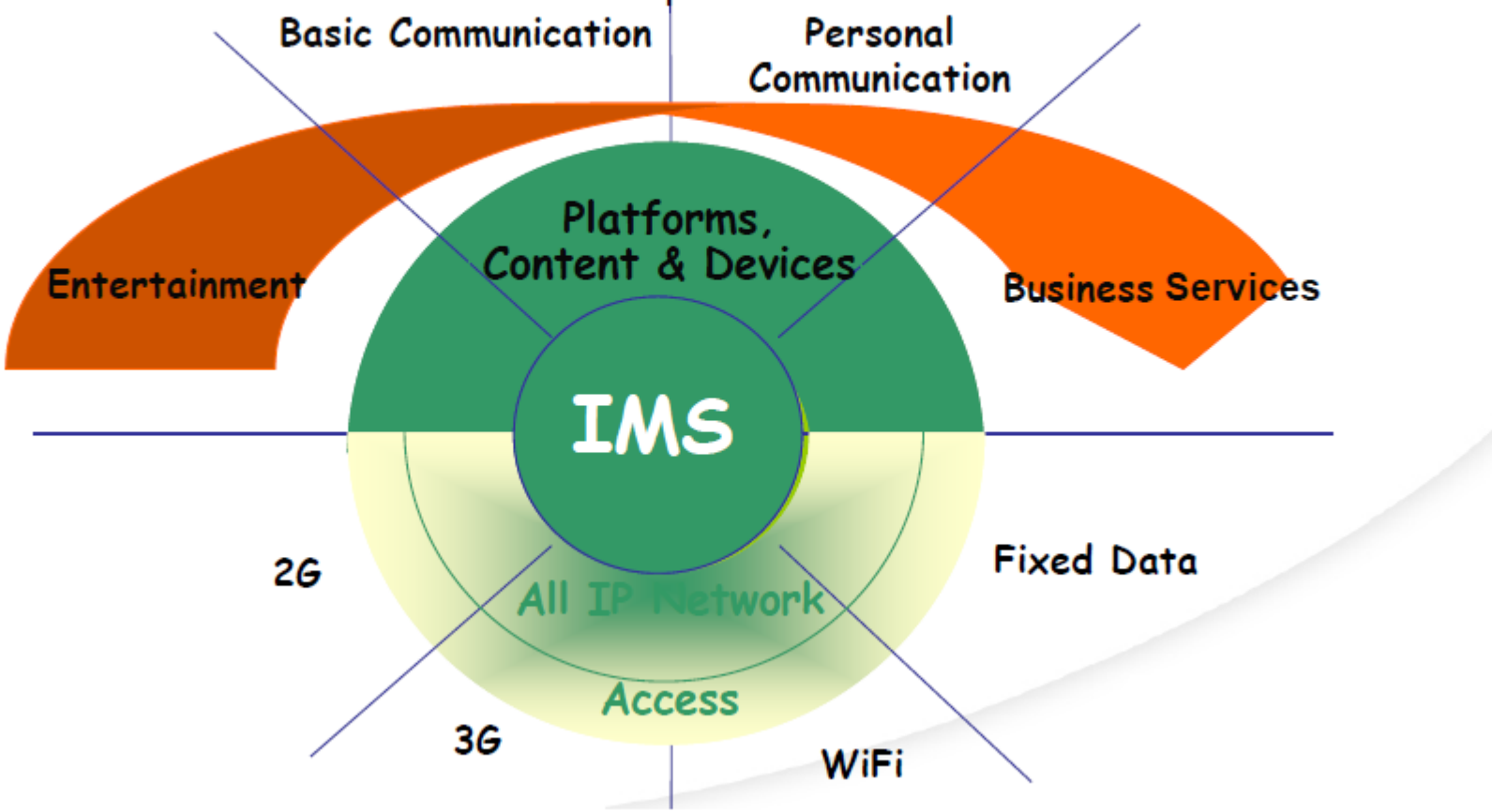
The FMC Service Portfolio & Architecture Environment

To support the FMC Service Portfolio a convergent Architecture build around the IMS core was chosen to provide the seamless user experience required across the service platforms.



