Work Item Description

Title: SIP Call Control protocol for the IM CN Subsystem

1   3GPP Work Area

	Radio Access
X	Core Network
X	Services

2   Linked work items

Related work items are:
1. Architecture for Call control and roaming to support IP-based multimedia services in UMTS. S2
2. Real Time QoS for packet services including VoIP. S2, N1, RAN3 etc.
3. Emergency call enhancements - IP&PS based Emergency call enhancements. N1 etc
4. Roaming support within and between IP Multi-media network and CS Domain networks.S2, N4 etc
5. Lawful interception architecture. S3 etc

3   Justification

The work item "An architecture for Call control and roaming to support IP-based multimedia services in UMTS"
describes the ongoing work in 3GPP for Rel. 5, which has been initially tasked by SA to S2 under the "all-IP
option" by SA#4 (6/99). Impacts on SIP to transport QoS parameters on an intra-PLMN, as well as end-to-end.

The work item describes the ongoing work in 3GPP CN1 for Rel. 5.

4   Objective

The objective of this work item is to specify the Call Control protocol for the IM CN Subsystem for control of
multimedia services based on the current Session Initiated Protocol, IETF RFC2543 (SIP) and the Session
Description Protocol, IETF RFC 2327 (SDP) with required enhancements for 3GPP requirements to facilitate a
multi-vendor, multi-system environment.

Stage 2 call flow descriptions and stage 3 protocol descriptions will be developed for signalling over the Gm, Mw,
Mm and Mg reference points based upon the SIP Call Control Protocol and SDP. Deviations from IETF SIP
should only be applied when deemed ~~absolutely~~ necessary. 3GPP specific SIP extensions should kept to an
absolute minimum in order to allow the usage of as generic SIP protocol stacks as possible.~~3GPP SIP extensions~~
~~should only be provided when deemed absolutely necessary~~.
As per normal working procedure any changes which affect the high level architecture will be co-ordinated with S2.

5   Service Aspects

New services which are to be provided by this network subsystem are currently defined by a separate work item
in S1. The architectural aspects are being defined in S2.

6   MMI-Aspects

yes, as new, IP-based based call control protocol will be used in the terminal

7   Charging Aspects

yes, but no impact on CN1

8   Security Aspects

yes, security mechanisms for IP-based multimedia shall be addressed by S3 with CN1 providing the specific
protocol work as necessary.

9   **Impacts**

Affects:	USIM	ME	RAN	CN	Others
Yes		x		x	
No			X		
Don't know	X				

10   **Expected Output and Time scale (to be updated at each plenary)**

Meeting	Date	Activity
CN1#11	May 22-26, 2000	Rapporteur appointed for CN1 group.
SA2 & CN1	August 15-16, 2000	Joint meeting to plan work item schedule.
CN1#13	August 14-18, 2000	
CN#9	September 20-22, 2000	
N1 SIP Ad-hoc #1	17-19 October 2000	
CN1#14	November 20-24, 2000	Editor appointed for 24.228, 24.229, 23.218cde
CN1 & SA2	November 28-29, 2000	
CN#10	December 6-8, 2000	
CN1#15	January 15-19, 2001	
CN1 & SA2	February 13-15, 2001	
CN1 #16	February 27 March 1, 2001	
CN #11	March 14-16, 2001	
CN1 & SA2 SIP ad hoc	April 3-4, 2001	
CN1 #17	May 14-18, 2001	
CN #12	June 13-15, 2001	24.228 presented for information to TSG
CN1 ad hoc	July 11-12, 2001	
CN1 #18	August 27-31, 2001	
CN #13	September 19-21, 2001	24.229 and 23.218cde presented for information to TSG
CN1 #19	October 15-19, 2001	
CN1 #20	November 20-23, 2001	
CN#14	December 12-14, 2001	Freezing of 24.228, 24.229 and 23.218cde

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
24.228	Signalling flows for the IP multimedia call control based on SIP and SDP	N1	S2	CN#12	CN#14	Stage 2 specifying the information flows on the Gm, Mw, Mg and Mm reference points in relation to UMTS specific traffic cases e.g. interaction between lower layer access signalling (GPRS Session Management –SM, GPRS Mobility Management - GMM etc.) and SIP call control protocol. Impact to user plane radio resource allocation procedures, handover/SRNS relocation procedures etc. S2's stage 2 will cover the architecture and CN1will cover the detailed information flows.
24.229	IP Multimedia Call Control Protocol based on SIP and SDP	N1		CN#13	CN#14	Stage 3 specifying the UMTS protocol impacts on the Gm, Mw, Mg and Mm reference points e.g. detailed message definition and any enhancements required to SIP
23.218c de	IP Multimedia (IM) Session Handling; IP multimedia (IM) call model	N1		CN#13	CN#14	This specifies the IP Multimedia (IM) Call Model for handling of an IP multimedia session origination and termination for an IP Multimedia subscriber. This specification includes interactions between the Service Platform and IP multimedia sessions.
Ed comment: there will be potentially other new specs, including Stage 3s, yet to be identified						
Affected existing specifications						
Spec No.	CR	Subject		Approved at plenary #		Comments
Ed comment: further impacts to R99 specifications to be identified						

Affected existing or new IETF specifications				
Spec No.	CR	Subject	Approved at plenary #	Comments
draft-ietf-sip-rfc2543bis		SIP: Session Initiation Protocol		Approval dates not yet known
draft-sip-manyfolks-resource		Integration of resource management and SIP		Approval dates not yet known
draft-ietf-sip-100rel		Reliability of Provisional Responses in SIP		Approval dates not yet known
draft-ietf-sip-privacy		SIP extensions for caller identity and privacy		Approval dates not yet known
draft-ietf-sip-call-auth		SIP extensions for media authorization		Approval dates not yet known
draft-roach-sip-subscribe-notify		Event Notification in SIP		Approval dates not yet known. Draft not yet adopted as a working group item
		(Others to be identified)		

11   Work item raporteurs

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12   Work item leadership

N1

13   Supporting Companies

Lucent, T-Mobil, BT, Ericsson, Vodafone, Motorola, CSELT, Nortel Networks, Nokia.

14   Classification of the WI (if known)

	Feature (go to 14a)
	Building Block (go to 14b)
X	Work Task (go to 14c)

14b   The WI is a Work Task (14c).