

Source: TSG CN WG 1
Title: CRs to Rel-5 on Work Item IMS-CCR towards 24.229,- pack 3
Agenda item: 8.1
Document for: APPROVAL

Introduction:

This document contains 9 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	154	1	F	Rel-5	Explicit listing of need to route response messages	N1-25	N1-021801	5.1.0
24.229	157	1	F	Rel-5	Include IP address in ICID	N1-25	N1-021816	5.1.0
24.229	158		F	Rel-5	Reference updates	N1-25	N1-021604	5.1.0
24.229	159		F	Rel-5	Abbreviation updates	N1-25	N1-021605	5.1.0
24.229	163	1	F	Rel-5	Clarifications of allocation of IP address	N1-25	N1-021817	5.1.0
24.229	169	1	F	Rel-5	Redirection of SUBSCRIBE dialogs after users registration	N1-25	N1-021780	5.1.0
24.229	171	1	F	Rel-5	Verifications at the P-CSCF for subsequent request	N1-25	N1-021802	5.1.0
24.229	174	1	F	Rel-5	Clarification of IMS signalling flag	N1-25	N1-021781	5.1.0
24.229	176	1	F	Rel-5	Definition of a general-purpose PDP context for IMS	N1-25	N1-021783	5.1.0

CR-Form-v7

CHANGE REQUEST

⌘ **24.229 CR 158** ⌘ 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

Title:	⌘ Reference updates		
Source:	⌘ Lucent Technologies		
Work item code:	⌘ IMS-CCR	Date:	⌘ 12/07/2002
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:	⌘ A number of IETF specifications have been revised, and the references therefore require amendment to refer to the latest drafts.
Summary of change:	⌘ For consistency a date has been added to the reference to RFC 2916. This has no impact on the specification, as in effect, all RFC references are dated references anyway. However this now aligns with all the other RFC references in this document. The versions and dates of a number of internet drafts have been revised.
Consequences if not approved:	⌘ Invalid and unavailable normative references

Clauses affected:	⌘ 2				
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> 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="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications ⌘	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <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 ⌘	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
<input type="checkbox"/>	<input checked="" type="checkbox"/>				
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.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] 3GPP TS 23.002: "Network architecture".
- [3] 3GPP TS 23.003: "Numbering, addressing and identification".
- [4] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".
- [5] 3GPP TS 23.218: "IP Multimedia (IM) Session Handling; IM call model".
- [6] 3GPP TS 23.221: "Architectural requirements".
- [7] 3GPP TS 23.228: "IP multimedia subsystem; Stage 2".
- [8] 3GPP TS 24.008: "Mobile radio interface layer 3 specification; Core Network protocols; Stage 3".
- [9] 3GPP TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode".
- [10] 3GPP TS 26.235: "Packet switched conversational multimedia applications; Default codecs".
- [11] 3GPP TS 29.061: "Interworking between the Public Land Mobile Network (PLMN) supporting Packet Based Services and Packet Data Networks (PDN)".
- [12] 3GPP TS 29.207: "Policy control over Gs interface".
- [13] 3GPP TS 29.208: "End to end Quality of Service (QoS) signalling flows".
- [14] 3GPP TS 29.228: "IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents".
- [15] 3GPP TS 29.229: "Cx and Dx Interfaces based on the Diameter protocol, Protocol details".
- [16] 3GPP TS 32.200: "Telecommunication management; Charging management; Charging principles".
- [17] 3GPP TS 32.225: "Telecommunication management; Charging management; Charging data description for the IP Multimedia subsystem".
- [18] 3GPP TS 33.102: "3G Security; Security architecture".
- [19] 3GPP TS 33.203: "Access security for IP based services".
- [20] 3GPP TS 44.018: "Mobile radio interface layer 3 specification, Radio Resource Control Protocol".
- [21] RFC 2617: "HTTP Authentication: Basic and Digest Access Authentication".
- [22] RFC 2806: "URLs for Telephone Calls".

- [23] RFC 2833 (May 2000): "RTP Payload for DTMF Digits, Telephony Tones and Telephony Signals".
- [24] RFC 2916 ([June 1999](#)): "E.164 number and DNS".
- [25] RFC 2976 (October 2000): "The SIP INFO method".
- [26] RFC 3261 (March 2002): "SIP: Session Initiation Protocol".
- [27] RFC 3262 (March 2002): "Reliability of provisional responses in Session Initiation Protocol".
- [28] RFC 3265 (March 2002): "Session Initiation Protocol Specific Event Notification".
- [29] RFC 3311 (April 2002): "The SIP UPDATE method".
- [30] RFC 3312 (May 2002): "Integration of resource management and SIP".
- [31] RFC 3313 (February 2002): "SIP extensions for media authorization".
- [32] RFC 3320 (March 2002): "Signaling Compression (SigComp)".
- [33] RFC 3323 (May 2002): "A Privacy Mechanism for the Session Initiation Protocol (SIP)".
- [34] RFC 3325 (May 2002): "Private Extensions to the Session Initiation Protocol (SIP) for Network Asserred Identity within Trusted Networks".
- [35] RFC 3327 (May 2002): "SIP Extension for Registering Non-Adjacent Contacts".
- [36] [draft-ietf-sip-refer-05](#) ~~draft-sparks-sip-refer-split-00~~ ([April-June](#) 2002): "The REFER method".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

- [37] [draft-sparks-sip-mimetypes-03](#) (April 2002): "Internet Media Type message/sipfrag".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

- [38] [draft-willis-scvrtdisco-063](#) (May 2002): "SIP Extension Header for Service Route Discovery in Private Networks".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

- [39] [draft-ietf-mmusic-sdp-new-1004](#) (~~November 2001~~ [May 2002](#)): "SDP: Session Description Protocol".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

- [40] [draft-ietf-dhc-dhcpv6-263](#) (~~February~~ [June](#) 2002): "Dynamic Host Configuration Protocol for IPv6 (DHCPv6)".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

- [41] [draft-ietf-sip-dhcpv6-00](#) (April 2002): "DHCPv6 options for SIP servers".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

- [42] [draft-ietf-sipping-sigcomp-sip-dictionary-030.txt](#) ([May-July](#) 2002): "The SIP/SDP static dictionary for Signaling Compression".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

- [43] [draft-beckmann-sip-reg-event-01](#) (May 2002): "Registration event package".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

- [44] [draft-garcia-sip-visited-network-id-00](#) (March 2002): "Private SIP extension for Visited Network Identifier".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

[45] draft-henrikson-sip-charging-information-01 (May 2002): "Private SIP Extension for Mobile Charging Information".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

[46] draft-henrikson-sip-original-dialog-id-01 (May 2002): "Private SIP Extension for Original Dialog Identifier".