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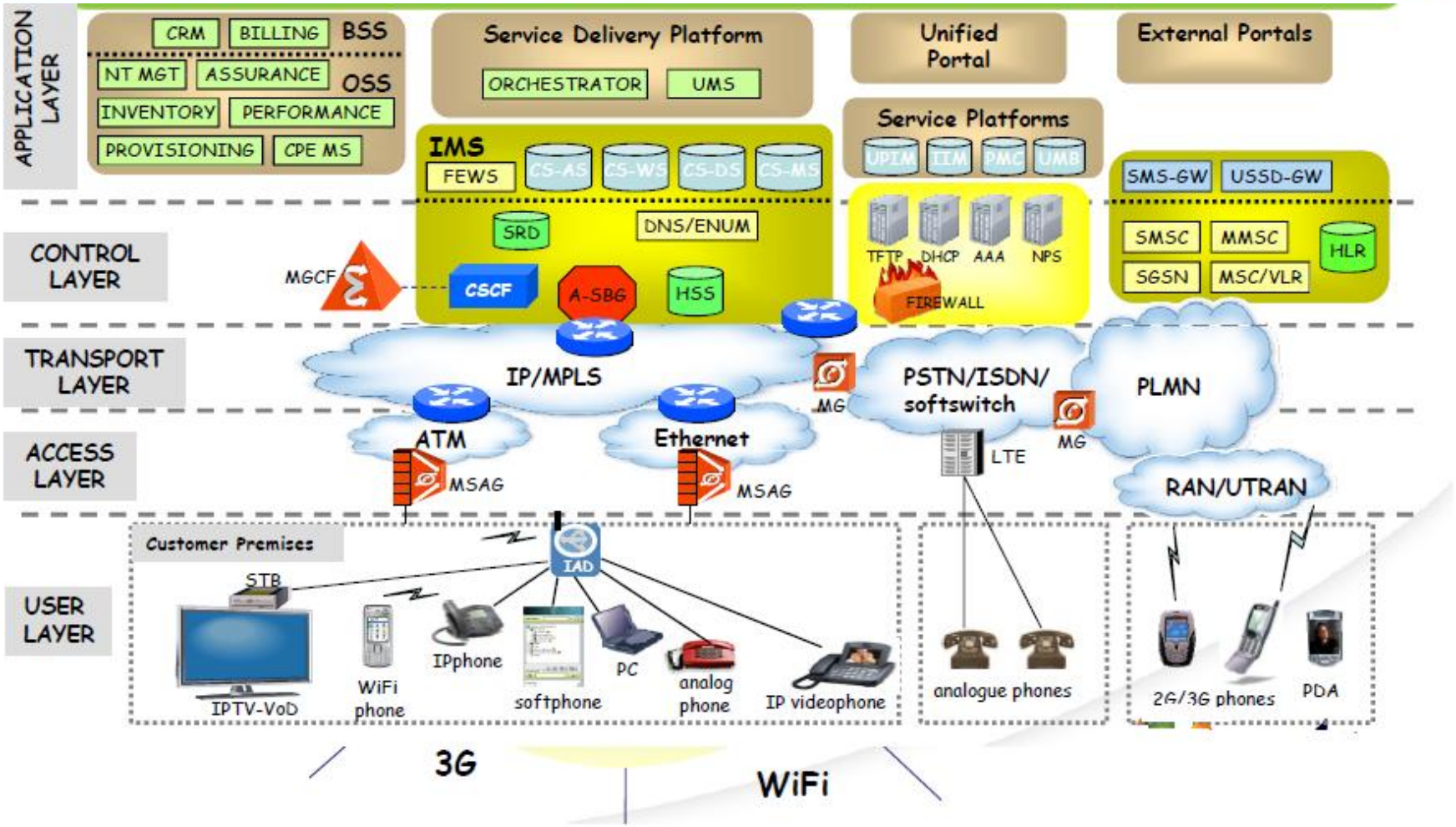
The FMC Architecture Environment
In line with Network Transformation



