3GPP TSG CN Plenary Meeting #22 **NP-030480**
10th - 12th December 2003. Hawaii, USA.

Source: **TSG CN WG 1**

Title: **CRs to Rel-5 (with mirror CRs) on Work Item IMS-CCR towards 24.229,- pack 5**

Agenda item: **8.1**

Document for: **APPROVAL**

Introduction:

This document contains **4** CRs, **Rel-5 with mirrors to** Work Item **"IMS-CCR"**, that have been agreed by **TSG CN WG1 in CN1#32 meeting**, and are forwarded to TSG CN Plenary meeting #22 for approval.

TDoc #	Tdoc Title	Spec	CR #	Rev	CAT	C_Version	Rel
N1-031715	Reg-await-auth timer value	24.229	567	2	F	5.6.0	Rel-5
N1-031716	Reg-await-auth timer value	24.229	568	2	A	6.0.0	Rel-6
N1-031706	Network initiated deregistration	24.229	570	1	F	5.6.0	Rel-5
N1-031707	Network initiated deregistration	24.229	571	1	A	6.0.0	Rel-6

3GPP TSG-CN1 Meeting #32
Bangkok, Thailand, 27-31 October 2003

Tdoc ⌘N1-031715

CR-Form-v7

CHANGE REQUEST

⌘ **24.229** **CR** **567** ⌘ **rev** **2-** ⌘ Current version: **5.6.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Reg-await-auth timer value
Source:	⌘	Nokia
Work item code:	⌘	IMS-CCR
Date:	⌘	18/10/2003
Category:	⌘	**F**
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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Reg-await-auth timer was till recently thought to be an S-CSCF internal timer, with a configurable value. The P-CSCF sets up the lifetime of the temporary SAs in such a way that the UE will have time to send the response to the challenge. The worst case is, that the second REGISTER carrying the response to the challenge gets lost, and will be retransmitted few times by the UE in case is does not get any final response. Therefore, from P-CSCF perspective the UE has a certain amount of time to respond to the challenge, otherwise the SAs will be deleted. From S-CSCF perspective, the UE has a time of reg-await-auth to respond to the challenge, after that the S-SCCF does not accept the response. It is obvious, that the two timers shall be the same, and their value should be equal to the value of Timer F defined in RFC3261. According to RFC3261, a transaction shall be aborted if there is no response to the request for a time Timer F (non-INVITE transaction timeout timer), which has a value of 64*T1.
Summary of change:	⌘	Reg-await-auth timer has been defined and a value preset for it.
Consequences if not approved:	⌘	Chaotic functionality of the system in case of user registration.

Clauses affected:	⌘	7

Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘	

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.

7.7 SIP timers

The timers defined in RFC 3261 [26] need modification in some cases to accommodate the delays introduced by the air interface processing and transmission delays. Table 7.8 shows recommended values for 3GPP.

Table 7.8 lists in the first column, titled "SIP Timer" the timer names as defined in RFC 3261 [26].

The second column, titled "3GPP value to be applied between network elements" lists the values recommended for network elements e.g. P-CSCF, S-CSCF, MGCF, when communicating with each other i.e. when no air interface leg is included. These values are identical to those recommended by RFC 3261 [26].

The third column, titled "3GPP value to be applied at the UE" lists the values recommended for the UE. These are modified when compared to RFC 3261 [26] to accommodate the air interface delays.

The fourth column, titled "3GPP value to be applied at the P-CSCF toward a UE" lists the values recommended for the P-CSCF when an air interface leg is traversed. These are modified when compared to RFC 3261 [26].

The final column reflects the timer meaning as defined in RFC 3261 [26].