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

[47] draft-mills-sip-access-network-info-01.txt (April 2002): "SIP Access Network Information header"

Editor's note: The above document cannot be formally referenced until it is published as an RFC.

CR-Form-v7

CHANGE REQUEST

⌘ **24.229 CR 159** ⌘ 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

Title:	⌘ Abbreviation updates		
Source:	⌘ Lucent Technologies		
Work item code:	⌘ IMS-CCR	Date:	⌘ 12/07/2002
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:	⌘ There are some abbreviations that appear within the document that do not appear in clause 3.2		
Summary of change:	⌘ Addition of a number of abbreviations to clause 3.2.		
Consequences if not approved:	⌘ None, however the document is easier to understand if all abbreviations are listed in a single place.		

Clauses affected:	⌘ 3.2						
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"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
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.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

1xx	A status-code in the range 101 through 199, and excluding 100
2xx	A status-code in the range 200 through 299
AS	Application Server
APN	Access Point Name
AUTN	Authentication TokeN
B2BUA	Back-to-Back User Agent
BGCF	Breakout Gateway Control Function
c	conditional
CCF	Charging Collection Function
CDR	Charging Data Record
CK	Ciphering Key
CN	Core Network
CSCF	Call Session Control Function
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
DTD	Document Type Definition
ECF	Event Charging Function
GCID	GPRS Charging Identifier
GGSN	Gateway GPRS Support Node
GPRS	General Packet Radio Service
i	irrelevant
I-CSCF	Interrogating CSCF
ICID	IMS CN subsystem Charging Identifier
IK	Integrity Key
IM	IP Multimedia
IMSI	International Mobile Subscriber Identity
IOI	Inter Operator Identifier
IP	Internet Protocol
IPv4	Internet Protocol version 4
IPv6	Internet Protocol version 6
ISC	IP multimedia Subsystem Service Control
ISIM	IMS Subscriber Identity Module
m	mandatory
MAC	Message Authentication Code
MGCF	Media Gateway Control Function
MGW	Media Gateway
MRFC	Multimedia Resource Function Controller
MRFP	Multimedia Resource Function Processor
PDP	Packet Data Protocol
n/a	not applicable
o	optional
P-CSCF	Proxy CSCF
PDU	Protocol Data Unit
PLMN	Public Land Mobile Network
PSTN	Public Switched Telephone Network
RAND	RANdOm challenge
RES	RESponse
RTP	Real-time Transport Protocol
S-CSCF	Serving CSCF
SDP	Session Description Protocol
SGSN	Serving GPRS Support Node
SIP	Session Initiation Protocol
SLF	Subscription Locator Function
SQN	SeQuence Number
UA	User Agent

UAC	User Agent Client
UAS	User Agent Server
UE	User Equipment
UICC	Universal Integrated Circuit Card
URI	Universal Resource Identifier
URL	Universal Resource Locator
USIM	UMTS Subscriber Identity Module
x	prohibited
XML	eXtensible Markup Language

CR-Form-v7

CHANGE REQUEST

⌘ **24.229** CR 169 ⌘ rev **1** ⌘ 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

Title:	⌘ Redirection of SUBSCRIBE dialogs after users registration		
Source:	⌘ Siemens AG, Nortel, dynamicsoft, Nokia, Ericsson, Vodafone		
Work item code:	⌘ IMS-CCR	Date:	⌘ 30/07/02
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 abbreviation IMS is used in 24.228 (e.g. in the headline of section 4.5.2) but is not defined in the abbreviation section of 24.228.
Summary of change:	⌘ Add the abbreviation "IMS" to the abbreviation section of 24.228.
Consequences if not approved:	⌘ Inconsistency in 24.228.

Clauses affected:	⌘ 3.2						
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:	⌘						

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.

FIRST CHANGE - Abbreviations

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

1xx	A status-code in the range 101 through 199, and excluding 100
2xx	A status-code in the range 200 through 299
AS	Application Server
APN	Access Point Name
AUTN	Authentication TokeN
B2BUA	Back-to-Back User Agent
BGCF	Breakout Gateway Control Function
c	conditional
CCF	Charging Collection Function
CDR	Charging Data Record
CK	Ciphering Key
CN	Core Network
CSCF	Call Session Control Function
DNS	Domain Name System
DTD	Document Type Definition
ECF	Event Charging Function
GCID	GPRS Charging Identifier
GGSN	Gateway GPRS Support Node
GPRS	General Packet Radio Service
i	irrelevant
I-CSCF	Interrogating CSCF
ICID	IMS Charging Identifier
IK	Integrity Key
IM	IP Multimedia
<u>IMS</u>	<u>IP Multimedia core network Subsystem</u>
IMSI	International Mobile Subscriber Identity
IOI	Inter Operator Identifier
IP	Internet Protocol
ISC	IP multimedia Subsystem Service Control
ISIM	IMS Subscriber Identity Module
m	mandatory
MAC	Message Authentication Code
MGCF	Media Gateway Control Function
MRFC	Multimedia Resource Function Controller
MRFP	Multimedia Resource Function Processor
PDP	Packet Data Protocol
n/a	not applicable
o	optional
P-CSCF	Proxy CSCF
PDU	Protocol Data Unit
RAND	RANdOm challenge
RES	RESponse
RTP	Real-time Transport Protocol
S-CSCF	Serving CSCF
SDP	Session Description Protocol
SIP	Session Initiation Protocol
SLF	Subscription Locator Function
SQN	SeQuence Number
UA	User Agent
UAC	User Agent Client
UAS	User Agent Server
UE	User Equipment
UICC	Universal Integrated Circuit Card
URI	Universal Resource Identifier

URL	Universal Resource Locator
USIM	UMTS Subscriber Identity Module
x	prohibited
XML	eXtensible Markup Language

SECOND CHANGE – UE

5.1.2 Subscription and notification

5.1.2.1 Notification about multiple registered public user identities

Upon receipt of a 2xx response to the SUBSCRIBE request the UE shall maintain the generated dialog (identified by the values of the Call ID, To and From headers).