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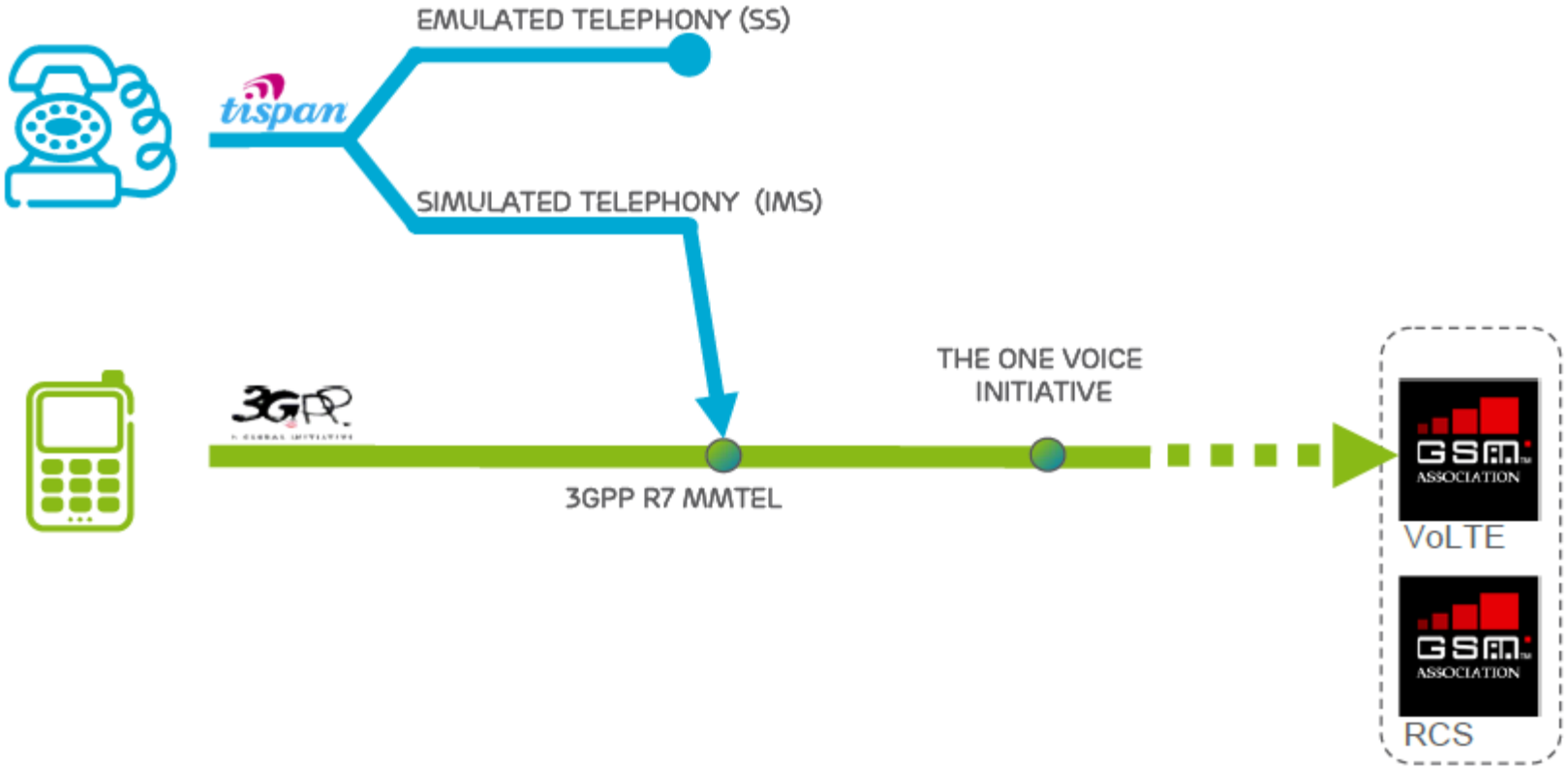
The History of IP Telephony Standardization



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The Voice over LTE (VoLTE) Initiative

- Started in June 2009 as the “One Voice” Initiative in support of common Voice and SMS over LTE
- “Voice over IMS Profile” released in November 2009
  - IMS Feature Part: mandatory capabilities
  - IMS Media Part: media capabilities such as RTP/ RTCP
  - LTE Radio: requirements for VoIP services
  - Bearer Management: signaling and media bearers
  - Common Functions: IP Versions
- NOT a new standards development activity!

