Technical Specification Group Services and System Aspects
Meeting #13, Beijing, China, 24-27 September 2001

TSGS#13(01)0435

Source: **SA1**

Title: **CRs to 22.228 on Interworking with internet and Determination of terminal capability**

Document for: **Approval**

Agenda Item: **7.1.3**

Doc-1st-Level	Spec	CR	Rev	Phase	Cat	Subject	Vers	Vers New	Doc-2nd-Level
SP-010435	22.228	007		Rel-5	D	Interworking with internet	5.2.0	5.3.0	S1-010824
SP-010435	22.228	008		Rel-5	C	Determination of terminal capability	5.2.0	5.3.0	S1-010825

TSG-SA WG 1 (Services) meeting #13
Lake Tahoe, USA, 9-13 July 2001

TSG S1 (01) 0824

Agenda Item: 7

CR-Form-v4

CHANGE REQUEST

⌘ **22.228** **CR** **007** ⌘ ev **-** ⌘ Current version: **5.2.0** ⌘

*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:	⌘	Interworking with Internet
Source:	⌘	SA1
Work item code:	⌘	IMS
Date:	⌘	13th July 2001
Category:	⌘	**D**
Release:	⌘	REL-5

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)*

Reason for change:	⌘	The requirement for interworking with internet is stated twice.
Summary of change:	⌘	Deleting one of those statements.
Consequences if not approved:	⌘	Confusing specification.

Clauses affected:	⌘	5
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ 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/3G_Specs/CRs.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 ~~and Internet~~
- 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.

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.

- ~~registration~~ 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.