Upon receipt of a NOTIFY request on the dialog which was generated during subscription to the registration state event package the UE shall perform the following actions:

————— if a registration state value "open", i.e. registered is received for one or more public user identities, the UE shall store the indicated public user identities as registered;

————— if a registration state value "closed", i.e. deregistered is received for one or more public user identities, the UE shall store the indicated public user identities as deregistered.

NOTE: ————— There may be public user identities which are automatically registered within the registrar (S-CSCF) of the user upon registration of one public user identity. Usually these automatically or implicitly registered public user identities belong to the same service profile of the user and they might not be available within the UE, i.e. the UE does not know that they have been registered. The here described procedures provide a mechanism to inform the UE about these automatically registered public user identities.

5.1.2.2 General SUBSCRIBE requirements

If the UA receives a 503 (Service Unavailable) response to an initial SUBSCRIBE request containing a Retry-After header, then the UE shall not automatically reattempt the request until after the period indicated by the Retry-After header contents.

If the UA receives a NOTIFY request on the dialog ID of an ongoing subscription, including a Subscription State header, set to value "terminated", the UE

1) shall send back a 200 OK for the received NOTIFY request;

2) shall terminate the subscription dialog internally afterwards;

3) shall set up a new SUBSCRIBE message including

————— the same values as for the previously terminated dialog for Request URI, Address in the To header and Address in the From header as for the previously terminated dialog;

————— different values for the Call ID and From Tag as for the previously terminated dialog;

THIRD CHANGE – P-CSCF

5.2.11 Release of subscriptions

If the P-CSCF receives a NOTIFY message including a Subscription State header set to value "terminated", the P-CSCF

1) shall await a positive response for that NOTIFY message;

~~2) shall release all resources and information related to the dialog on which the NOTIFY message was sent on.~~

~~**FOURTH CHANGE -- S-CSCF**~~

~~5.4.7 Release of subscriptions~~

~~If the S-CSCF receives a NOTIFY message including a Subscription State header set to value "terminated", the S-CSCF~~

~~1) shall await a positive response for that NOTIFY message;~~

~~2) shall release all resources and information related to the dialog on which the NOTIFY message was sent on.~~

CR-Form-v7

CHANGE REQUEST

⌘ **24.229** CR **174** ⌘ rev **1** ⌘ 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

Title:	⌘ Clarification of IMS signalling flag		
Source:	⌘ Ericsson, Nokia		
Work item code:	⌘ IMS-CCR	Date:	⌘ 02/08/2002
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:	⌘ 23.228 indicates in subclause 5.10.3.0 that the GPRS subsystem may delete the PDP context for SIP signalling (due to e.g. RA update or overload situations) while possible PDP contexts for media still are active. Due to such situations, the PDP context for SIP signalling may need to be re-established. Such re-establishment of the SIP signalling (without deactivation of the PDP contexts for media) must be performed by performing a secondary PDP context activation procedure. If reactivation of the PDP context for signalling is unsuccessful, the related PDP context(s) for media is deactivated. The need to have this flag set in both primary and secondary PDP context activation is also indicated in the following LSs from SA2 - N1-020180 - N1-021362 The approved CR 175 version 1 to 23.228 v 5.5.0 (S2-021949) further clarify this.
Summary of change:	⌘ The re-activation of the PDP context for SIP signalling is introduced in 24.229. This CR is needed to align with the stage 2 description (23.228, clause 5.10.3.0).
Consequences if not approved:	⌘ Deactivation of possibly ongoing PDP contexts for media must be performed. This will lead to a reduced level of service to the end user. Lack of clarification may cause different implementation in UEs from different vendors.

Clauses affected:	⌘ 9.2.1										
Other specs affected:	⌘	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="text-align: center;">Y</td> <td style="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 ⌘ Test specifications ⌘ O&M Specifications ⌘
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										

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.

9 GPRS aspects when connected to the IM CN subsystem

9.1 Introduction

A UE accessing the IM CN subsystem, and the IM CN subsystem itself, utilise the services provided by GPRS to provide packet-mode communication between the UE and the IM CN subsystem.

Requirements for the UE on the use of these packet-mode services are specified in this clause. Requirements for the GGSN in support of this communication are specified in 3GPP TS 29.061 [11] and 3GPP TS 29.207 [12].

9.2 Procedures at the UE

9.2.1 PDP context activation and P-CSCF discovery

Prior to communication with the IM CN subsystem, the UE shall:

- a) perform a GPRS attach procedure;
- b) establish a PDP context used for SIP signalling according to the APN and GGSN selection criteria described in 3GPP TS 23.060 [4]. This PDP context shall remain active throughout the period the UE is connected to the IM CN subsystem, i.e. from the initial registration and at least until the deregistration. As a result, the PDP context provides the UE with information that makes the UE able to construct an IPv6 address;

The UE shall choose one of the following options when performing establishment of this PDP context:

I. A dedicated PDP context for SIP signalling:

The UE shall indicate to the GGSN that this is a PDP context intended to carry IM CN subsystem-related signalling only by setting the IM CN Subsystem Signalling Flag ~~within the Protocol Configuration Options IE at PDP Context activation~~. The UE may also use this PDP context for DNS and DHCP signalling according to the static packet filters described in 3GPP TS 29.207 [12];

II. A general-purpose PDP context:

The UE may decide to use a general purpose PDP Context to carry IM CN subsystem-related signaling. The UE shall indicate to the GGSN that this is a general-purpose PDP context by not setting the IM CN Subsystem Signalling Flag ~~within the Protocol Configuration Options IE~~;

The UE indicates the IM CN Subsystem Signalling Flag to the GGSN within the Protocol Configuration Options IE of the ACTIVATE PDP CONTEXT REQUEST message or ACTIVATE SECONDARY PDP CONTEXT REQUEST message.

