3GPP TSG CN Plenary Meeting #17   NP-020376
4th - 6th September 2002. Biarritz, France.

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 **6** CRs on **Rel-5 to** Work Item **"IMS-CCR"**, that have been agreed by **TSG CN WG1**, and are forwarded to TSG CN Plenary meeting #17 for approval.

Spec	CR #	Rev	CAT	Rel	Tdoc Title	Meeting	TDoc #	C_Version
24.229	147		F	Rel-5	S-CSCF decides when to include IOI	N1-25	N1-021571	5.1.0
24.229	148		F	Rel-5	Clean up XML in clause 7.6	N1-25	N1-021572	5.1.0
24.229	149		F	Rel-5	Fix clause 5.2.7.4 header	N1-25	N1-021573	5.1.0
24.229	150		F	Rel-5	Removal of forward reference to non P-CSCF procedures	N1-25	N1-021589	5.1.0
24.229	151		F	Rel-5	Deregistration of public user identities	N1-25	N1-021590	5.1.0
24.229	152		F	Rel-5	Reauthentication trigger via other means	N1-25	N1-021591	5.1.0

4.5.4 Inter operator identifier (IOI)

The Inter Operator Identifier (IOI) is globally unique identifier to share between operator networks/service providers/content providers. There are two possible instances of IOI to be exchanged between networks/service providers/content providers: one for the originating side, ioi-originating, and one for the terminating side, ioi-terminating.

The S-CSCF in the originating network populates the ioi-originating parameter of the P-Charging-Vector header in the initial request, which identifies the operator network from which the request originated. Also in the initial request, the ioi-terminating parameter is left out of the P-Charging-Vector parameter. The S-CSCF in the originating network retrieves the teminating-ioi parameter from the P-Charging-Vector header within the message sent in response to the initial request, which identifies the operator network from which the response was sent. The MGCF takes responsibility for populating the ioi-originating on behalf of the PSTN/PLMN when a call/session is originated from the PSTN/PLMN.

The S-CSCF in the terminating network retrieves the ioi-originating parameter from the P-Charging-Vector header in the initial request, which identifies the operator network from which the request originated. The S-CSCF in the terminating network populates the ioi-terminating parameter of the P-Charging-Vector header in the response to the initial request, which identifies the operator network from which the response was sent. IOIs will not be passed along within the network, except when proxied by BGCF and I-CSCF to get to MGCF and S-CSCF. However, IOIs will be sent to AS for accounting purposes.

CR-Form-v7

CHANGE REQUEST

⌘ **24.229** CR **148** ⌘**rev** **-** ⌘ Current version: **5.1.0** ⌘

*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 **X**

Title: ⌘	Clean up XML in clause 7.6
Source: ⌘	Lucent Technologies
Work item code: ⌘	IMS-CCR
Date: ⌘	July 19, 2002

Category: ⌘ **F**   **Release:** ⌘ Rel-5

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.

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: ⌘	Obsolete and inconsistent XML definitions exist in clause 7.6
Summary of change: ⌘	Remove destination-public-user-id because it is not used. In the XML root element, change 'access' to 'alternative-service'. Also, fix typo of 'IMX' to 'IMS'.
Consequences if not approved: ⌘	Improper XML definition will exist and unused component will exist, which will lead to confusion.

Clauses affected: ⌘	7.6.2, 7.6.3

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

Other comments: ⌘	

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.

7.6 3GPP IM CN subsystem XML body, version 1

7.6.1 General

This subclause describes the Document Type Definition that is applicable for the 3GPP IM CN Subsystem XML body.

Any SIP User Agent or proxy may insert or remove the 3GPP IM CN subsystem XML body or parts of it, as required, in any SIP message. The 3GPP IM CN subsystem XML body shall not be forwarded outside a 3GPP network.

The associated MIME type with the 3GPP IMX IMS XML body is "application/3gpp-ims+xml".

7.6.2 Document Type Definition

The Document Type Definition, according to XML syntax definitions, is defined in table 7.7.

Table 7.7: 3GPP IM CN subsystem XML body, version 1 DTD

```
<?xml version="1.0" ?>
<!-- Draft DTD for the 3GPP IMS XML body. -->

<!DOCTYPE ims-3gpp [
    <!-- ims-3gpp element: root element -->

    <!ELEMENT ims-3gpp (
        destination-public-user-id?,
        accessalternative-service?, service-info?)>
    <!ATTLIST ims-3gpp version CDATA #REQUIRED>

    <!-- public-user-id: public user ID -->
    <!ELEMENT destination-public-user-id    (#PCDATA)>

    <!-- service-info element: The transparent data received from HSS for AS -->
    <!ELEMENT service-info              (#CDATA)>

    <!-- alternative-service: alternative-service used in emergency sessions -->
    <!ELEMENT alternative-service   (type, reason)>
    <!ELEMENT type                  (emergency)>
    <!ELEMENT reason                (#PCDATA)>

]>
```

7.6.3 DTD description

This subclause describes the elements of the 3GPP IMS Document Type Definition as defined in table 7.7.

