



3GPP TSG-SA5 (Telecom Management)
Meeting #15, Girdwood, Alaska, USA, 16 - 20 October 2000

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Service requirements for the IP Multimedia Core Network Subsystem (from 22.101 and 22.228)

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- The TSG-S1 Release 2000 ad hoc group concentrates on the future services aspects and especially on the IP multimedia services.
- Created TR22.976 Study on Release 2000 services and capabilities which was noted in TSG-SA#8.
- Created a series of CRs (based on TR22.976) for the existing TSG-S1 22-series specifications from TR22.976 which were approved in TSG-SA#9.
- Now producing R5 TS22.228 (based on TR22.976) to identify the requirements for the support of services specifically in the IM CN Subsystem, which was presented for information at TSG-SA#9.
- Chair - Tommi Kokkola (Nokia)
- TS Editor - Mark Cataldo (Motorola)



- **TSG-SA1#10: 13th-17th October 2000, Orlando, USA**
 - further adhoc during S1 plenary to incorporate received comments and make further refinements
- **adhoc: 28th-30th November 2000**
 - further adhoc provisionally planned (to be decided 13th October)
 - potentially a joint meeting with S2?
- **reception of comments**
 - comments and further inputs awaited
 - update of TS as required
 - e-mail discussion (S1_IP@LIST.ETSI.FR)

IM Services High Level Reqs, 22.228 Ch.5 (1/2)



- **IP multimedia (IM) sessions**

- support of IM sessions for the creation and support of IM applications
- within each IM session, one or more IM applications shall be supported
- IM service is the user experience provided by one or more IM applications
- ability to provide IM applications to be provided without a reduction in privacy/security/authentication compared to GPRS/CS

- **QoS**

- negotiable QoS for IM sessions and their individual media components (session establishment, during session, by operator/user)
- end to end QoS for voice at least as good as circuit-switched

IM Services High Level Reqs, 22.228 Ch.5 (2/2)



- support for interworking between the packet and circuit switched services, and with PSTN, ISDN and Internet
- roaming enabling users to access IP multimedia services provisioned by Home Environment and Serving Network
- access independence shall be supported (operators should be able to offer services to their subscribers regardless of how they obtain an IP connection e.g. GPRS, fixed lines, LAN)
- it shall be possible to support session-related internet applications that have been developed outside the 3GPP community
- support a variety of different media types (a set of media types to be identified to ensure interoperability)



- **Service capability approach**

- IP multimedia applications shall, as a principle, not be standardised, allowing service provider specific variations
- a framework enabling maximum flexibility in the end user device and network servers, similar in concept to that used in the Internet (i.e. IP toolkits)
- enhanced service capabilities (CAMEL, MExE, SAT and OSA), allowing operators to deploy IP multimedia applications in a vendor independent manner
- registration mechanisms which allow the network to understand the limitations of the mobile and thereby take appropriate actions

Note: There is a concern that with a large variety of toolkits to create applications, service interworking between terminals and networks may be compromised and needs to be addressed.



- **An IP session approach is taken towards the support of IP multimedia applications**
 - Session invocation
 - Session modification
 - Session termination
 - One or more IP multimedia applications in a session
- **Examples of IM application scenarios provided in an informative Annex A**



- **The user shall be able to invoke one or more IP multimedia sessions**
 - the user shall also be able to activate concurrent IP multimedia applications within each IP multimedia session
 - ability to perform capability negotiation (i.e. identify and select the available media components, notify change in UE capabilities, change in media types etc.)
 - establish emergency communications session
- **Identification of entities**
 - Both telecom (E.164) and internet (SIP URL) numbering and addressing schemes shall be supported
 - the network operator shall be able to use the same or a different E.164 number for IM and CS



