

Source: TSG CN WG 1

Title: CRs to Rel-5 on Work Item IMS-CCR towards 24.229,- pack 2

Agenda item: 8.1

Document for: APPROVAL

Introduction:

This document contains 9 CRs, Rel-5 to Work Item "IMS-CCR", that have been agreed by TSG CN WG1, and are forwarded to TSG CN Plenary meeting #19 for approval.

Spec	CR	Rev	Cat	Phase	Subject	Version-Current	Version-New	Meeting-2nd-Level	Doc-2nd-Level
24.229	300	1	F	Rel-5	488 message with a subset of allowed media parameters	5.3.0	5.4.0	N1-28	N1-030245
24.229	301	1	F	Rel-5	Handling of Emergency Numbers in P-CSCF	5.3.0	5.4.0	N1-28	N1-030239
24.229	302	2	F	Rel-5	Correction of the registration state event package	5.3.0	5.4.0	N1-28	N1-030268
24.229	305	2	F	Rel-5	User initiated de-registration at P-CSCF	5.3.0	5.4.0	N1-28	N1-030295
24.229	306	2	F	Rel-5	Network-initiated deregistration at UE, P-CSCF, and S-CSCF	5.3.0	5.4.0	N1-28	N1-030296
24.229	307	2	F	Rel-5	UE deregistration during established dialogs	5.3.0	5.4.0	N1-28	N1-030297
24.229	308	2	F	Rel-5	S-CSCF handling of deregistration during established dialogs	5.3.0	5.4.0	N1-28	N1-030298
24.229	309	1	F	Rel-5	S-CSCF handling of established dialogs upon deregistration	5.3.0	5.4.0	N1-28	N1-030233
24.229	310	2	F	Rel-5	S-CSCF handling of established dialogs upon registration-lifetime expiration	5.3.0	5.4.0	N1-28	N1-030299

CR-Form-v7

CHANGE REQUEST

⌘ **24.229 CR 300** ⌘ rev **1** ⌘ Current version: **5.3.0** ⌘

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:	⌘ 488 message with a subset of allowed media parameters		
Source:	⌘ Orange		
Work item code:	⌘ IMS-CCR	Date:	⌘ 16/01/2003
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ In LS Tdoc N1-030049 from SA plenary meeting #18, bullet 6 indicates that CN1 shall allow that only a subset of the allowed media parameters could be inserted in the 488 message (instead of all allowed media parameters).
Summary of change:	⌘ It is added that P-CSCF and S-CSCF shall be able to insert either the whole set of allowed media parameters or a subset of it in the 488 message.
Consequences if not approved:	⌘ If this CR is not approved, then TS24.229 will not be aligned with SA plenary decision.

Clauses affected:	⌘ 6.2, 6.3										
Other specs affected:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	X	X	X	X	Other core specifications	⌘
Y	N										
X	X										
X	X										
X	X										
		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.

6.2 Procedures at the P-CSCF

When the P-CSCF receives any SIP request or response containing SDP, the P-CSCF shall examine the media parameters in the received SDP. If the P-CSCF finds any media parameters which are not allowed on the network by local policy, the P-CSCF shall return a 488 (Not Acceptable Here) response containing SDP payload. This SDP payload contains either all the media types, codecs and other SDP parameters which are allowed according to the local policy, or, based on configuration by the operator of the P-CSCF, a subset of these allowed parameters. This subset may depend on the content of the received SIP request or response. The P-CSCF shall build the SDP payload in the 488 (Not Acceptable Here) response in the same manner as a UAS builds the SDP in a 488 (Not Acceptable Here) response as specified in RFC 3261 [26]. The P-CSCF shall order the SDP payload with the most preferred codec listed first.

When the P-CSCF receives an initial INVITE request for a terminating session setup or a 183 (Session Progress) response to an INVITE request for an originating session setup, the P-CSCF may modify the SDP according to draft-ietf-mmusic-reservation-flows-01 [54] to indicate to the UE that particular media stream(s) shall be grouped according to a local policy. The policy is used to determine whether the P-CSCF will request the UE to keep media stream(s) grouped in different PDP contexts and identify the relation between different media streams and PDP contexts (see subclause 9.2.5).

The P-CSCF shall apply and maintain the same policy within the SDP from the initial request or response containing SDP and throughout the complete SIP session. If a media stream is added and grouping apply to the session, the P-CSCF shall modify the SDP according to draft-ietf-mmusic-reservation-flows-01 [54] to indicate to the UE that the added media stream(s) will be grouped into either a new group or into one of the existing groups. The P-CSCF shall not indicate re-grouping of media stream(s) within the SDP.