<ims-3gpp>: This is the root element of the 3GPP IMS XML body. It shall always be present. The version described in the present document is 1.

<destination-public-user-id>: The destination public-user-id URL of the current session.

<service-info>: the transparent element received from the HSS for a particular trigger point are placed within this optional element.

<alternative-service>: in the present document, the alternative service is used as a response for an attempt to establish an emergency session within the IM CN subsystem. The element describes an alternative service where the call should success. The alternative service is described by the type of service information. A possible reason cause why an alternative service is suggested may be included.

The <alternative-service> element contains a <type> element that indicates the type of alternative service. In the present document, the <type> element contains only the value "emergency".

The <reason> element contains an explanatory text with the reason why the session setup has been redirected. A UE may use this information to give an indication to the user.

CHANGE REQUEST

CR-Form-v7

| ⌘ | **24.229** CR **149** | ⌘**rev** | **-** | ⌘ Current version: | **5.1.0** | ⌘ |

*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 **X**

Title: ⌘	Fix clause 5.2.7.4 header	
Source: ⌘	Lucent Technologies	
Work item code: ⌘	IMS-CCR	**Date:** ⌘ July 19, 2002

Category: ⌘	**F**	**Release:** ⌘	Rel-5

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.

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: ⌘	Name of data field changed from GRPS charging identifier to GPRS charging information, but heading for section was mistakenly not changed.
Summary of change: ⌘	Replace 'identifier' with 'information'
Consequences if not approved: ⌘	Inconsistent terminology will be confusing.

Clauses affected: ⌘	5.2.7.4

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

Other comments: ⌘	

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5.2.7 Initial INVITE

5.2.7.1 Introduction

In addition to following the procedures for initial requests defined in subclause 5.2.6, initial INVITE requests also follow the procedures of this subclause.

5.2.7.2 Mobile-originating case

The P-CSCF shall respond to all INVITE requests with a 100 (Trying) provisional response.

Upon receiving a response (e.g. 183 (Session Progress), 200 (OK)) to the initial INVITE request, the P-CSCF:

- if a media authorization token is generated by the PCF as specified in RFC 3313 [31] (i.e. when service-based local policy control is applied), insert the P-Media-Authorization header containing that media authorization token.

When the P-CSCF sends the UPDATE request towards the S-CSCF, the P-CSCF shall also include the gprs-charging-info parameter in the P-Charging-Vector header. See subclause 5.2.7.4 for further information on the GPRS charging information.

5.2.7.3 Mobile-terminating case

When the P-CSCF receives an initial INVITE request destined for the UE, it will contain the URL of the UE in the Request-URI, and a single pre-loaded Route header. The received initial INVITE will also have a list of Record-Route headers. Prior to forwarding the initial INVITE to the URL found in the Request-URI, the P-CSCF shall:

- if a media authorization token is generated by the PCF as specified in RFC 3313 [31] (i.e. when service-based local policy control is applied), insert the P-Media-Authorization header containing that media authorization token.

In addition, the P-CSCF shall respond to all INVITE requests with a 100 (Trying) provisional response.

When the P-CSCF sends 180 (Ringing) or 200 (OK) (to INVITE) towards the S-CSCF, the P-CSCF shall also include the gprs-charging-info parameter in the P-Charging-Vector header. See subclause 5.2.7.4 for further information on the GPRS charging information.

5.2.7.4 GPRS charging information~~identifier~~

The GPRS charging information shall be coded as the gprs-charging-info parameter within the P-Charging-Vector header as described in subclause 7.2.6.

The gprs-charging-info parameter shall contain one ggsn child parameter and one or more child gcid parameters. Each gcid child parameter within gprs-charging- info corresponds to a PDP context that was established at the GGSN for a UE. Each gcid parameter contains pdp-id, flow-index and auth-token child parameters. The pdp-id parameter shall be populated with the PDP context identifier that the P-CSCF obtained from the GGSN. The flow-index parameter shall be populated with the relative index to the media stream in the SDP for the PDP context. The auth-token parameter shall be populated with the authorization token that is associated with this PDP context for a media stream. For more information about the PDP contexts for media, see subclause 9.2.5. For the case of a PDP context that is used for signalling, the flow-index and auth-token parameters shall be set to 0.