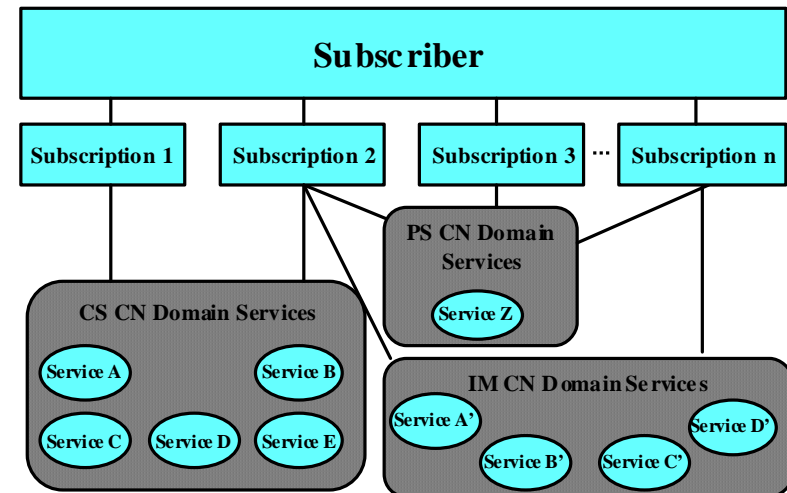
- **The user shall be able to accept one or more IP multimedia sessions**
 - it shall be possible to present the identity of the session originator (subject to it not being suppressed by the session originator)
 - perform capability negotiation (i.e. identify and select the available media components, notify change in UE capabilities, change in media types etc.)
 - the user can either accept or reject an incoming IP multimedia session.
 - the user can accept only a subset of the offered media, not have any of the media offered to him at all etc.
- **Redirect**
 - IM sessions or individual media components
 - May take place: prior, at set up, acceptance and during



- **The user shall be able to modify an ongoing IP multimedia session**
 - perform capability negotiation (i.e. negotiate addition or deletion of media components of IP multimedia applications)
 - suspend an IP multimedia session, and resume that IP multimedia session at a later time
- **The user shall be able to terminate an ongoing IP multimedia session**
 - end an IP multimedia session at any time during the session

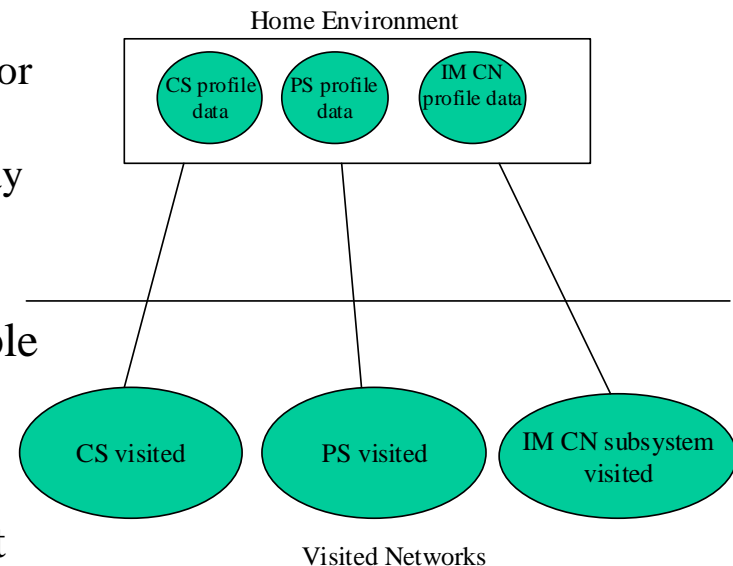


- A subscription describes the commercial relationship between the subscriber and the network operator or service provider.
- The subscription identifies:
 - the services and related services information that are available to the user;
 - the identity of the subscriber;
- Service delivery
 - In general it is a requirement to allow the use of independent services simultaneously (i.e. Basic CS, GPRS, IP multimedia and operator specific).





- In order to roam, the following applies:
 - Mobile terminal can connect to the radio access network.
 - Authentication (charging/billing network) must occur in order to get access to services (except for emergency calls).
 - The services offered to a roaming subscriber may be restricted by the capabilities of the visited network, and the roaming agreement
- The personalised services & capabilities available in a visited network are dependent upon the subscription options in the home environment. This does not preclude the visited network offering additional services, or access to content providers.
- The support of access to wired IP networks with a mobile terminal, using a variety of access technologies shall not be precluded in future releases.





- **Requirements**

- Full service continuity between and within UTRAN/GERAN within a domain
- CS <-> IM service continuity required
- Term "service continuity" used allowing solutions other than handover for same user experience

- **Status**

- CR's not yet agreed.
- See draft CR at LS (SA1 TDoc 617) from SA1 to SA plenary ad hoc (no resolution so far)



- Emergency calls shall be supported when attached to a IM CN subsystem. Same requirements as for the CS domain shall apply
- Non-speech emergency services are for further study



- Portability of E.164 numbers within IM subsystem is envisaged and under further study



- **SAT and MExE**

- High level requirements for IM service support approved by SA#9

- **CAMEL**

- CR's drafted by CAMEL ad hoc and presented at SA#9
 - CRs withdrawn due to
 - Terminology issues (IP Telephony)
 - Objection by a company, SA2 view should be verified

- **Still many specifications to be reviewed**

- GPRS 22.060, Service Accessibility 22.011, ...