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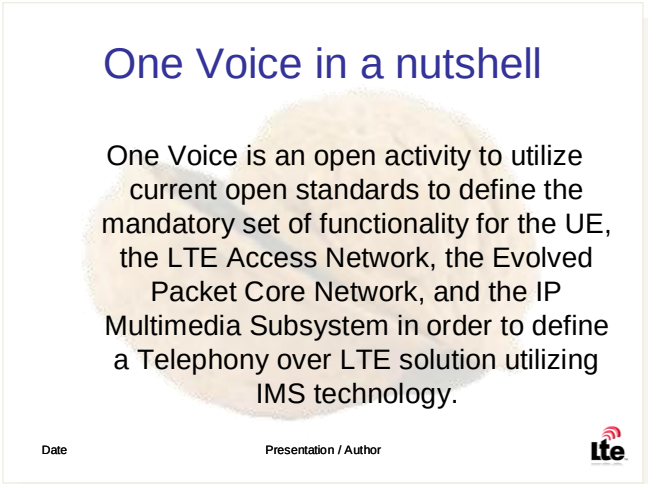
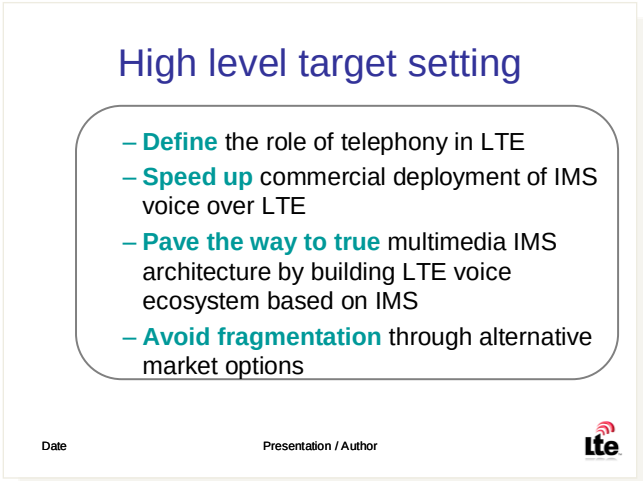
One Voice Initiative, Nov 2009

HISTORY

An industry initiative created to align operators and network & terminal vendors on an IMS based strategy for telephony in LTE





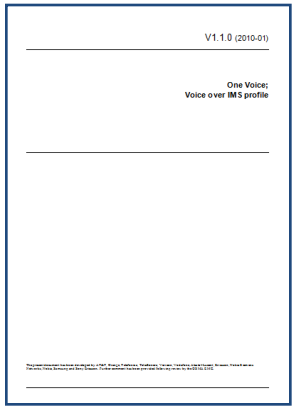
verizon · vodafone · Nokia Siemens Networks · NOKIA Connecting People · ERICSSON · Sony Ericsson · TeliaSonera · at&t · Telefonica · Alcatel·Lucent · SAMSUNG · orange

- **The "One Voice" profile defines a minimum mandatory set of features for UE and networks, which is required to be implemented in order to guarantee an interoperable, high quality IMS-based telephony service over LTE radio access.**
- **By profiling 3GPP specifications for LTE, EPC, IMS and MMTel**

