

TSG-SA WG1 SWGs for SA1 #29
Kista, Sweden, 2nd to 4th May 2005

S1-050582
Agenda Item: 7.3

Title: LS on requirements for voice call continuity
Response to: none
Release: Rel-7
Work Item: Voice call continuity between CS and IMS

Source: SA1
To: SA2, SA3
Cc: TSG SA

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Attachments: S1-050581 "Voice call continuity requirements"

1. Overall Description:

Based on an action assigned to SA1 at SA#28, SA1 has investigated requirements for voice call continuity between CS and IMS based on the WID approved in SP-050177. As a result of this investigation SA1 have agreed a CR (S1-050581) to TS 22.101 to introduce requirements for voice call continuity. The CR agreed in SA1 is attached to this LS for the information of SA2 and SA3.

SA1 understands that SA2 is undertaking a feasibility study on the potential architectural solutions for voice call continuity. SA1 requests that SA2 progress work on this feasibility study in alignment with the service requirements agreed within SA1. SA1 would like to invite feedback from SA2 on the technical implications of the defined service requirements. More specifically, SA1 requires the highest possible performance for voice call continuity (e.g. minimum delay, unaffected user experience) and requests SA2 investigate architectural solutions that satisfies these requirements.

SA1 intends to further investigate the service requirements for voice call continuity based on use cases and an analysis of the potential scenarios for this functionality. The results of this investigation will be provided to SA2 as deemed appropriate.

SA1 would like to inform SA2 that SA1 intends to study multimedia telephony capabilities for IMS based on a new WID agreed in S1-050513, included in this study is the definition of supplementary services within IMS. SA1 believe that the work on multimedia telephony capabilities for IMS is linked to the work on voice call continuity and alignment between the service requirements for both features may be needed in the future. Based on this, the timelines for both work items may need to be aligned.

2. Actions:

To SA2 group.

ACTION: SA1 respectfully requests that SA2 progress work on the feasibility study on the potential architectural solutions for voice call continuity in alignment with the service requirements contained in the

attached CR. SA1 also requests that SA2 provide feedback on the potential performance of architectural solutions for voice call continuity and the technical feasibility of satisfying the service requirements agreed within SA1.

Additionally, SA1 requests that SA2 provide information on any work SA2 are undertaking on supplementary services related to voice call continuity.

To SA3 group.

ACTION: SA1 respectfully requests that SA3 review these initial high level requirements and determine if there are any impacts to security and authentication requirements.

3. Date of Next TSG-SA1 Meetings:

SA1#29	11 – 15 July 2005	Povoa de Varzim, Portugal	EF3
SA1#30	24 – 28 October 2005	Vancouver, Canada	North American Friends of 3GPP

CR-Form-v7

CHANGE REQUEST

22.101 CR 164 rev - Current version: 7.1.0

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 ☒

Title:	Voice call continuity requirements		
Source:	SA1		
Work item code:	VCC	Date:	02/05/2005
Category:	B 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 .		Release: Rel-7 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) Rel-6 (Release 6)

Reason for change:	Work is ongoing on the architecture to support a function known as 'voice call continuity' as described within the WID approved in SP-050177. No service requirements exist for this functionality within the 3GPP specifications. Specification of service requirements is needed to ensure the specification of the architecture and protocol enhancements provide a functionality that satisfies the needs of the mobile telecommunications industry, in particular to ensure that the specified functionality satisfies the requirements of mobile network operators. Also, 3GPP working practices usually require the specification of service requirements for a particular functionality before its technical implementation is specified.
Summary of change:	Addition of requirements for voice call continuity.
Consequences if not approved:	No service requirements for voice call continuity will exist within 3GPP specifications preventing the specification of its technical realisation within 3GPP.

Clauses affected:	A new section is added for Voice Call Continuity.														
Other specs affected:	<table border="1"> <tr> <td></td> <td>Y</td> <td>N</td> </tr> <tr> <td>Other core specifications</td> <td>X</td> <td></td> </tr> <tr> <td>Test specifications</td> <td></td> <td>X</td> </tr> <tr> <td>O&M Specifications</td> <td></td> <td>X</td> </tr> </table>		Y	N	Other core specifications	X		Test specifications		X	O&M Specifications		X	To be determined by the appropriate 3GPP TSG WG.	
	Y	N													
Other core specifications	X														
Test specifications		X													
O&M Specifications		X													
Other comments:	New section should be added immediately following section 18.														

1st Modified Section

x Voice Call Continuity

The 3GPP system shall be able to provide continuity between CS voice services (Teleservice 11[14]) and IMS voice services [27] with no negative impact upon the user's experience of the voice service. This functionality is known as voice call continuity. Voice call continuity shall be executed when continuation of a voice service is required based on operator policy across a change in the connection of the UE to the 3GPP system as the user moves from using the CS domain to using IMS and vice versa.

The user experience shall be unaffected by the transition from a CS voice service to an IMS voice service and vice versa, and the user shall experience no disruption in the voice service provided.

It shall be possible to support Voice call continuity between IMS and the CS domain belonging to different operators: i.e., when the user's IMS services are under the control of the home IMS and the user is roaming in the coverage of the visited CS network.

x.1 Support of Supplementary Services

The minimum set of supplementary services which are available to the user shall continue to work during and after voice call continuity has been performed.

Note: The support of specific supplementary services (e.g. a minimum set of supplementary services for voice call continuity) and the detailed definition of supplementary services within IMS is under consideration.

x.2 Quality of Service

Voice call continuity shall not adversely impact the quality of the voice service experienced by the user.

x.3 Security

Voice call continuity shall not adversely impact the security of the 3GPP system.

Security mechanisms of the 3GPP system shall be reused for voice call continuity.

x.4 Emergency calls

Voice call continuity of emergency calls shall only be performed in the case that the target network supports emergency calls and the user is moving out of coverage.

End of changes