The P-CSCF shall not apply draft-ietf-mmusic-reservation-flows-01 [54] to the SDP for additional media stream(s), if grouping of media stream(s) was not indicated in the initial INVITE request or 183 (Session Progress) response.

-----Next Changes-----

6.3 Procedures at the S-CSCF

When the S-CSCF receives any SIP request or response containing SDP, the S-CSCF shall examine the media parameters in the received SDP. If the S-CSCF finds any media parameters which are not allowed based on either local policy or the subscription, the S-CSCF shall return a 488 (Not Acceptable Here) response containing SDP payload. This SDP payload contains either all the media types, codecs and other SDP parameters which are allowed according to the local policy and users subscription or, based on configuration by the operator of the S-CSCF, a subset of these allowed parameters. This subset may depend on the content of the received SIP request or response. The S-CSCF shall build the SDP payload in the 488 (Not Acceptable Here) response in the same manner as a UAS builds the SDP in a 488 (Not Acceptable Here) response as specified in RFC 3261 [26].

CR-Form-v7

CHANGE REQUEST

⌘ **24.229 CR 301** ⌘ rev **1** ⌘ Current version: **5.3.0** ⌘

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:	⌘ Handling of Emergency Numbers in P-CSCF		
Source:	⌘ Nokia		
Work item code:	⌘ IMS-CCR	Date:	⌘ 27/01/2003
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ Further clarification is needed for how the P-CSCF handles the emergency numbers as received from the UE (Release 5 specific). Local numbers can directly be recognized, for all numbers from other networks, the P-CSCF needs to interpret MCC/MNC.
Summary of change:	⌘ Different handling of local and other network emergency numbers
Consequences if not approved:	⌘ P-CSCF would unnecessarily look into MCC/MNC if it receives a local emergency number.

Clauses affected:	⌘										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X	X	X	X	X	X	Other core specifications	⌘
Y	N										
X	X										
X	X										
X	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

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5.2.10 Emergency service

The P-CSCF shall store a configurable list of local emergency numbers and emergency URLs, i.e. those used for emergency services by the operator to which the P-CSCF belongs to. In addition to that, the P-CSCF shall store a configurable list of roaming partners' emergency numbers and emergency URLs associated with MCC and MNC codes.

NOTE: Certain SIP URLs may be classified as emergency URLs in all networks.

The P-CSCF shall inspect the Request URI of all INVITE requests for known emergency numbers and emergency URLs from these configurable lists. If the P-CSCF detects that the Request-URI of the INVITE request matches one of the numbers in any of these lists, the INVITE request shall not be forwarded. The P-CSCF shall answer the INVITE request with a 380 (Alternative Service) response.

In order to determine whether the INVITE request is destined for an emergency centre in the roaming country (i.e. the list of roaming partners' are inspected), the P-CSCF shall compare the MCC and the MNC fields in the received in the P-Access-Network-Info header of the INVITE request against its own MCC and MNC codes.

~~The P-CSCF shall inspect the Request URI of all INVITE requests from the UE for known emergency numbers and emergency URLs based on the MCC and MNC received in the P-Access-Network-Info header of the received INVITE request. If the P-CSCF detects that the Request URI of the INVITE request includes an emergency number, the INVITE request shall not be forwarded. The P-CSCF shall answer the INVITE request with a 380 (Alternative Service) response.~~

The 380 (Alternative Service) response shall contain a Content-Type header field with the value set to associated MIME type of the 3GPP IMS XML body as described in subclause 7.6.1.

The 3GPP IMS XML body shall contain an <alternative-service> element that indicates the parameters of the alternative service. The <type> child element shall be set to "emergency" to indicate that it was an emergency call. An operator configurable <reason> child element shall be included with a reason phrase.

CR-Form-v7

CHANGE REQUEST

24.229 CR 302 # rev **2** # Current version: **5.3.0**

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:	# Correction of the Registration state event		
Source:	# Siemens AG		
Work item code:	# IMS-CCR	Date:	# 20/01/03
Category:	# F	Release:	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# Correction to the notification about registration state and network initiated re-authentication request using the registration state event package.
Summary of change:	# Re-authentication request is indicated, using <registration> element(s) with the state attribute set to "active" and the event attribute set to "shortened" for a public user identity instead of using state attribute "terminated" and event attribute "probation" Thus, it is clarified that the public user id is still active and can be used, whereas if the user id is indicated as terminated, it is would be unclear how the UE shall behave e.g. when a session is established using that public user id. Additionally, the <contact> element of an automatically registered public user ids should be indicated as "state=active" and "event=created" rather than just using "event=registered".
Consequences if not approved:	# Misalignment with draft-ietf-sippinh-reg-event-00 and undefined UE behaviour in case of network initiated re-authentication.