Detailed description of how the IM CN Subsystem Signalling Flag is carried in the Protocol Configuration Options IE is provided in 3GPP TS 24.008 [8].

NOTE 1: A general purpose PDP Context is completely IM CN subsystem-unaware, and as such, it does not have any IM CN subsystem-specific mechanisms applied to it.

NOTE 2: A general purpose PDP Context may carry both IM CN subsystem signaling and media, in case the media does not need to be authorized by Service Based Local Policy mechanisms defined in 3GPP TS 29.207 [12] and the media component is not mandated by the P-CSCF to be carried in a separate PDP Context.

- c) acquire a P-CSCF address(es).

The methods for P-CSCF discovery are:

- I. Employ Dynamic Host Configuration Protocol for IPv6 (DHCPv6) draft-ietf-dhc-dhcpv6 [40], the DHCPv6 options for SIP servers draft-ietf-sip-dhcpv6 [41] and if needed DNS after PDP context activation.

The UE shall either:

- in the DHCP query, request a list of SIP server domain names of P-CSCF(s) and the list of Domain Name Servers (DNS); or
- request a list of SIP server IPv6 addresses of P-CSCF(s).

- II. Transfer P-CSCF address(es) within The PDP context activation procedure.

The UE shall indicate the request for a P-CSCF address to the GGSN within the Protocol Configuration Options IE of the ACTIVATE PDP CONTEXT REQUEST message or ACTIVATE SECONDARY PDP CONTEXT REQUEST message.

If the GGSN provides the UE with a list of P-CSCF IPv6 addresses in the ACTIVATE PDP CONTEXT ACCEPT message or ACTIVATE SECONDARY PDP CONTEXT ACCEPT message, the UE shall assume that the list is prioritised with the first address within the Protocol Configuration Options IE as the P-CSCF address with the highest priority.

The UE can freely select method I or II for P-CSCF discovery. In case several P-CSCF addresses are provided to the UE, the selection of P-CSCF address shall be performed according to the resolution of host name as indicated in RFC 3261 [26]. If sufficient information for P-CSCF address selection is not available, selection of the P-CSCF address by the UE is implementation specific.

If the UE is designed to use I above, but receives P-CSCF address(es) according to II, then the UE shall either ignore the received address(es), or use the address(es) in accordance with II, and not proceed with the DHCP request according to I.

9.2.1A Re-establishment of the PDP context for signalling

If the dedicated PDP context for SIP signalling is lost due to e.g. a GPRS routing area update procedure, the UE shall attempt to re-establish the dedicated PDP context for SIP signalling. If this procedure does not succeed, the UE shall deactivate all PDP contexts related to IMS.

9.2.2 Session management procedures

The existing procedures for session management as described in 3GPP TS 24.008 [8] shall apply while the UE is connected to the IM CN subsystem.

9.2.3 Mobility management procedures

The existing procedures for mobility management as described in 3GPP TS 24.008 [8] shall apply while the UE is connected to the IM CN subsystem.

9.2.4 Cell selection and lack of coverage

The existing mechanisms and criteria for cell selection as described in 3GPP TS 25.304 [9] and 3GPP TS 44.018 [20] shall apply while the UE is connected to the IM CN subsystem.

9.2.5 PDP contexts for media

During establishment of a session, the UE establishes data streams(s) for media related to the session. Such data stream(s) may result in activation of additional PDP context(s). Such additional PDP context(s) shall be established as secondary PDP contexts associated to the PDP context used for signalling.

The P-CSCF shall indicate to the UE in SIP/SDP if a separate PDP Context is required for a media component as per procedures defined in 3GPP TS 23.228 [7]. The UE shall establish an additional PDP context for a media component if so indicated by the P-CSCF.

The UE shall pass the authorisation token received from the P-CSCF in the 183 (Session Progress) response to an INVITE request at originating setup or in the INVITE request at terminating setup to the GGSN by inserting it within the Traffic Flow Template IE at PDP Context activation/modification.

In order to identify to the GGSN which flow(s) (identified by m-lines within the SDP) are to be transferred within a particular PDP context, the UE shall set the flow identifier(s) within the Traffic Flow Template IE at PDP Context activation modification. Detailed description of how the flow identifiers are constructed is provided in 3GPP TS 29.207 [12].

Detailed description of how the authorization token and flow identifiers are carried in the Traffic Flow Template IE is provided in 3GPP TS 24.008 [8].

CR-Form-v7

CHANGE REQUEST

⌘ **24.229 CR 176** ⌘ rev **1** ⌘ 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

Title:	⌘ Definition of a general-purpose PDP context for IMS		
Source:	⌘ Ericsson		
Work item code:	⌘ IMS-CCR	Date:	⌘ 30/07/2002
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 notes in subclause 9.2.1 are considered contradictory.		
Summary of change:	⌘ The text in NOTE1 is moved to the normative text.		
Consequences if not approved:	⌘ The existing text may cause misunderstandings and incorrect implementation.		

Clauses affected:	⌘ 9.2.1										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="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:	⌘										

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.

9 GPRS aspects when connected to the IM CN subsystem

9.1 Introduction

A UE accessing the IM CN subsystem, and the IM CN subsystem itself, utilise the services provided by GPRS to provide packet-mode communication between the UE and the IM CN subsystem.

Requirements for the UE on the use of these packet-mode services are specified in this clause. Requirements for the GGSN in support of this communication are specified in 3GPP TS 29.061 [11] and 3GPP TS 29.207 [12].