Table 7.8: SIP timers

SIP Timer	3GPP value to be applied between network elements	3GPP value to be applied at the UE	3GPP value to be applied at the P-CSCF toward a UE	Meaning
T1	500ms default	2s default	2s default	RTT estimate
T2	4s	16s	16s	The maximum retransmit interval for non-INVITE requests and INVITE responses
T4	5s	17s	17s	Maximum duration a message will remain in the network
Timer A	initially T1	initially T1	initially T1	INVITE request retransmit interval, for UDP only
Timer B	64*T1	64*T1	64*T1	INVITE transaction timeout timer
Timer C	> 3min	> 3 min	> 3 min	proxy INVITE transaction timeout
Timer D	> 32s for UDP	>128s	>128s	Wait time for response retransmits
	0s for TCP/SCTP	0s for TCP/SCTP	0s for TCP/SCTP	
Timer E	initially T1	initially T1	initially T1	non-INVITE request retransmit interval, UDP only
Timer F	64*T1	64*T1	64*T1	non-INVITE transaction timeout timer
Timer G	initially T1	initially T1	initially T1	INVITE response retransmit interval
Timer H	64*T1	64*T1	64*T1	Wait time for ACK receipt.
Timer I	T4 for UDP	T4 for UDP	T4 for UDP	Wait time for ACK retransmits
	0s for TCP/SCTP	0s for TCP/SCTP	0s for TCP/SCTP	
Timer J	64*T1 for UDP	64*T1 for UDP	64*T1 for UDP	Wait time for non-INVITE request retransmits
	0s for TCP/SCTP	0s for TCP/SCTP	0s for TCP/SCTP	
Timer K	T4 for UDP	T4 for UDP	T4 for UDP	Wait time for response retransmits
	0s for TCP/SCTP	0s for TCP/SCTP	0s for TCP/SCTP	

7.8 IM CN Subsystem timers

Table 7.8 shows recommended values for timers specific to the IM CN subsystem.

Table 7.8: IM CN Subsystem

Timer	Value to be applied at the UE	Value to be applied at the P-CSCF	Value to be applied at the S-CSCF	Meaning
reg-await-auth	not applicable	4 minutes	4 minutes	The timer is used by the S-CSCF during the authentication procedure of the UE. For detailed usage of the timer see subclause 5.4.1.2. The timer is also used by the P-CSCF to set the SIP level lifetime of the temporary set of SAs. For detailed usage of the timer see subclause 5.1.1.5 The authentication procedure may take in the worst case as long as 2 times Timer F. The IM CN subsystem value for Timer F is 128 seconds.

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Bangkok, Thailand, 27-31 October 2003

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CR-Form-v7

CHANGE REQUEST

⌘ **24.229** **CR** **568** ⌘**rev** **2** ⌘ Current version: **6.0.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Reg-await-auth timer value
Source:	⌘	Nokia
Work item code:	⌘	IMS-CCR
Date:	⌘	18/10/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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)*
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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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Reg-await-auth timer was till recently thought to be an S-CSCF internal timer, with a configurable value. The P-CSCF sets up the lifetime of the temporary SAs in such a way that the UE will have time to send the response to the challenge. The worst case is, that the second REGISTER carrying the response to the challenge gets lost, and will be retransmitted few times by the UE in case is does not get any final response. Therefore, from P-CSCF perspective the UE has a certain amount of time to respond to the challenge, otherwise the SAs will be deleted. From S-CSCF perspective, the UE has a time of reg-await-auth to respond to the challenge, after that the S-SCCF does not accept the response. It is obvious, that the two timers shall be the same, and their value should be equal to the value of Timer F defined in RFC3261. According to RFC3261, a transaction shall be aborted if there is no response to the request for a time Timer F (non-INVITE transaction timeout timer), which has a value of 64*T1.
Summary of change:	⌘	Reg-await-auth timer has been defined and a value preset for it.
Consequences if not approved:	⌘	Chaotic functionality of the system in case of user registration.

Clauses affected:	⌘	7

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
		X	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.

7.7 SIP timers

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Table 7.8 lists in the first column, titled "SIP Timer" the timer names as defined in RFC 3261 [26].

The second column, titled "3GPP value to be applied between network elements" lists the values recommended for network elements e.g. P-CSCF, S-CSCF, MGCF, when communicating with each other i.e. when no air interface leg is included. These values are identical to those recommended by RFC 3261 [26].

The third column, titled "3GPP value to be applied at the UE" lists the values recommended for the UE. These are modified when compared to RFC 3261 [26] to accommodate the air interface delays.