Clauses affected:	# 5.1.1.5.2; 5.4.1.6; 5.4.2.1.2;										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	Y	N	X						Other core specifications	# 3GPP TS 24.228
Y	N										
X											
		Test specifications									
		O&M Specifications									
Other comments:	#										

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- 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.

*****UE Procedures*****

5.1.1.5.2 Network-initiated re-authentication

Upon receipt of a NOTIFY request on the dialog which was generated during subscription to the reg event package as described in subclause 5.1.1.3, including one or more <registration> element(s) with the state attribute set to "~~terminated~~active" and the event attribute set to "~~probation~~shortened" for a public user identity, the UE shall use the expiry attribute within the <contact> element to adjust the expiration time for that public user identity and start the re-authentication procedures at the appropriate time (see 5.1.1.4) after the time elapsed in "retry-after" attribute by initiating a reregistration as described in subclause 5.1.1.4.

*****S-CSCF procedures*****

5.4.1.6 Network-initiated reauthentication

The S-CSCF may request a subscriber to reauthenticate at any time, based on a number of possible operator settable triggers as described in subclause 5.4.1.2.

If the S-CSCF is informed that a private user identity needs to be re-authenticated, the S-CSCF shall generate a NOTIFY request on all dialogs which have been established due to subscription to the reg event package of that user. For each NOTIFY request the S-CSCF shall:

- 1)- set the Request-URI and Route header to the saved route information during subscription;
- 2)- set the Event header to the "reg" value; and
- 3)- in the body of the NOTIFY request, include as many <registration> elements as many public user identities the S-CSCF is aware of the user owns:
 - a)- set the <contact> sub-element of each <registration> element to the contact address provided by the UE;
 - b)- set the aor attribute within each <registration> element to one public user identity;
 - c)- set the state attribute within each <registration> element to "~~terminated~~active";
 - d)- set the state attribute within each <contact> element to "~~terminated~~active";
 - e)- set the event attribute within each <contact> element to "~~probation~~shortened"; and
 - f)- set ~~the retry-after~~expiry attribute within each <contact> element to an operator defined value.

Afterwards the S-CSCF shall wait for the user to reauthenticate (see subclause 5.4.1.2).

NOTE: Network initiated re-authentication might be requested from the HSS or may occur due to internal processing within the S-CSCF.

The S-CSCF shall only include the non-barred public user identities in the NOTIFY request.

When generating the NOTIFY request, the S-CSCF shall shorten the validity of subscriber's registration timer to an operator defined value that will allow the user to be re-authenticated. If, for any reason, the reauthentication procedure is not successfully completed, the S-CSCF shall deregister all public user identities associated with the private user identity, as described in subclause 5.4.1.5, and terminate the ongoing sessions of that user.

5.4.2.1.2 Notification about registration state

If the registration state of one or more public user identities changes, the S-CSCF shall generate a NOTIFY request on all dialogs which have been established due to subscription to the reg event package of that user. For each NOTIFY request, the S-CSCF shall:

- 1)- set the Request-URI and Route header to the saved route information during subscription;
- 2)- set the Event header to the "reg" value;
- 3)- in the body of the NOTIFY request, include as many <registration> elements as many public user identities the S-CSCF is aware of the user owns; and
- 4)- set the aor attribute within each <registration> element to one public user identity:
 - a)- set the <contact> sub-element of each <registration> element to the contact address provided by the UE; and
 - b)- if the public user identity:
 - I)- has been deregistered then:
 - set the state attribute within the <registration> element to "terminated";
 - set the state attribute within the <contact> element to "terminated"; and
 - set the event attribute within the <contact> element to "deactivated", "expired", "unregistered", "probation" or "rejected" according draft-ietf-sipping-reg-event-00 [43]; or
 - II)-has been registered then:
 - set the state attribute within the <registration> element to "active";
 - set the state attribute within the <contact> element to "active"; and
 - set the event attribute within the <contact> element to "registered"; or
 - III)- has been automatically registered:-
 - set the state attribute within the <registration> element to "active";
 - set the state attribute within the <contact> element to "active"; and
 - set the event attribute within the <contact> element to "created"

The S-CSCF shall only include the non-barred public user identities in the NOTIFY request.