9.2 Procedures at the UE

9.2.1 PDP context activation and P-CSCF discovery

Prior to communication with the IM CN subsystem, the UE shall:

- a) perform a GPRS attach procedure;
- b) establish a PDP context used for SIP signalling according to the APN and GGSN selection criteria described in 3GPP TS 23.060 [4]. This PDP context shall remain active throughout the period the UE is connected to the IM CN subsystem, i.e. from the initial registration and at least until the deregistration. As a result, the PDP context provides the UE with information that makes the UE able to construct an IPv6 address;

The UE shall choose one of the following options when performing establishment of this PDP context:

I. A dedicated PDP context for SIP signalling:

The UE shall indicate to the GGSN that this is a PDP context intended to carry IM CN subsystem-related signalling only by setting the IM CN Subsystem Signalling Flag within the Protocol Configuration Options IE at PDP Context activation. The UE may also use this PDP context for DNS and DHCP signalling according to the static packet filters described in 3GPP TS 29.207 [12];

II. A general-purpose PDP context:

The UE may decide to use a general-purpose PDP Context to carry IM CN subsystem-related signaling. The UE shall indicate to the GGSN that this is a general-purpose PDP context by not setting the IM CN Subsystem Signalling Flag within the Protocol Configuration Options IE. The UE may carry both signalling and media on the general-purpose PDP context;

~~NOTE 1: A general-purpose PDP Context is completely IM CN subsystem unaware, and as such, it does not have any IM CN subsystem-specific mechanisms applied to it.~~

NOTE 12: A general-purpose PDP Context may carry both IM CN subsystem signaling and media, in case the media does not need to be authorized by Service Based Local Policy mechanisms defined in 3GPP TS 29.207 [12] and the media component is not mandated by the P-CSCF to be carried in a separate PDP Context.

- c) acquire a P-CSCF address(es).

The methods for P-CSCF discovery are:

- I. Employ Dynamic Host Configuration Protocol for IPv6 (DHCPv6) draft-ietf-dhc-dhcpv6 [40], the DHCPv6 options for SIP servers draft-ietf-sip-dhcpv6 [41] and if needed DNS after PDP context activation.

The UE shall either:

- in the DHCP query, request a list of SIP server domain names of P-CSCF(s) and the list of Domain Name Servers (DNS); or

- request a list of SIP server IPv6 addresses of P-CSCF(s).

II. Transfer P-CSCF address(es) within The PDP context activation procedure.

The UE shall indicate the request for a P-CSCF address to the GGSN within the Protocol Configuration Options IE of the ACTIVATE PDP CONTEXT REQUEST message or ACTIVATE SECONDARY PDP CONTEXT REQUEST message.

If the GGSN provides the UE with a list of P-CSCF IPv6 addresses in the ACTIVATE PDP CONTEXT ACCEPT message or ACTIVATE SECONDARY PDP CONTEXT ACCEPT message, the UE shall assume that the list is prioritised with the first address within the Protocol Configuration Options IE as the P-CSCF address with the highest priority.

The UE can freely select method I or II for P-CSCF discovery. In case several P-CSCF addresses are provided to the UE, the selection of P-CSCF address shall be performed according to the resolution of host name as indicated in RFC 3261 [26]. If sufficient information for P-CSCF address selection is not available, selection of the P-CSCF address by the UE is implementation specific.

If the UE is designed to use I above, but receives P-CSCF address(es) according to II, then the UE shall either ignore the received address(es), or use the address(es) in accordance with II, and not proceed with the DHCP request according to I.

9.2.2 Session management procedures

The existing procedures for session management as described in 3GPP TS 24.008 [8] shall apply while the UE is connected to the IM CN subsystem.

9.2.3 Mobility management procedures

The existing procedures for mobility management as described in 3GPP TS 24.008 [8] shall apply while the UE is connected to the IM CN subsystem.

9.2.4 Cell selection and lack of coverage

The existing mechanisms and criteria for cell selection as described in 3GPP TS 25.304 [9] and 3GPP TS 44.018 [20] shall apply while the UE is connected to the IM CN subsystem.

9.2.5 PDP contexts for media

During establishment of a session, the UE establishes data streams(s) for media related to the session. Such data stream(s) may result in activation of additional PDP context(s). Such additional PDP context(s) shall be established as secondary PDP contexts associated to the PDP context used for signalling.

The P-CSCF shall indicate to the UE in SIP/SDP if a separate PDP Context is required for a media component as per procedures defined in 3GPP TS 23.228 [7]. The UE shall establish an additional PDP context for a media component if so indicated by the P-CSCF.

The UE shall pass the authorisation token received from the P-CSCF in the 183 (Session Progress) response to an INVITE request at originating setup or in the INVITE request at terminating setup to the GGSN by inserting it within the Traffic Flow Template IE at PDP Context activation/modification.

In order to identify to the GGSN which flow(s) (identified by m-lines within the SDP) are to be transferred within a particular PDP context, the UE shall set the flow identifier(s) within the Traffic Flow Template IE at PDP Context activation/modification. Detailed description of how the flow identifiers are constructed is provided in 3GPP TS 29.207 [12].

Detailed description of how the authorization token and flow identifiers are carried in the Traffic Flow Template IE is provided in 3GPP TS 24.008 [8].

CHANGE REQUEST

⌘ **24.229 CR 154** ⌘ rev **1** ⌘ 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

Title:	⌘ Explicit listing of need to route response messages		
Source:	⌘ Hutchison 3G UK, Nokia, Siemens		
Work item code:	⌘ IMS-CCR	Date:	⌘ 25-07-2002
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:	⌘ It is stated in some cases that the response messages should be forwarded to the UE. However, in some places this is not stated.
Summary of change:	⌘ Add explicit statements that the responses need to be forwarded.
Consequences if not approved:	⌘ It may be interpreted that some messages do not need to be forwarded.

Clauses affected:	⌘ 5.2.6.3						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><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:	⌘						

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.

5.2.6.3 Requests initiated by the UE

When the P-CSCF receives an initial request for a dialog or a request for a standalone transaction, and the request contains as P-Asserted-Identity header that matches one of the registered public user identities, the P-CSCF shall identify the initiator of the request by that public user identity.

When the P-CSCF receives an initial request for a dialog or a request for a standalone transaction, and the request contains as P-Asserted-Identity header that does not match one of the registered public user identities, or does not contain a P-Asserted-Identity header, the P-CSCF shall identify the initiator of the request by a default public user identity.

