3GPP TSG CN Plenary Meeting #15 **NP-020061**
6th – 8th March 2002. Jeju, Korea.

Source: CN4

Title: IP Multimedia CN subsystem, CSCF-HSS (Cx) interface

Agenda item: 9.1

Document for: Information/Approval

Work Item Description

Title: Cx interface (CSCF-HSS) **1286**

1 3GPP Work Area

	Radio Access
X	Core Network
	Services

2 Linked work items

Related WIs are:

1. *Provisioning of IP-based Multimedia services (1273-SA1)*
2. *Call Control and Roaming to support IMS in UMTS (1274-SA2)*
3. *Call Control and Roaming to support IMS in UMTS - Stage 1 (1633-SA1)*
4. *Call Control and Roaming to support IMS in UMTS - Stage 2 (Architecture and Main Flows) (1514-SA2)*
5. *SIP Call Control protocol for the IM Subsystem (2233-CN1)*
6. *IMS Signalling Flows (TS 24.228) (1998-CN1)*
7. *IMS Session Handling; stage 2 (TS 23.218) (2255-CN1)*
8. *Support of VHE/OSA by the IMS (1310-CN5)*
9. *Support of CAMEL by the IMS (12000-CN2)*

3 Justification

The IP Multimedia (IM) Subsystem identified new Core Network entities and interfaces for the purpose of supporting multimedia sessions and services. The specification of the Cx interface, between the Home Subscriber Server (HSS) and the Call/Session Control Function (CSCF) is an essential element of the IP Multimedia Subsystem.

The Home Subscriber Server (HSS) is the master database for a given user containing the subscription-related information to support the network entities actually handling calls/sessions.

The HSS consists of the following functionality:

- User control functions required by the IM CN subsystem.
- The subset of the HLR functionality required by the PS-Domain.

– And the CS part of the HLR, if it is desired to enable subscriber access to the CS-Domain or to support roaming to legacy GSM/UMTS CS-Domain networks

The CSCF is essentially a SIP Proxy (as described by RFC 2543) and hosts the execution of SIP media sessions.

4 Objective

The objective of this WI is threefold:

- To specify the data structures and information flows of the Cx interface. The output will be the Technical Specifications containing the Stage 2 and Stage 3 specification of procedures relevant to the Cx interface, such as Registration procedures, Session/Call handling procedures, user Authentication/Authorisation procedures, Restoration procedures, Network- or User-initiated subscriber data modifications.
- To perform a comprehensive evaluation of candidate protocols, which provide the identified functionality of the Cx interface, following the requirements from TR 23.821 and TS 23.228. The output should be a recommendation on the most suitable protocol(s) for the Cx interface.
- To describe the subscription data relevant for the provision of IP Multimedia stored in the IM CN Subsystem Network Elements (HSS, CSCF). The output of the Work Item 'User Profile Definition' (see linked WI list) should be input for this part.

5 Service Aspects

3GPP is no longer standardising services, but service capabilities, which has an impact on the contents of the user profile.

6 MMI-Aspects

None

7 Charging Aspects

None

8 Security Aspects

TSG SA WG3 should address the stage 1 for the secure transport of messages over the Cx interface.

9 Impacts

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

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

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
29.228	IP Multimedia Subsystem Cx Interface Signalling Flows and Message Contents	CN4		CN#14	CN#16~~5~~	Functional classification of procedures and message parameters on the Cx reference point.
29.229	CX Interface based on the Diameter protocol	CN4		CN#14	CN#16~~5~~	Stage 3 specifying the UMTS protocol impacts on the Cx reference point based on Diameter (I-CSCF/S-CSCF and HSS).

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
23.008		Organization of subscriber data	CN#16~~5~~	This specification may need to be extended with the new NEs and the subscription information that they contain, or alternatively subscriber data for the IM domain may be captured elsewhere (decision to be made when stage 2 becomes stable).
23.016		Subscriber Data Management	CN#16~~5~~	This specification may need to be extended with the subscriber data for the IM domain.
-	-	To be determined	CN#16~~5~~	Other Stage 2 and Stage 3 specifications may be impacted as a result of this Work Item
Affected existing and new IETF specifications				
draft-johansson-aaa-diameter-mm-app-~~01alpha1~~.txt~~draft-xxxx-aaa-dma-xx-xx.txt~~		Diameter Multimedia Application		Approval dates not known
Draft-calhoun-sip-aaa-reqs-03-.txt		AAA Requirements for IP Telephony/Multimedia		Approval dates not known

11 Work item raporteurs

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12 Work item leadership

CN4

13 Supporting Companies

BT, Ericsson, Nokia, Motorola, Lucent, Siemens, Nortel Networks, Alcatel, and France Telecom

14 Classification of the WI (if known)

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

14c The WI is a Work Task: parent Building Block

Stage 3 description of IMS interfaces *(10001-CN)*