EXAMPLE: If sip:user1_public1@home1.net is registered, the public user identity sip:user1_public2@home1.net can automatically be registered. Therefore the entries in the body of the NOTIFY request look like:

```
<?xml version="1.0"?>
<reginfo xmlns="urn:ietf:params:xml:ns:reginfo"
  version="0" state="full">
  <registration aor="sip:user1_public1@home1.net" id="as9"
    state="active">
    <contact id="76" state="active" event="registered"
      >sip:[5555::aaa:bbb:ccc:ddd]</contact>
  </registration>
  <registration aor="sip:user1_public2@home1.net" id="as10"
    state="active">
    <contact id="86" state="active" event="registeredcreated"
      >sip:[5555::aaa:bbb:ccc:ddd]</contact>
  </registration>
</reginfo>
```

CR-Form-v7	CHANGE REQUEST
⌘ 24.229 CR CR 305 ⌘ rev 2 ⌘ Current version: 5.3.0 ⌘	

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:	⌘	User initiated de-registration at P-CSCF	
Source:	⌘	Lucent	
Work item code:	⌘	IMS-CCR	Date: ⌘ 14/02/2003
Category:	⌘	F	Release: ⌘ Rel-5
		Use <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
		F (correction)	2 (GSM Phase 2)
		A (corresponds to a correction in an earlier release)	R96 (Release 1996)
		B (addition of feature),	R97 (Release 1997)
		C (functional modification of feature)	R98 (Release 1998)
		D (editorial modification)	R99 (Release 1999)
		Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘	Currently the subclause 5.2.5.1 specifies that - upon receiving the 200 OK for the deregistration of the last registered public user identity - the P-CSCF shall remove the SAs toward the UE. However, based on the RFC 3261, the SAs should be removed after the transaction handling this request has terminated.
Summary of change:	⌘	Add text that indicates that the P-CSCF shall remove the SAs towards the UE after the relevant server transaction terminates.
Consequences if not approved:	⌘	Incorrect specification.

Clauses affected:	⌘	5.2.5.1									
Other specs affected:	⌘	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications	Y	N		X		X		X	⌘
		Y	N								
			X								
			X								
	X										
Test specifications	⌘										
O&M Specifications	⌘										
Other comments:	⌘	Revision 1 incorporates all modifications requested by the CN1 WG.									

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5.2.5.1 User-initiated deregistration

When the P-CSCF receives a 200 (OK) response to a REGISTER request (sent according to subclause 5.2.2), it shall check the value of the Expires header field and/or expires parameter in the Contact header field. When the value of the Expires header field or expires parameter equals zero, then the P-CSCF shall:

- 2+) remove the public user identity found in the To header field, and all the associated public user identities, from the registered public user identities list and all related stored information; and
- 3) check if the user has left any other registered public user identity. When all of the public user identities of a user are deregistered, the P-CSCF shall, if the subscription to the reg event package for that user is still alive, remove the SAs towards that user and cancel terminate the subscription to the reg event package for that user by sending a SUBSCRIBE request with an Expires header containing a value of zero. The P-CSCF shall also remove the SAs towards that user after the server transaction (as defined in RFC 3261[26]) pertaining to this deregistration terminates.

NOTE: There is no requirement to distinguish a REGISTER request relating to a registration from that relating to a deregistration. For administration reasons the P-CSCF may distinguish such requests, however this has no impact on the SIP procedures.

CHANGE REQUEST

⌘ **24.229 CR CR 306** ⌘ rev **2** ⌘ Current version: **5.3.0** ⌘

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:	⌘	Network-initiated deregistration at UE , P-CSCF , and S-CSCF	
Source:	⌘	Lucent, Nokia	
Work item code:	⌘	IMS-CCR	Date: ⌘ 10/02/2003
Category:	⌘	F	Release: ⌘ Rel-5
		Use <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
		F (correction)	2 (GSM Phase 2)
		A (corresponds to a correction in an earlier release)	R96 (Release 1996)
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		Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘	The current text in subclause 5.4.1.5 pertaining to the network-initiated deregistration says: "The S-CSCF shall generate a NOTIFY request on <u>all dialogs</u> which have been established due to subscription to the reg event package of that user." Hence, two simultaneous NOTIFY requests are sent i.e., one to the UE the other to the P-CSCF. However, the subclause 5.2.5.2 specifies that - when P-CSCF receives its NOTIFY request and - "When all of the public user identities of a user are deregistered, the P-CSCF shall remove the SAs towards that user." If the P-CSCF receives <u>its</u> NOTIFY request and removes the SAs, the UE may never receive its NOTIFY request, since the SAs have been removed.
Summary of change:	⌘	Added the text indicating that the S-CSCF shall send NOTIFY request to the P-CSCF after notifying the UE.
Consequences if not approved:	⌘	Incorrect specification.