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Timer C	> 3min	> 3 min	> 3 min	proxy INVITE transaction timeout
Timer D	> 32s for UDP	>128s	>128s	Wait time for response retransmits
	0s for TCP/SCTP	0s for TCP/SCTP	0s for TCP/SCTP	
Timer E	initially T1	initially T1	initially T1	non-INVITE request retransmit interval, UDP only
Timer F	64*T1	64*T1	64*T1	non-INVITE transaction timeout timer
Timer G	initially T1	initially T1	initially T1	INVITE response retransmit interval
Timer H	64*T1	64*T1	64*T1	Wait time for ACK receipt.
Timer I	T4 for UDP	T4 for UDP	T4 for UDP	Wait time for ACK retransmits
	0s for TCP/SCTP	0s for TCP/SCTP	0s for TCP/SCTP	
Timer J	64*T1 for UDP	64*T1 for UDP	64*T1 for UDP	Wait time for non-INVITE request retransmits
	0s for TCP/SCTP	0s for TCP/SCTP	0s for TCP/SCTP	
Timer K	T4 for UDP	T4 for UDP	T4 for UDP	Wait time for response retransmits
	0s for TCP/SCTP	0s for TCP/SCTP	0s for TCP/SCTP	

7.8 IM CN Subsystem timers

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Bangkok, Thailand, 27-31 October 2003

Tdoc ⌘N1-031706

CR-Form-v7

CHANGE REQUEST

⌘ **24.229** **CR** **570** ⌘**rev** **-1** ⌘ Current version: **5.6.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Network initiated deregistration
Source:	⌘	Nokia
Work item code:	⌘	IMS-CCR
Date:	⌘	18/10/2003
Category:	⌘	**F**
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)*
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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)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In case the network would like the UE drop out from the network completely and send an initial REGISTER in order to get services from another S-CSCF (e.g. in case of S-CSCF maintanance), then the UE should be instructed to send an initial REGISTER if it wants to further use IMS services.
Summary of change:	⌘	The UE is allowed to send an initial REGISTER after getting a NOTIFY with rejected event attribute.
Consequences if not approved:	⌘	There won't be possible to drop out users and ask them to register again, for the cases of network maintanance.

Clauses affected:	⌘	5.1.1.7			
Other specs affected:	⌘	Y	N		
			X	Other core specifications	⌘
			X	Test specifications	
			X	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.

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 ~~re~~initial registration procedure as described in subclause 5.1.1.2~~4~~. In case of a "rejected" event attribute, the UE shall release all dialogs related to those 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) and the Subscription-State header contains the value of "terminated", the UE shall delete the security associations towards the P-CSCF after the server transaction (as defined in RFC 3261 [26]) pertaining to the NOTIFY request terminates.

NOTE 1: Deleting a security association is an internal procedure of the UE and does not involve any SIP procedures.

NOTE 2: If the security association towards the P-CSCF is removed, then the UE considers the subscription to the reg event package terminated (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").

NOTE 3: When the P-CSCF has removed the security association established between the P-CSCF and the UE, further SIP signalling (e.g. the NOTIFY containing the deregistration event) will not reach the UE.

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CHANGE REQUEST

⌘ **24.229** **CR** **571** ⌘ **rev** **1-** ⌘ Current version: **6.0.0** ⌘

*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 [X] Radio Access Network [ ] Core Network [X]

Title:	⌘	Network initiated deregistration
Source:	⌘	Nokia
Work item code:	⌘	IMS-CCR
Date:	⌘	18/10/2003
Category:	⌘	**A** ~~**F**~~
Release:	⌘	Rel-6

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Rel-4	*(Release 4)*
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Rel-6	*(Release 6)*

Reason for change:	⌘	In case the network would like the UE drop out from the network completely and send an initial REGISTER in order to get services from another S-CSCF (e.g. in case of S-CSCF maintanance), then the UE should be instructed to send an initial REGISTER if it wants to further use IMS services.
Summary of change:	⌘	The UE is allowed to send an initial REGISTER after getting a NOTIFY with rejected event attribute.
Consequences if not approved:	⌘	There won't be possible to drop out users and ask them to register again, for the cases of network maintanance.

Clauses affected:	⌘	5.1.1.7			
Other specs affected:	⌘	**Y**	**N**		
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			X	O&M Specifications	
Other comments:	⌘				

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NOTE 1: Deleting a security association is an internal procedure of the UE and does not involve any SIP procedures.

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NOTE 3: When the P-CSCF has removed the security association established between the P-CSCF and the UE, further SIP signalling (e.g. the NOTIFY containing the deregistration event) will not reach the UE.