NOTE: The contents of the From header do not form any part of this decision process.

When the P-CSCF receives from the UE an initial request for a dialog, and a P-Service-Route header list exists for the initiator of the request, the P-CSCF shall:

- remove any Route header from the request;
- select the list of Route headers that was created during the registration or reregistration of the respective public user identity utilizing the P-Service-Route mechanism;
- pre-load the list of Route headers to the request;
- create a Record-Route header containing its own SIP URL;
- insert a P-Asserted-Identity header with a value representing the initiator of the request;
- create a new, globally unique value for the icid parameter and insert it into the P-Charging-Vector header; and
- forward the request based on the topmost Route header.

When the P-CSCF receives a 1xx or 2xx response to the above request, the P-CSCF shall:

- store the values received in the P-Charging-Function-Addresses header;
- remove the list of Record-Route headers from the received response;
- create a new list of stored Route headers, with the newly received list of Record-Route headers. The Contact header received in the response shall not be appended to the bottom of the stored list of Route headers;
- store the dialog ID and associate it with the private user identity and public user identity involved in the session; and
- save the Contact header received in the response in order to release the dialog if needed; and
- forward the request ~~it~~ to the UE.

When the P-CSCF receives any other response to the above request, the P-CSCF shall:

- remove any list of Record-Route headers, even though not allowed, from the received response; and
- forward ~~the response~~ to the UE.

When the P-CSCF receives from the UE a refresh request for a dialog, the P-CSCF shall:

- remove any Route header from the request;
- select the list of Route headers that was created during the exchange of the initial request and its associated response;
- pre-load the list of Route headers to the request;

- create a Record-Route header containing its own SIP URL;
- verify if the request relates to a dialog in which the originator of the request is involved. If the request does not relate to a dialog in which the originator is involved, then a 403 response shall be sent back to the originator; and
- forward the request based on the topmost Route header.

When the P-CSCF receives a 1xx or 2xx response to the above request, the P-CSCF shall:

- remove the list of Record-Route headers from the received response;
- overwrite any existing list of stored Route headers, or create a new list of stored Route headers, with the newly received list of Record-Route headers. The Contact header received in the response shall not be appended to the bottom of the stored list of Route headers; and
- ~~save~~ save the Contact header received in the response in order to release the dialog if needed; [and](#)
- ~~forward the request~~ [to the UE.](#)

When the P-CSCF receives any other response to the above request, the P-CSCF shall:

- remove any list of Record-Route headers, even though not allowed, from the received response; [and](#)
- ~~forward the response~~ [to the UE.](#)

When the P-CSCF receives from the UE the request for a standalone transaction, and a P-Service-Route header list exists for the initiator of the request, the P-CSCF shall:

- remove any Route header from the request;
- select the list of Route headers that was created during the registration or reregistration of the respective public user identity utilizing the P-Service-Route mechanism;
- pre-load the list of Route headers to the request;
- insert a P-Asserted-Identity header with a value representing the initiator of the request;
- create a new, globally unique value for the icid parameter and insert it into the P-Charging-Vector header; and
- forward the request based on the topmost Route header.

When the P-CSCF receives any response to the above request, the P-CSCF shall:

- store the values received in the P-Charging-Function-Addresses header; and
- remove any list of Record-Route headers, even though not allowed, from the received response and forward it to the UE.

When the P-CSCF receives from the UE subsequent requests other than a refreshing request that pertains to an existing dialog, the P-CSCF shall:

- select the list of Route headers that was created during the exchange of the initial request and associated response for this call;
- pre-load the list of Route headers to the request;
- verify if the request relates to a dialog in which the originator of the request is involved. If the request does not relate to a dialog in which the originator is involved, then a 403 response shall be sent back to the originator; and
- forward the request based on the topmost Route header.

When the P-CSCF receives any response to the above request, the P-CSCF shall:

- verify if the request relates to a dialog in which the originator of the request is involved.. If the request does not relate to a dialog in which the originator is involved, then a 403 response shall be sent back to the originator; and

- remove any list of Record-Route headers, valid or not, from the received response; and
- forward [the response](#) to the UE.

When the P-CSCF receives from the UE an initial request for a dialog, a refresh request for a dialog, or the request of a standalone transaction, and a P-Service-Route header list does not exist for the initiator of the request, the P-CSCF shall:

- send a 403 Forbidden response back to the UE containing a warning header.

Editor's Note: how to find out whether the user has a valid registration in the P-CSCF is FFS.

Editor's Note: The correct value for the warning code is yet to be assigned by IANA.

When the P-CSCF receives from the UE the request for an unknown method, and a P-Service-Route header list exists for the initiator of the request, the P-CSCF shall:

- select the list of Route headers that was created during the registration or reregistration of the respective public user identity utilizing the P-Service-Route mechanism;
- pre-load the list of Route headers to the request,
- insert an P-Asserted-Identity header with a value representing the initiator of the request; and
- forward the request based on the topmost Route header.

When the P-CSCF receives any response to the above request, the P-CSCF shall:

- remove any list of Record-Route headers, even though invalid, from the received response; and
- forward [the response](#) to the UE.

When the P-CSCF receives any request or response from the UE, the P-CSCF shall:

- remove the <charging-vector> XML element (see subclause 7.6), if present, from the message body of the received request or response.

CR-Form-v7	
CHANGE REQUEST	
⌘ 24.229 CR	⌘ 171 ⌘ rev 1 ⌘
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

Title:	⌘ Verifications at the P-CSCF for subsequent request		
Source:	⌘ Ericsson		
Work item code:	⌘ IMS-CCR	Date:	⌘ 30/07/2002
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 current text proposes that the P-CSCF does some verification of a subsequent requests sent by the UE. However, the text says that the P-CSCF sends a 403 response and forward the request at the same time. This seems to be an error.
Summary of change:	⌘ The first action that the P-CSCF does is the mentioned verification. After that, the request can proceed with the rest of the steps, if deemed correct, or it is answered with a 403 and the process is aborted. The verification is done only for requests (not for responses)
Consequences if not approved:	⌘ Incompatible behaviour with RFC 3261.