Clauses affected:	⌘	5.1.1.7 , 5.2.5.2 , 5.4.1.5				
Other specs affected:	⌘	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications ⌘	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N					
<input type="checkbox"/>	<input checked="" type="checkbox"/>					
		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications ⌘	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N					
<input type="checkbox"/>	<input checked="" type="checkbox"/>					
		<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> O&M Specifications ⌘	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Y	N					
<input type="checkbox"/>	<input checked="" type="checkbox"/>					
Other comments:	⌘	Revision 1 also incorporates the text that was originally included in Nokia's CR N1-030196 .				

How to create CRs using this form:

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- 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.

***** 1st change *****

5.1.1.7 Network-initiated deregistration

Upon receipt of a NOTIFY request on the dialog which was generated during subscription to the reg event package as described in subclause 5.1.1.3, including one or more <registration> element(s) with the state attribute set to "terminated" and the event attribute set to "rejected" or "deactivated", the UE shall remove all registration details relating to these public user identities. In case of a "deactivated" event attribute, the UE shall start the reregistration procedure as described in subclause 5.1.1.4.

~~If all public user identities are deregistered~~ Upon receipt of a NOTIFY request with all <registration> element(s) having their state attribute set to "terminated" (i.e. all public user identities are deregistered) and the Subscription-State header contains the value of "terminated", the UE shall remove the security associations towards the P-CSCF after the server transaction (as defined in RFC 3261[26]) pertaining to the NOTIFY request terminates.

NOTE: ~~and the~~ If the security association towards the P-CSCF is removed, then the UE shall consider the subscription to the registration event package ~~terminated~~ cancelled, (i.e. as if the UE had sent a SUBSCRIBE request with an Expires header containing a value of zero, or a NOTIFY request was received with Subscription-State header containing the value of "terminated").

***** 2nd change *****

5.2.5.2 Network-initiated deregistration

Upon receipt of a NOTIFY request on the dialog which was generated during subscription to the reg event package as described in subclause 5.2.3, including one or more <registration> element(s) with the state attribute set to "terminated" the P-CSCF shall remove all stored information for these public user identities.

Upon receipt of a NOTIFY request with all <registration> element(s) having their state attribute set to "terminated" (i.e. all public user identities are deregistered), the P-CSCF shall remove the security associations towards the UE. ~~The P-CSCF shall check if the user has left any other registered public user identity. When all of the public user identities of a user are deregistered, the P-CSCF shall remove the SAs towards that user and cancel the subscription to the reg event package for that user.~~

***** 3rd change *****

5.4.1.5 Network-initiated deregistration

When a network-initiated deregistration event occurs for one or more public user identity, the S-CSCF shall send a NOTIFY request to the UE on the dialog which was generated by the UE subscribing to the registration event package. When the S-CSCF receives a final response to the NOTIFY request or upon a timeout, the S-CSCF shall generate a NOTIFY request on all remaining dialogs which have been established due to subscription to the reg event package of that user. For each NOTIFY request, the S-CSCF shall:

- set the Request-URI and Route header to the saved route information during subscription;
- set the Event header to the "reg" value;

- in the body of the NOTIFY request, include as many <registration> elements as many public user identities the S-CSCF is aware of the user owns;
- set the aor attribute within each <registration> element to one public user identity:
 - set the <contact> sub-element of each <registration> element to the contact address provided by the UE;
 - if the public user identity:
 - has been deregistered then:
 - set the state attribute within the <registration> element to "terminated";
 - set the state attribute within the <contact> element to "terminated"; and
 - set the event attribute within the <contact> element to "deactivated" if the S-CSCF expects the UE to reregister or "rejected" if the S-CSCF does not expect the UE to reregister; or
 - has been kept registered then:
 - set the state attribute within the <registration> element to "active"; and
 - set the state attribute within the <contact> element to "active".

When sending a final NOTIFY request with all <registration> element(s) having their state attribute set to "terminated" (i.e. all public user identities are deregistered), the S-CSCF shall also terminate the subscription to the registration event package by setting the Subscription-State header to the value of "terminated". The reason code as defined in RFC 32651 [286] may also be included in the final NOTIFY request.