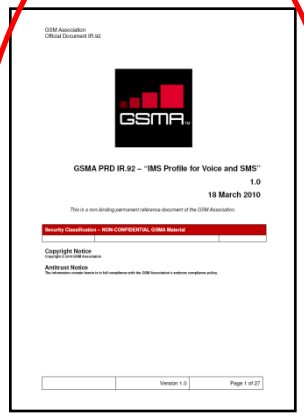
Evolution into VoLTE

One Voice Profile → GSMA VoLTE

OneVoice
Nov 2009



Transformation into GSMA PRDs



PRD IR.92

UNI

PRD IR.65

Interconnect

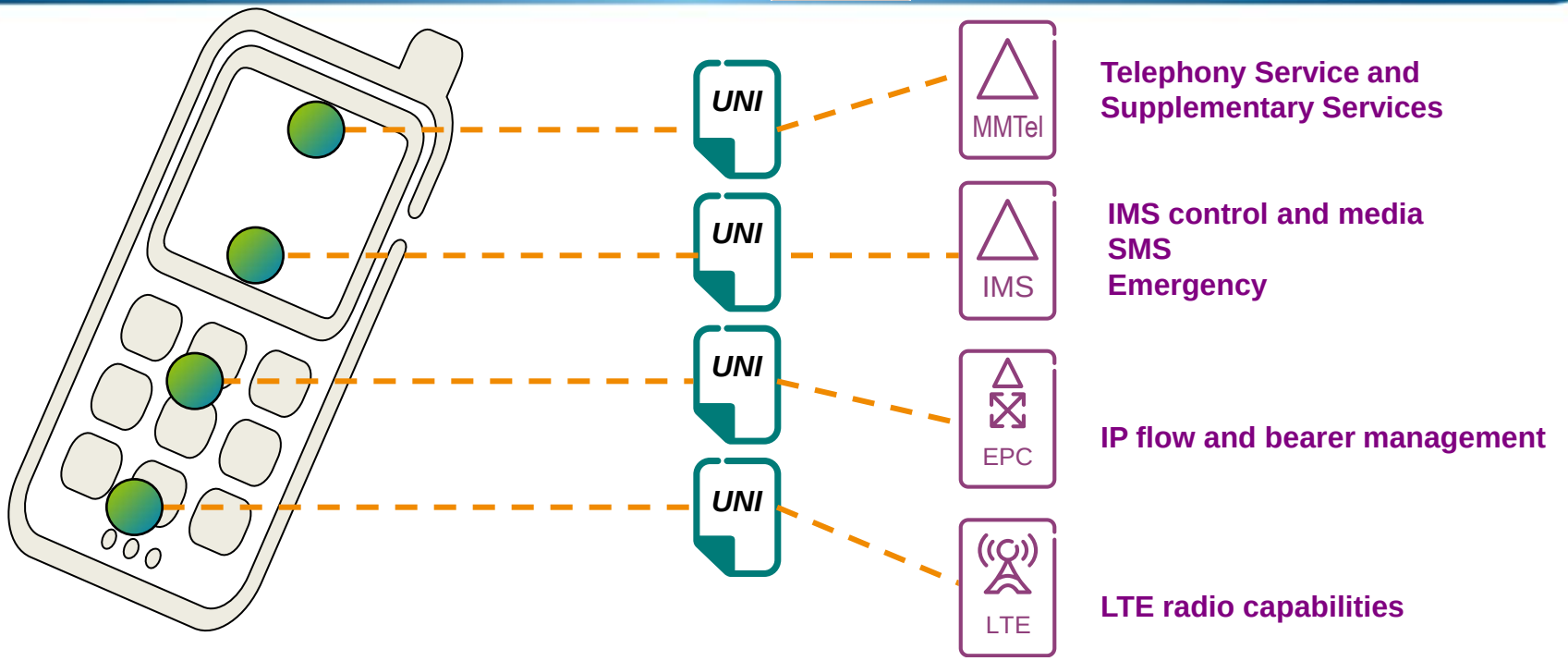
PRD IR.88

LTE Roaming

- GSMA RiLTE working group has taken ownership of the profile.
- The PRD IR.92 corresponds to the original One Voice profile.
- IR.92 was put in maintenance in Sept. 2010.
- NNI and roaming aspects for VoLTE are part of a reworked IR.65 and IR.88

GSMA VoLTE (IR.92) UNI profile

All Layers – All Key Players



- Many operators will face a transition period when LTE coverage is less extensive than the concurrent CS coverage
- Mechanisms needed to cater for a seamless user experience
  - Domain Selection
  - Single Radio Voice Call Continuity (SR-VCC)
  - SMS over SGs

IR.92 IMS Profile for Voice

(minimum mandatory MMTel subset)

Support of generic IMS functions	3GPP MM Tel specification
Multimedia Telephony Service and supplementary services; Stage 1	3GPP TS 22.173
Numbering, addressing and identification	3GPP TS 23.003
IP Multimedia Subsystem (IMS) emergency sessions	3GPP TS 23.167
Architectural requirements	3GPP TS 23.221
IP Multimedia Subsystem (IMS); Stage 2	3GPP TS 23.228
IP Multimedia Subsystem (IMS) Service Continuity; Stage 2	3GPP TS 23.237
IMS Multimedia telephony service and supplementary services; Stage 3	3GPP TS 24.173
IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3	3GPP TS 24.229
IP Multimedia Subsystem (IMS) Service Continuity; Stage 3	3GPP TS 24.237

IR.92 Supplementary Services

(minimum mandatory MMTel subset)

