
Source: SA1
Title: Various Rel-6 CRs to 22.228 on Service requirements for the IP
Multimedia Core Network Subsystem
Document for: Approval
Agenda Item: 7.1.3

SA Doc	Spec	CR	Rev	Phase	Cat	Subject	Old Vers	New Vers	SA1 Doc
SP-020258	22.228	015		Rel-6	B	Release 6 ISIM requirement	5.5.0	6.0.0	S1-021062
SP-020258	22.228	016		Rel-6	D	Revised version of S1-020846CR to 22.228 v5.5.0 on Editorial for REL6	5.5.0	6.0.0	S1-021162

CHANGE REQUEST

⌘ **22.228** CR **015** ⌘ rev **-** ⌘ Current version: **5.5.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘	Release 6 ISIM requirement	
Source:	⌘	SA1	
Work item code:	⌘	IMS	Date: ⌘ 09/04/02
Category:	⌘	B	Release: ⌘ REL-6
		Use <u>one</u> of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘	The Release 5 requirement states: "In Rel5 the ISIM application shall require the presence of a USIM application on the same UICC". For Release 6 it is proposed to allow the possibility of having an ISIM in a UICC that does not contain a USIM.
Summary of change:	⌘	Requirements to have an ISIM in a UICC that does not contain a USIM.
Consequences if not approved:	⌘	

Clauses affected:	⌘	5
Other specs affected:	⌘	<input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications ⌘ <input type="checkbox"/> O&M Specifications ⌘
Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5 High level requirements

Support for IP multimedia sessions shall be provided in a flexible manner to allow operators to differentiate their services in the market place as well customise them to meet specific user needs. This shall be provided by the use of service capabilities in both networks and terminals, for the creation and support of IP multimedia applications.

The following high level requirements shall be supported for IP multimedia applications:-

- Negotiable QoS for IP multimedia sessions both at the time of a session establishment as well as during the session by the operator and the user
- Negotiable QoS for individual media components in an IP multimedia session both at the time of establishing a media component as well as when the media component is active by the operator and the user
- End to end QoS for voice at least as good as that achieved by the circuit-switched (e.g. AMR codec based) wireless systems shall be enabled
- Support of roaming, negotiation between operators for QoS and for Service Capabilities is required. Such negotiation should be automated rather than manual, e.g., when another operator adds new service capabilities.
- Possibility for a network operator to implement IP Policy Control for IP multimedia applications.
- IP multimedia sessions shall be able to support a variety of different media types. A set of media types shall be identified to ensure interoperability (e.g. default codec selection and header compression).
- Within each IP multimedia session, one or more IP multimedia applications shall be supported
- The possibility for IP multimedia applications to be provided without a reduction in privacy, security, or authentication compared to corresponding GPRS and circuit switched services.
- Support for interworking between the packet and circuit switched services, and with PSTN and ISDN.
- Support for interworking with Internet.
- Support for basic voice calls between IMS users and users in CS domain/PSTN-style networks, In R5, the boundary interworking shall be able to convey the information associated with the services listed below:

CLIP/CLIR;

Call Forwarding.

Also due to regulatory reasons the subscriber identity may be required to be conveyed via the IMS-CS/PSTN boundary to enable calling line identification services on both sides.

Support of:

Call barring,

Call waiting/hold,

MPTY,

on the boundary interface is for further study. Please note that some of the listed services could turn out to have no impact on the boundary. Therefore, they could then be considered to be supported already with R5.

- Roaming shall be supported enabling users to access IP multimedia services provisioned by the:-
 - Home Environment
 - Serving Network

- Access independence shall be supported. It is desirable that an operator 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.
- It shall be possible to limit the view of an operator's network topology to authorised entities.
- ~~— In R5 the ISIM application shall require the presence of a USIM application on the same UICC. This shall not preclude the possibility in later releases of having an ISIM in a UICC that does not contain a USIM.~~
- It shall be possible to have an ISIM in a UICC that does not contain a USIM.

CR-Form-v5.1

CHANGE REQUEST

⌘ **22.228 CR 016** ⌘ rev **1** ⌘ Current version: **5.5.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction of refereces and creation of Rel 6 version		
Source:	⌘ SA1		
Work item code:	⌘ IMS	Date:	⌘
Category:	⌘ D	Release:	⌘ REL-6
	<i>Use <u>one</u> of the following categories:</i> F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)	

Reason for change:	⌘ Correction of references to release 5 and deletion of not used specifications references. Also Creation of release 6.		
Summary of change:	⌘ Some references deleted. Statements to Rel 5 deleted as unnecessary		
Consequences if not approved:	⌘ Some IMS requirements may get lost due to Rel 5 clean up.		