~~If all public user identities of the UE are deregistered, then the S-CSCF may consider the UE subscription to the reg event package cancelled (i.e. as if the UE had sent a SUBSCRIBE request with an Expires header containing a value of zero).~~

The S-CSCF shall only include the non-barred public user identities in the NOTIFY request.

Also, the S-CSCF shall send a third-party REGISTER request, as described in subclause 5.4.1.7, to each Application Server that matches the Filter Criteria from the HSS for the REGISTER event.

CR-Form-v7

CHANGE REQUEST

⌘ **24.229 CR CR 307** ⌘ rev **2** ⌘ Current version: **5.3.0** ⌘

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:	⌘ UE deregistration during established dialogs		
Source:	⌘ Lucent		
Work item code:	⌘ IMS-CCR	Date:	⌘ 10/02/2003
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Currently, it is specified that the SAs between the UE and P-CSCF are removed upon the lifetime expiration or deregistration of all public user identities. This will result in the loss of the "signalling channel" between the UE and the P-CSCF. Therefore, there should not be any dialogs in existence upon the lifetime expiration or deregistration of all public user identities.
Summary of change:	⌘ Respective text added.
Consequences if not approved:	⌘ Incomplete specification.

Clauses affected:	⌘ 5.1.1.6										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Revision 1 incorporates all modifications requested by the CN1 WG.										

How to create CRs using this form:

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- 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.

5.1.1.6 Mobile-initiated deregistration

The UE can deregister a previously registered public user identity at any time.

On sending a REGISTER request, the UE shall populate the header fields as follows:

- a) the username field carried in the Authorization header, shall contain the private user identity;
- b) the From header shall contain the public user identity to be deregistered;
- c) the To header shall contain the public user identity to be deregistered;
- d) the Expires header, or the expires parameter of the Contact header, shall contain a value of zero, appropriate to the deregistration requirements of the user; and
- e) a Request-URI that contains the SIP URI of the domain name of the home network.

The UE shall extract or derive from the UICC a public user identity, the private user identity, and the domain name to be used in the Request-URI in the registration, according to the procedures described in subclause 5.1.1.1A.

The UE shall also include the P-Access-Network-Info header in the REGISTER request. This header shall contain information concerning the access network technology and, if applicable, the cell ID (see subclause 7.2.3).

The UE shall integrity protect the REGISTER request using IK, see 3GPP TS 33.203 [19], derived as a result of an earlier registration, if IK is available.

On receiving the 200 (OK) response to the REGISTER request, the UE shall remove all registration details relating to this public user identity.

~~Prior to deregistering the last registered public user identity or the expiration of the registration lifetime of the last registered public user identity, the UE shall release all dialogs associated with the served user.~~

The UE shall release all dialogs prior to deregistering the last registered public user identity.

If there are no more public user identities registered, the UE shall delete the security associations and related keys it may have towards the P-CSCF.

If all public user identities are deregistered and the security association is removed, then the UE shall consider subscription to the reg event package cancelled (i.e. as if the UE had sent a SUBSCRIBE request with an Expires header containing a value of zero).

CHANGE REQUEST

⌘ **24.229 CR CR 308** ⌘ rev **2** ⌘ Current version: **5.3.0** ⌘

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:	⌘ S-CSCF handling of deregistration during established dialogs		
Source:	⌘ Lucent		
Work item code:	⌘ IMS-CCR	Date:	⌘ 10/02/2003
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ Currently, it is specified that the SAs between the UE and P-CSCF are removed upon deregistration of all public user identities. This will result in the loss of the "signalling channel" between the UE and the P-CSCF. Therefore, the UE should release all dialogs in prior to deregistering all public user identities. If the S-CSCF receives a deregistration request for the last registered public user identity, while there are still active multimedia sessions dialogs associated with this user, the S-CSCF should reject the request, release all dialogs, and deregister the UE and release all multimedia sessions toward the far end.
Summary of change:	⌘ Respective text added.
Consequences if not approved:	⌘ Incomplete specification.

Clauses affected:	⌘ 5.4.1.4						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<input checked="" type="checkbox"/>	Test specifications					
	<input checked="" type="checkbox"/>	O&M Specifications					
Other comments:	⌘ Revision 1 incorporates all modifications requested by the CN1 WG.						

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- 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.

