Technical Specification Group Services and System Aspects   *TSGS#17(02)0562*
Meeting #17, Biarritz, France, 9-12 September 2002

Source:	SA1
Title:	**Release 6 CRs to 22.228 on IMS**
Document for:	**Approval**
Agenda Item:	**7.1.3**

SA Doc	Spec	CR	Rev	Phase	Cat	Subject	Old Vers	New Vers	SA1 Doc
SP-020562	22.228	015	1	Rel-6	B	Release 6 ISIM requirement	6.0.0	6.1.0	S1-021812
SP-020562	22.228	017		Rel-6	B	CR to 22.228 Rel 6 on IMS interworking	6.0.0	6.1.0	S1-021771

CR-Form-v5.1

CHANGE REQUEST

⌘   **22.228** CR   **015**   ⌘**rev** **1** ⌘   Current version: **6.0.0** ⌘

*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 **X**   ME/UE ☐   Radio Access Network ☐   Core Network ☐

Title:	⌘	Release 6 ISIM requirement
Source:	⌘	SA1
Work item code: ⌘	**IMS**	***Date:*** ⌘ 15/08/02
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 <u>TR 21.900</u>.

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 remove the restriction of having an ISIM in a UICC that does not contain a USIM.
Summary of change: ⌘		Remove the restriction of having an ISIM in a UICC that does not contain a USIM.
Consequences if not approved:	⌘	

Clauses affected:	⌘	5
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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.

									CR-Form-v7

CHANGE REQUEST

⌘	**22.228 CR**	**017**	⌘**rev**	**-**	⌘	Current version:	**6.0.0**	⌘

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

Proposed change affects:	UICC apps⌘ ☐	ME ☐	Radio Access Network ☐	Core Network **X**

Title:	⌘	IMS Interworking

Source:	⌘	SA1 (IMS SWG)

Work item code:	⌘	IMS2		*Date:* ⌘	08/07/2002

Category:	⌘	**B**			*Release:* ⌘	REL-6

Use one 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 one 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)
Rel-6 (Release 6)

Reason for change:	⌘	Interworking requiremtns clarified for release 6.

Summary of change:	⌘	Addition of a new interworking section, section 8. Move of other inteworking requirements from section 5 to section 8 Addition of requirement for interworking with other IP networks.

Consequences if not approved:	⌘	There is a potential that the IMSs will not handle some features in the same way with the result that not all capabilities will be interworked. This will result in a perceived "lower" value service to the user.

Clauses affected:	⌘	5

Other specs affected:	⌘	**Y** / **N**		
		X ☐	Other core specifications	⌘	23.228
		☐ ☐	Test specifications		
		☐ ☐	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.

VHE   Virtual Home Environment
WWW   World Wide Web

4   Introduction

IP has opened up a whole range of communication applications, which may allow operators to develop totally new value added applications as well as to enhance their existing solutions. The open architecture and platforms supported by IP and operating systems may lead to applications and new opportunities that are more difficult to replicate using a standard switched centralised solution.

A complete solution for the support of IP multimedia applications (including voice communications) shall be available. The solution consists of terminals, GERAN or UTRAN radio access networks and GPRS evolved core network. One of the main objectives for 3GPP specifications is to ensure that the availability and behaviour of these IP applications when used via the 3GPP mobile access is at least as good as when used via other mobile access types.

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.

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 [10], MExE [11], SAT [12] and OSA [13], which are the identified service capabilities of VHE in 22.121 [7], 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 User service requirements

IP multimedia sessions provide the ability for users to invoke IP multimedia applications to send and receive (where applicable) voice and data communications, even when roaming. This includes interworking with existing voice and data networks for both fixed (e.g. PSTN, ISDN, internet etc.) and mobile users.

***************** next change*******************************

8   Interworking to other networks

The IMS shall:

- 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,
  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.

- Support interworking to other non 3GPP networks providing IP Multimedia sessions.

***************** next change*******************************