Clauses affected:	⌘ 5.2.6.3, 5.2.6.4						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">Y</td> <td style="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:	⌘						

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

5.2.6.3 Requests initiated by the UE

When the P-CSCF receives an initial request for a dialog or a request for a standalone transaction, and the request contains a P-Asserted-Identity header that matches one of the registered public user identities, the P-CSCF shall identify the initiator of the request by that public user identity.

When the P-CSCF receives an initial request for a dialog or a request for a standalone transaction, and the request contains a P-Asserted-Identity header that does not match one of the registered public user identities, or does not contain a P-Asserted-Identity header, the P-CSCF shall identify the initiator of the request by a default public user identity.

NOTE: The contents of the From header do not form any part of this decision process.

When the P-CSCF receives from the UE an initial request for a dialog, and a P-Service-Route header list exists for the initiator of the request, the P-CSCF shall:

- 1) remove any Route header from the request;
- 2) select the list of Route headers that was created during the registration or reregistration of the respective public user identity utilizing the P-Service-Route mechanism;
- 3) pre-load the list of Route headers to the request;
- 4) create a Record-Route header containing its own SIP URL;
- 5) insert a P-Asserted-Identity header with a value representing the initiator of the request;
- 6) create a new, globally unique value for the icid parameter and insert it into the P-Charging-Vector header; and
- 7) forward the request based on the topmost Route header.

When the P-CSCF receives a 1xx or 2xx response to the above request, the P-CSCF shall:

- 1) store the values received in the P-Charging-Function-Addresses header;
- 2) remove the list of Record-Route headers from the received response;
- 3) create a new list of stored Route headers, with the newly received list of Record-Route headers. The Contact header received in the response shall not be appended to the bottom of the stored list of Route headers;
- 4) store the dialog ID and associate it with the private user identity and public user identity involved in the session; and
- 5) save the Contact header received in the response in order to release the dialog if needed.

When the P-CSCF receives any other response to the above request, the P-CSCF shall:

- 1) remove any list of Record-Route headers, even though not allowed, from the received response and forward it to the UE.

When the P-CSCF receives from the UE a refresh request for a dialog, the P-CSCF shall:

- 1) verify if the request relates to a dialog in which the originator of the request is involved:
 - a) —if the request does not relate to an existing dialog in which the originator is involved, then the P-CSCF shall answer the request by sending a 403 (Forbidden) response back to the originator. The P-CSCF will not forward the request. No other actions are required;
 - b) I—if the request relates to an existing dialog in which the originator is involved, then the P-CSCF shall continue with the following steps:
- 2) remove any Route header from the request;
- 3) select the list of Route headers that was created during the exchange of the initial request and its associated response;
- 4) pre-load the list of Route headers to the request;

5)- create a Record-Route header containing its own SIP URL;

~~— verify if the request relates to a dialog in which the originator of the request is involved. If the request does not relate to a dialog in which the originator is involved, then a 403 response shall be sent back to the originator; and~~

6)- forward the request based on the topmost Route header.

When the P-CSCF receives a 1xx or 2xx response to the above request, the P-CSCF shall:

1)- remove the list of Record-Route headers from the received response;

2)- overwrite any existing list of stored Route headers, or create a new list of stored Route headers, with the newly received list of Record-Route headers. The Contact header received in the response shall not be appended to the bottom of the stored list of Route headers; and

3)- save the Contact header received in the response in order to release the dialog if needed.

When the P-CSCF receives any other response to the above request, the P-CSCF shall:

1)- remove any list of Record-Route headers, even though not allowed, from the received response and forward it to the UE.

When the P-CSCF receives from the UE the request for a standalone transaction, and a P-Service-Route header list exists for the initiator of the request, the P-CSCF shall:

1)- remove any Route header from the request;

2)- select the list of Route headers that was created during the registration or reregistration of the respective public user identity utilizing the P-Service-Route mechanism;

3)- pre-load the list of Route headers to the request;

4)- insert a P-Asserted-Identity header with a value representing the initiator of the request;

5)- create a new, globally unique value for the icid parameter and insert it into the P-Charging-Vector header; and

6)- forward the request based on the topmost Route header.

When the P-CSCF receives any response to the above request, the P-CSCF shall:

1)- store the values received in the P-Charging-Function-Addresses header; and

2)- remove any list of Record-Route headers, even though not allowed, from the received response and forward it to the UE.

When the P-CSCF receives from the UE subsequent requests other than a refreshing request ~~that pertains to an existing dialog~~, the P-CSCF shall:

1)- verify if the request relates to a dialog in which the originator of the request is involved:

a)- If the request does not relate to an existing dialog in which the originator is involved, then the P-CSCF shall answer the request by sending a 403 (Forbidden) response back to the originator. The P-CSCF will not forward the request. No other actions are required;

b)- if the request relates to an existing dialog in which the originator is involved, then the P-CSCF shall continue with the following steps;

2)- select the list of Route headers that was created during the exchange of the initial request and associated response for this call;

3)- pre-load the list of Route headers to the request;

~~— verify if the request relates to a dialog in which the originator of the request is involved. If the request does not relate to a dialog in which the originator is involved, then a 403 response shall be sent back to the originator; and~~

4)- forward the request based on the topmost Route header.

When the P-CSCF receives any response to the above request, the P-CSCF shall:

~~— verify if the request relates to a dialog in which the originator of the request is involved. If the request does not relate to a dialog in which the originator is involved, then a 403 response shall be sent back to the originator; and~~

1)- remove any list of Record-Route headers, valid or not, from the received response and forward it to the UE.

When the P-CSCF receives from the UE an initial request for a dialog, a refresh request for a dialog, or the request of a standalone transaction, and a P-Service-Route header list does not exist for the initiator of the request, the P-CSCF shall:

1)- send a 403 (Forbidden) response back to the UE containing a warning header.

Editor's Note: how to find out whether the user has a valid registration in the P-CSCF is FFS.

Editor's Note: The correct value for the warning code is yet to be assigned by IANA.