5.4.1.4 User-initiated deregistration

When S-CSCF receives a REGISTER request with the Expires header field containing the value zero, the S-CSCF shall:

- check whether the P-CSCF included the Integrity-protection parameter into the Authorization header field set to yes, indicating that the REGISTER request was received integrity protected. The S-CSCF shall only proceed with the following steps if the integrity protection parameter is set to yes;
- deregister the public user identity found in the To header field together with the implicitly registered public user identities; ~~and~~
- send a third-party REGISTER request, as described in subclause 5.4.1.7, to each Application Server that matches the Filter Criteria from the HSS for the REGISTER event; ~~and~~
- ~~if this is a deregistration request for the last registered public user identity and there are still active multimedia sessions associated with this user, the S-CSCF shall release each multimedia session belonging to the served user by applying the steps listed in the subclause 5.4.5.1.2. as follows:~~
 - ~~— if the S-CSCF serves the calling user of a multimedia session, it shall generate a BYE request toward the called user as described in the subclause 5.4.5.1.2 step 1; and~~
 - ~~— if the S-CSCF serves the called user of a multimedia session, it shall generate a BYE request toward the calling user as described in the subclause 5.4.5.1.2 step 2.~~
- ~~— reject the request by returning the 400 (Bad Request) response;~~
- ~~— release all dialogs belonging to this user (as described in subclause 5.4.5.1), except the dialog which was generated by user subscribing to the reg event package (as described in subclause 5.1.1.3); and~~
- ~~— initiate network initiated deregistration (as described in subclause 5.4.1.5).~~

Based on operators' policy the S-CSCF can request from HSS to either be kept or cleared as the S-CSCF allocated to this subscriber. In both cases the state of the subscriber identity is stored as unregistered in the HSS and the S-CSCF. Based on HSS decision, the S-CSCF may either keep all or only a part of the user profile or removes it. If all public user identities of the UE are deregistered, then the S-CSCF may consider the UE and P-CSCF subscriptions to the reg event package cancelled (i.e. as if the UE had sent a SUBSCRIBE request with an Expires header containing a value of zero).

If the Authorization header of the REGISTER request did not contain an Integrity-protection parameter, or the parameter was set to the value 'no', the S-CSCF shall respond to the request with a 403 (Forbidden) response. The response may contain a Warning header with a warn-code 399.

CHANGE REQUEST

⌘ **24.229 CR CR 309** ⌘ rev **1** ⌘ Current version: **5.3.0** ⌘

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:	⌘ S-CSCF handling of established dialogs upon deregistration		
Source:	⌘ Lucent		
Work item code:	⌘ IMS-CCR	Date:	⌘ 10/02/2003
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ The SAs between the UE and P-CSCF are removed after the deregistration of all public user identities. This will result in the loss of the "signalling channel" between the UE and the S-CSCF. Therefore, the S-CSCF should - prior to deregistering the last public user identity - release all dialogs belonging to this user, except the dialog which will be used to send the NOTIFY (de-registration) request to the UE.
Summary of change:	⌘ Text indicating that - prior to network-initiated deregistration of the last public user identity - the S-CSCF shall release all dialogs belonging to this user, except the dialog which will be used to send the NOTIFY request to the UE.
Consequences if not approved:	⌘ Incomplete specification.

Clauses affected:	⌘ 5.4.1.5										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘
Y	N										
	X										
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Revision 1 incorporates all modifications requested by the CN1 WG.										

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- 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.

5.4.1.5 Network-initiated deregistration

Prior to initiating the network-initiated deregistration for the last registered public user identity— while there are still active multimedia sessions~~dialogs~~ belonging to this user,— the S-CSCF shall release all multimedia sessions~~dialogs~~ belonging to this user (as described in subclause 5.4.5.1),— except the dialog which was generated by user subscribing to the reg event package (as described in subclause 5.1.1.3).

When a network-initiated deregistration event occurs for one or more public user identity, the S-CSCF shall generate a NOTIFY request on all dialogs which have been established due to subscription to the reg event package of that user. For each NOTIFY request, the S-CSCF shall:

- set the Request-URI and Route header to the saved route information during subscription;
- set the Event header to the "reg" value;
- in the body of the NOTIFY request, include as many <registration> elements as many public user identities the S-CSCF is aware of the user owns;
- set the aor attribute within each <registration> element to one public user identity:
 - set the <contact> sub-element of each <registration> element to the contact address provided by the UE;
 - if the public user identity:
 - has been deregistered then:
 - set the state attribute within the <registration> element to "terminated";
 - set the state attribute within the <contact> element to "terminated"; and
 - set the event attribute within the <contact> element to "deactivated" if the S-CSCF expects the UE to reregister or "rejected" if the S-CSCF does not expect the UE to reregister; or
 - has been kept registered then:
 - set the state attribute within the <registration> element to "active"; and
 - set the state attribute within the <contact> element to "active".