Clauses affected:	⌘ 2.1, 3.1, 6, 7.5.1, 7.5.3		
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
Other comments:	⌘		

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2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

2.1 Normative references

- | | |
|-----------------|--|
| [1] | 3GPP TS 22.003: " CS Teleservices supported by a PLMN". |
| [2] | 3GPP TS 22.011: "Service Accessibility". |
| [3] | 3GPP TS 22.060: "General Packet Radio Service (GPRS) stage 1". |
| [4] | 3GPP TS 22.066: "Support of Mobile Number Portability (MNP)". |
| [25] | 3GPP TS 22.101: "Service principles". |
| [6] | 3GPP TS 22.105: "Services and Service Capabilities". |
| [37] | 3GPP TS 22.121: "3 rd Generation Partnership Project; Technical Specification Group Services and System Aspects; The Virtual Home Environment" |
| [8] | 3GPP TS 22.129: "Handover requirements between UTRAN and GERAN and other Radio Systems". |
| [49] | RFC 3261: "SIP: Session Initiation Protocol" |
| [54] | 3GPP TS 22.078: "3GPP; Customised Applications for Mobile network Enhanced Logic (CAMEL); Service definition - Stage 1" |
| [64] | 3GPP TS 22.057: "3GPP; Mobile Execution Environment (MExE); Service description, Stage 1" |
| [74] | 3GPP TS 22.038: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; USIM/SIM Application Toolkit (USAT/SAT); Service description; Stage 1" |
| [84] | 3GPP TS 22.127: "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Stage 1 Service Requirement for the Open Service Access (OSA)" |
| [94] | 3GPP TR 21.905 : "Vocabulary for 3GPP specifications" |
| [105] | RFC2806: "URLs for telephone calls" |

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this TS the following definitions apply:

Basic Voice Call: A Basic Voice Call (BVC) is a call that conveys only a speech component. The definition of the BVC pertains only to the boundary between the IMS and the CS/PSTN. If more than one IMS party is involved in a communication with a PSTN party/parties, the communication between the IMS parties shall not be adversely impacted by the presence of a PSTN party. Please note that this boundary may still be subject to regulatory requirements associated with communications with the PSTN including, but not limited to, lawful interception of voice calls and number portability.

IM CN subsystem: (IP Multimedia CN subsystem) comprises of all CN elements for the provision of IP multimedia applications over IP multimedia sessions

IP multimedia application: an application that handles one or more media simultaneously such as speech, audio, video and data (e.g. chat text, shared whiteboard) in a synchronised way from the user's point of view. A multimedia application may involve multiple parties, multiple connections, and the addition or deletion of resources within a single IP multimedia session. A user may invoke concurrent IP multimedia applications in an IP multimedia session.

IP multimedia service: an IP multimedia service is the user experience provided by one or more IP multimedia applications.

IP multimedia session: an IP multimedia session is a set of multimedia senders and receivers and the data streams flowing from senders to receivers. IP multimedia sessions are supported by the IP multimedia CN Subsystem and are enabled by IP connectivity bearers (e.g. GPRS as a bearer). A user may invoke concurrent IP multimedia sessions.

Local service: See definition in [944].

6 Standardised service capability approach

IP multimedia applications shall, as a principle, not be standardised, allowing operator specific variations. It shall be possible to enable rapid service creation and deployment using service capabilities.

It is important that commercially available IP multimedia applications are supported. In general compatibility shall be with these IP multimedia applications instead of building 3GPP-specific solutions.

The following options shall be available in the 3GPP standards to enable service delivery:

- an architectural framework shall be created that enables maximum flexibility in the end user device and network servers, similar in concept to that used in the Internet.

This framework shall enable an operator to efficiently deploy IP multimedia applications in a network-agnostic manner without having to wait for these applications or additional enabling technology, to be standardised in 3GPP.

- service capabilities (enhanced to control IP multimedia applications), which will allow IP multimedia applications to be deployed in a vendor independent manner

CAMEL [540], MExE [644], SAT [742] and OSA [843], which are the identified service capabilities of VHE in 22.121 [37], should be improved to support IP multimedia applications, e.g. additions to APIs, service capability features, service capability servers, user profile etc.

- mechanisms which allow the network or the application 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.

7.5.1 Identification of entities

Both telecom and internet numbering and addressing schemes shall be supported as public identities. IP multimedia communication establishment (both mobile originating and terminating) depending on originator shall be able to be based on E.164/TEL URL (e.g. tel:+4412345678) [105] or SIP URL (sip:my.name@company.org) [49]. It shall be possible to assign several public identities for one subscription.

Public identities shall be administered by the network operator and shall not be changeable by the user.

It shall be possible for the network operator to guarantee the authenticity of a public identity presented for an incoming call to a user where the call is wholly within that operator's network (i.e. originating and terminating parties are subscribers to, and resident in, a single PLMN). This is equivalent to the situation for CLIP with today's telephony networks.

It shall be possible for the network operator to use

- the same E.164 number for IP multimedia sessions and CS speech telephony (TS11) [1]
- a different E.164 number if desired for IP multimedia sessions

This allows customers who originally had only an E164 MSISDN to retain the same number for receiving communications in the IM domain and also in the CS domain when outside IM coverage.

7.5.2 Negotiation at IM session invocation

It shall be possible for the capability negotiation to take place at the time of the IP multimedia session invocation. Refer to subclause 7.3 for further details on capability negotiation on IP multimedia session invocation.

7.5.3 Emergency communications

See [25] for further details.