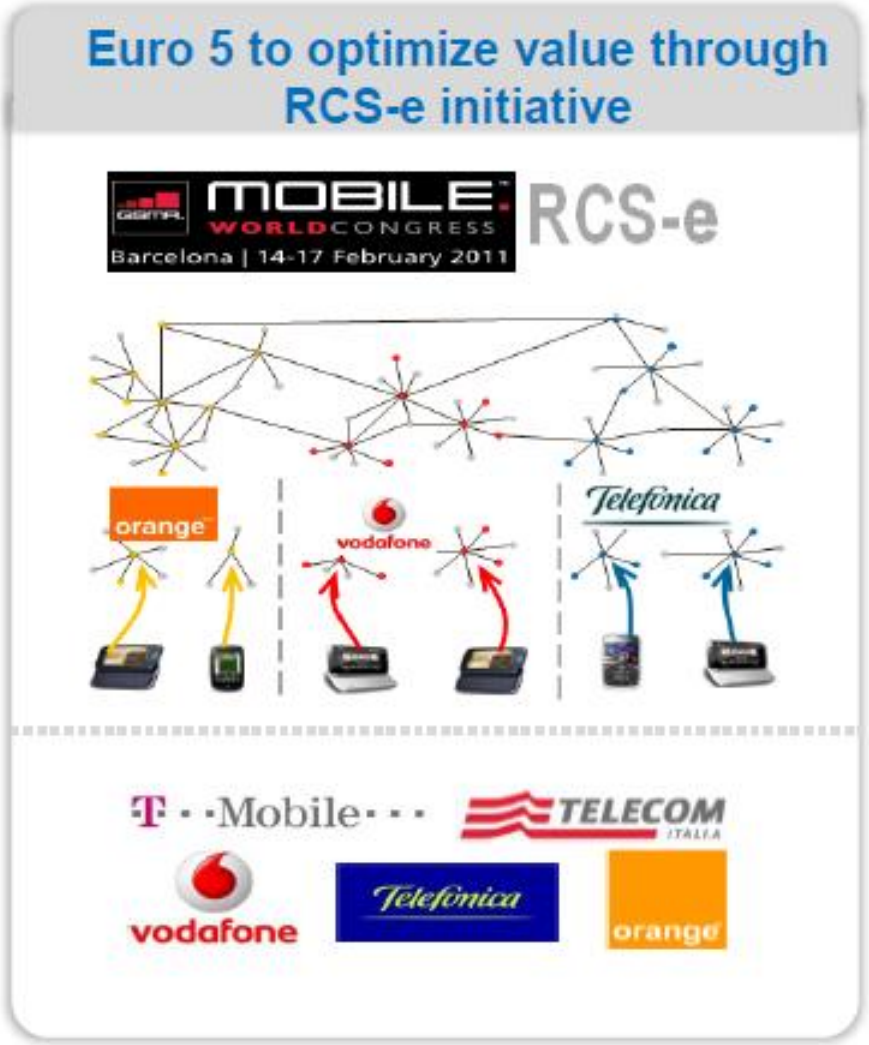
Supplementary Service name	3GPP MM Tel specification	GSM equivalent
Originating Identification Presentation	24.607 OIP	CLIP
Terminating Identification Presentation	24.608 TIP	CoLP
Originating Identification Restriction	24.607 OIR	CLIR
Terminating Identification Restriction	24.608 TIR	CoLR
Communication Diversion* Unconditional	24.604 CDIV - CFU	CFU
Communication Diversion on not Logged in	24.604 CDIV - CFNL	CFNRc
Communication Diversion on Busy	24.604 CDIV - CFB	CFB
Communication Diversion on not Reachable	24.604 CDIV - CFNRc	CFNRc
Communication Diversion on No Reply	24.604 CDIV - CFNR	CFNRy
Barring of All Incoming Calls	24.611 ACR/CB – ICB	BAIC
Barring of All Outgoing Calls	24.611 ACR/CB - OCB	BAOC
Barring of Outgoing International Calls **	24.611 ACR/CB – OCB	BOIC
Barring of Incoming Calls - When Roaming	24.611 ACR/CB – ICB	BIC-Roam
Communication HOLD	24.610 HOLD	HOLD
Message Waiting Indication	24.606 MWI	(SMS)
Communication Waiting – Terminal mode	24.615 Comm. Waiting	CW
Ad-Hoc Multi Party Conference	24.605 CONF	MPTY

Manipulating and Configuration of MMTel over Ut	24.623 XCAP over the Ut for MMTel	

* Media (audio) or (audio AND video) is also a supported condition in CDIV

** Barring Condition International is a 3GPP R9 feature

Euro 5 and RCSe initiative



- RCS-e ("e" for enhanced) is a simple and interoperable evolution to voice and text, which enables customers to send instant messages, video chat and exchange files in real time.
- All functions are built into the address book of mobile devices.
- Five of the leading European operators, Deutsche Telekom, Orange, Telecom Italia, Telefonica and Vodafone have announced plans at the Mobile World Congress, February 2011, (to launch an enhanced version of RCS, known as RCS-e) in late 2011 or 2012.