If all public user identities of the UE are deregistered, then the S-CSCF may consider the UE subscription to the reg event package cancelled (i.e. as if the UE had sent a SUBSCRIBE request with an Expires header containing a value of zero).

The S-CSCF shall only include the non-barred public user identities in the NOTIFY request.

Also, the S-CSCF shall send a third-party REGISTER request, as described in subclause 5.4.1.7, to each Application Server that matches the Filter Criteria from the HSS for the REGISTER event.

CR-Form-v7

CHANGE REQUEST

⌘ **24.229 CR CR 310** ⌘ rev **2** ⌘ Current version: **5.3.0** ⌘

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:	⌘ S-CSCF handling of established dialogs upon registration-lifetime expiration		
Source:	⌘ Lucent		
Work item code:	⌘ IMS-CCR	Date:	⌘ 10/02/2003
Category:	⌘ F	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
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	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-4	(Release 4)
		Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ Since the SAs between the UE and the P-CSCF are removed upon the expiration of the registration-lifetime of all public user identities (resulting in loss of the "signalling channel" toward the served user), the S-CSCF should release all dialogs multimedia sessions toward the far end.
Summary of change:	⌘ Relevant text added.
Consequences if not approved:	⌘ Incomplete specification

Clauses affected:	⌘ propose 5.4.5.1.3						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<input checked="" type="checkbox"/>	Test specifications					
	<input checked="" type="checkbox"/>	O&M Specifications					
Other comments:	⌘ Revision 1 incorporates all modifications requested by the CN1 WG. Revision 2 deletes the two listed bullet.						

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- 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.

5.4.5.1.2 Release of an existing session

Upon receipt of a network internal indication to release an existing multimedia session, the S-CSCF shall:

- 1) generate a first BYE request for the called user based on the information saved for the related dialog, including:
 - a Request-URI, set to the stored Contact header provided by the called user;
 - a To header, set to the To header value as received in the 200 OK response for the initial INVITE request;
 - a From header, set to the From header value as received in the initial INVITE request;
 - a Call-ID header, set to the Call-Id header value as received in the initial INVITE request;
 - a CSeq header, set to the CSeq value that was stored for the direction from the calling to the called user, incremented by one;
 - a Route header, set to the routeing information towards the called user as stored for the dialog;
 - further headers, based on local policy or the requested session release reason.
- 2) generate a second BYE request for the calling user based on the information saved for the related dialog, including:
 - a Request-URI, set to the stored Contact header provided by the calling user;
 - a To header, set to the From header value as received in the initial INVITE request;
 - a From header, set to the To header value as received in the 200 OK response for the initial INVITE request;
 - a Call-ID header, set to the Call-Id header value as received in the initial INVITE request;
 - a CSeq header, set to the CSeq value that was stored for the direction from the called to the calling user, incremented by one – if no CSeq value was stored for that session it shall generate and apply a random number within the valid range for CSeqs;
 - a Route header, set to the routeing information towards the calling user as stored for the dialog;
 - further headers, based on local policy or the requested session release reason.
- 3) if the S-CSCF serves the calling user, treat the first BYE request as if received directly from the calling user, i.e. send it to internal service control and based on the outcome further on towards the called user;
- 4) if the S-CSCF serves the calling user, send the second BYE request directly to the calling user.
- 5) if the S-CSCF serves the called user, send the first BYE request directly to the called user;
- 6) if the S-CSCF serves the called user, treat the second BYE request as if received directly from the called user, i.e. shall send it to internal service control and based on the outcome further on towards to the called user.

Upon receipt of the 2xx responses for both BYE requests, the S-CSCF shall release all information related to the dialog and the related multimedia session.

5.4.5.1.3 Release of the existing dialogs due to registration expiration

When the registration lifetime of the last registered public user identity expires – while there are still active dialogs multimedia sessions belonging to the served user, – the S-CSCF shall release each multimedia session dialog belonging to the served user by applying the steps listed in the subclause 5.4.5.1.2. as follows:

- ~~— if the S-CSCF serves the calling user of a multimedia session dialog, it shall generate a BYE request toward the called user as described in the subclause 5.4.5.1.2 step 1; or and~~
- ~~— if the S-CSCF serves the called user of a multimedia session dialog, it shall generate a BYE request toward the calling user as described in the subclause 5.4.5.1.2 step 2.~~

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