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CHANGE REQUEST

⌘ **24.229** CR **150** ⌘**rev** **-** ⌘ Current version: **5.1.0** ⌘

*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 **X**

Title: ⌘	Removal of forward reference to non P-CSCF procedures	
Source: ⌘	Hutchison 3G UK, Nokia, Siemens	
Work item code:⌘	IMS-CCR	***Date:*** ⌘ 25-07-2002

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: ⌘	Current text could be interpreted to assume clauses applicable to other network elements should be applied to P-CSCF behaviour.
Summary of change:⌘	Statement of appliclability of subsequent clauses is removed from 5.2.6.1
Consequences if not approved: ⌘	It could be interpreted that procedures and behaviour other than P-CSCF procedures should apply to the P-CSCF.

Clauses affected: ⌘	5.2.6.1

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

Other comments: ⌘	

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5.2.6.1 Introduction

The procedures of subclause 5.2.6 and its subclauses are general to all requests and responses, except those for the REGISTER method. ~~Procedures in subsequent clauses to subclause 5.2.6 apply in addition to the procedures of subclause 5.2.6~~.

CR-Form-v7

CHANGE REQUEST

| ⌘ | **24.229** CR **151** | ⌘**rev** | **-** | ⌘ | Current version: | **5.1.0** | ⌘ |

*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 **X**

Title: ⌘	Deregistration of public user identities	
Source: ⌘	Hutchison 3G UK , Nokia, Siemens	
Work item code: ⌘	IMS-CCR	***Date:*** ⌘ 25-07-2002
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: ⌘	Current text for S-CSCF actions for deregistration implies that the private user identity is deregistered. All registrations are in fact registrations of public user identities, and the text should read that all public user identities are deregistered.
Summary of change: ⌘	Clarified that the deregistration is for 'all public user identities' asscoiated with a private identity and not deregistration of the private identity.
Consequences if not approved: ⌘	Deregistration of incorrect set of user indentities may take place.

Clauses affected: ⌘	5.4.1.6

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

Other comments: ⌘	

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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 (i.e. the dialog between S-CSCF and the UE and additionally between S-CSCF and P-CSCF) which have been established due to subscription to the registration-state event package of that user. The S-CSCF shall populate the content of the NOTIFY request and additionally shall:

- set the Request-URI and Route header to the saved route information during subscription;

- set the Event header to the "registration-state" value; and

- indicate a public user identity of the user for which the private user identity needs to be re-authenticated in the body of the NOTIFY request with registration state "re-authenticate".

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.

In case S-CSCF receives no data it can authenticate the subscriber from, the S-CSCF may as an implementation option try to request the UE by other means to re-authenticate, e.g. by sending a REFER method in order to request a REGISTER 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 user fails to reauthenticate while its registration is still valid, 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.

CR-Form-v7

CHANGE REQUEST

| ⌘ | **24.229** CR **152** | ⌘**rev** | **-** | ⌘ | Current version: | **5.1.0** | ⌘ |

*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 **X** Radio Access Network ☐   Core Network **X**

Title:	⌘	Reauthentication trigger via other means
Source:	⌘	Hutchison 3G UK, Nokia, Siemens
Work item code: ⌘	IMS-CCR		*Date:* ⌘	25-07-2002

Category:	⌘	**F**	*Release:* ⌘	REL-5

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R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘	Current text can be read to imply that alternative means are used to authenticate the user, whereas the intention is that alternative means can be used to notify the user that authentication is required. Normal authentication process is used.
Summary of change: ⌘	Text reworded to be clear that the notification can be done by alternate means, not the authentication.
Consequences if not approved: ⌘	It may be assumed that an unspecified alternative authentication process is available.

Clauses affected:	⌘	5.4.1.6

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

Other comments:	⌘	

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5.4.1.6 Network-initiated reauthentication

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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 (i.e. the dialog between S-CSCF and the UE and additionally between S-CSCF and P-CSCF) which have been established due to subscription to the registration-state event package of that user. The S-CSCF shall populate the content of the NOTIFY request and additionally shall:

- set the Request-URI and Route header to the saved route information during subscription;

- set the Event header to the "registration-state" value; and

- indicate a public user identity of the user for which the private user identity needs to be re-authenticated in the body of the NOTIFY request with registration state "re-authenticate".

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.

In case S-CSCF receives no data with which it can authenticate the subscriber from, the S-CSCF may as an implementation option try to request the UE by other meansuse other means to request the UE to re-authenticate, e.g. by sending a REFER method in order to request a REGISTER requestregistration.

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 user fails to reauthenticate while its registration is still valid, the S-CSCF shall deregister the private user identity as described in subclause 5.4.1.5 and terminate the ongoing sessions of that user.