Info from http://www.gsmworld.com/our-work/mobile_lifestyle/rcs/RCS_e.htm

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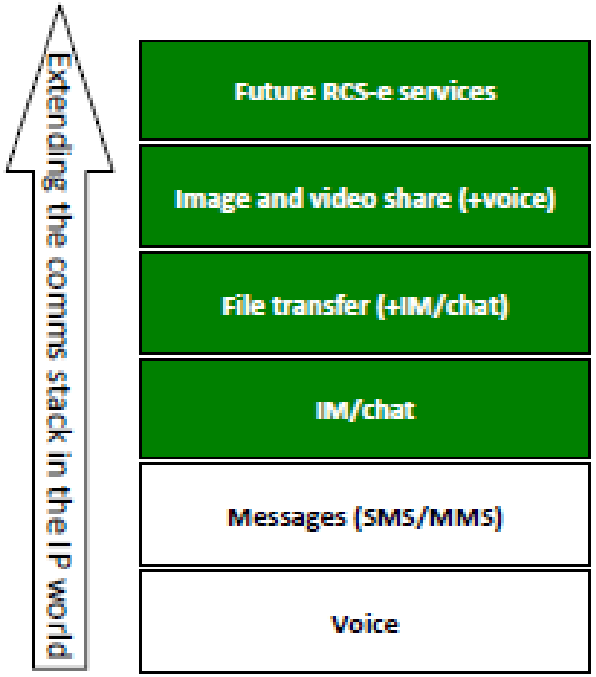
RCS e Initiative



This development in RCS-e is based on results from customer trials on RCS and RCS-like services to date and from a better understanding of where operators can further enhance their customer offering to deliver more value to customers and complement established 3rd party services.

Info from http://www.gsmworld.com/our-work/mobile_lifestyle/rcs/RCS_e.htm

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RCS e Initiative

RCS-e
Advanced Communications

RCS-e - Advanced Communications:
Services and Client Specification
Version 1.1
April 08, 2011

- The RCS-e advanced communication specification provides further optimization of the RCS Release 2 specifications in order to accelerate time to market and simplify the customer proposition.
- More information can be found on http://www.gsmworld.com/our-work/mobile_lifestyle/rcs/rcse_specification.htm

Info from http://www.gsmworld.com/our-work/mobile_lifestyle/rcs/RCS_e.htm

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Operator Support

- At a seminar during Mobile World Congress 2011, to mark the launch of RCS-e and to give operators and vendors opportunities to find out more information, representatives from five operators made the following support statements:
- **Deutsche Telekom**
  - Deutsche Telekom committed to launch rich communication services based on the RCS-e specification by 2012, with interconnection opportunities with other participating Operators.
- **Orange-FT**
  - Orange FT is committed to launch RCS-e from 2012.

Info from http://www.gsmworld.com/our-work/mobile_lifestyle/rcs/RCS_e.htm

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Operator Support

- **Telecom Italia**
  - Telecom Italia strongly committed to deploy rich communication services on the market based on RCS-e
  - 2011 soft launch on selected customers;
  - 2012 mass market launch (commercial push deployment will depend upon the feedback of soft launch)
- **Telefonica**
  - Telefonica commits to launch RCS-e services, starting in key European markets by end 2011 / beginning 2012.
- **Vodafone**
  - Vodafone will launch RCS-e in key European markets starting in 2H 2011.

Info from http://www.gsmworld.com/our-work/mobile_lifestyle/rcs/RCS_e.htm

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Conclusions

- IMS Networks are deployed nowadays for several reasons
- PSTN Replacement is already started in Europe
- Fixed Mobile Convergence is a trend followed mainly by emerging operators
- VoLTE and RCS are becoming a reality for a large Industry and Operators commitment

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