When the P-CSCF receives from the UE the request for an unknown method, and a P-Service-Route header list exists for the initiator of the request, the P-CSCF shall:

1)- select the list of Route headers that was created during the registration or reregistration of the respective public user identity utilizing the P-Service-Route mechanism;

2)- pre-load the list of Route headers to the request,

3)- insert an P-Asserted-Identity header with a value representing the initiator of the request; and

4)- forward the request based on the topmost Route header.

When the P-CSCF receives any response to the above request, the P-CSCF shall:

1)- remove any list of Record-Route headers, even though invalid, from the received response and forward it to the UE.

When the P-CSCF receives any request or response from the UE, the P-CSCF shall:

- remove the <charging-vector> XML element (see subclause 7.6), if present, from the message body of the received request or response.

5.2.6.4 Requests terminated by the UE

When the P-CSCF receives a response to an initial request for a dialog or a response to a request for a standalone transaction, the P-CSCF shall identify responder by a public user identity that relates to the Request-URI used in the request.

NOTE: The contents of the To header do not form any part of this decision process.

When the P-CSCF receives, destined for the UE, an initial request for a dialog, or a refresh request for a dialog, prior to forwarding the request, the P-CSCF shall:

1)- remove its own SIP URL from the topmost Route header;

2)- remove the list of Record-Route headers, and shall convert it into a list of Route headers. The Contact header shall not be appended to the bottom of the list of Route headers. The P-CSCF shall save this list of Route headers and append this list to all UE originated requests for this dialog;

3)- save the Contact header received in the response in order to release the dialog if needed;

4)- add itself on the top of the removed list of Record-Route headers and save the list. The list will be appended to UE originated response to the SUBSCRIBE request;

5)- remove and store the list of received Via headers from the received request and shall place its own address in the Via header with locally unique token to identify the saved values as a branch parameter. The P-CSCF shall append the list of Via headers to the UE originated response for this request;

- 6)- store the values received in the P-Charging-Function-Addresses header; and
- 7)- remove and store the icid parameter received in the P-Charging-Vector header.

When the P-CSCF receives a 1xx or 2xx response to the above request, the P-CSCF shall:

- 1)- insert an P-Asserted-Identity header with a value representing the responder to the request;
- 2)- append the saved list of Record-Route headers to the response;
- 3)- append the saved list of Via headers to the response; and
- 4)- store the dialog ID and associate it with the private user identity and public user identity involved in the session.

When the P-CSCF receives any other response to the above request, the P-CSCF shall:

- 1)- append the saved list of Via headers to the response.

When the P-CSCF receives, destined for the UE, a request for a stand-alone transaction, prior to forwarding the request, the P-CSCF shall:

- 1)- insert an P-Asserted-Identity header with a value representing the responder to the request;
- 2)- remove and store the list of received Via headers from the received request and shall place its own address in the Via header with locally unique token to identify the saved values as a branch parameter. The P-CSCF shall append this list of Via headers to the UE originated response for this transaction;
- 3)- store the values received in the P-Charging-Function-Addresses header; and
- 4)- remove and store the icid parameter received in the P-Charging-Vector header.

When the P-CSCF receives any response to the above request, the P-CSCF shall:

- 1)- append the saved list of Via headers to the response; and
- ~~— verify if the request relates to a dialog in which the originator of the request is involved. If the request does not relate to a dialog in which the originator is involved, then a 403 response shall be sent back to the originator.~~

When the P-CSCF receives, destined for the UE, a subsequent request for a dialog that is not a refresh request, prior to forwarding the request, the P-CSCF shall:

- 1)- remove and store the list of received Via headers from the received request and shall place its own address in the Via header with locally unique token to identify the saved values as a branch parameter. The P-CSCF shall append this list of Via headers to the UE originated response for this transaction; and
- 2)- remove and store the icid parameter from P-Charging-Identity header (see subclause 7.6).

When the P-CSCF receives any response to the above request, the P-CSCF shall:

- 1)- append the saved list of Via headers to the response.

When the P-CSCF sends any request or response to the UE, the P-CSCF shall:

- 1)- remove the P-Charging-Vector header from the request or response.

Start of first change

4.5.2 IMS charging identifier (ICID)

The IMS Charging Identifier (ICID) is the session level data shared among the IMS network entities including ASs in both the calling and called IMS networks.

The first IMS network entity involved in a dialog (session) or standalone (non-session) message will generate the ICID and include it in the icid parameter of the P-Charging-Vector header in the SIP request. [See 3GPP TS 32.225 \[17\] for requirements on the format of ICID.](#) ~~The ICID consists of two components: a unique value and the IP address of the entity that generated the value.~~ The P-CSCF will generate ICID for mobile originated calls. The I-CSCF will generate ICID for mobile terminated calls if there is no ICID received in the initial request (e.g. the calling party network is another SIP based network). The AS will generate ICID when acting as an originating UA. The MGCF will generate ICID for PSTN/PLMN originated calls. Each entity that processes the SIP request will extract the ICID for possible later use in a charging data records (CDR). The I-CSCF and S-CSCF are also allowed to generate a new ICID for mobile terminated calls received from another network.

There is also an ICID generated by the P-CSCF with a REGISTER request that is passed in a unique instance of P-Charging-Vector header. This ICID is valid for the duration of the registration and is associated with the signalling PDP context.

The icid parameter is included in any requests that include the P-Charging-Vector header. However, the P-Charging-Vector (and ICID) is not passed to the UE. It is also possible for the ICID to be passed to the GGSN and SGSN, but that is outside the scope of this specification.

The ICID is also passed from the P-CSCF to the GGSN, but the ICID is not passed to the SGSN. The interface supporting this operation is outside the scope of this document.

End of first change

Start of second change

7.2.6 P-Charging-Vector header

7.2.6.1 Introduction

The P-Charging-Vector header is the mechanism whereby the charging correlation information may be shared by IM CN subsystem functional entities. The charging correlation information consists of the following:

- IMS Charging Identifier (ICID), which is a globally unique identifier created per IMS dialog that is stored in all related CDRs. [See 3GPP TS 32.225 \[17\] for requirements on the format of ICID.](#) ~~There are two components: a value that is locally unique to the entity generating ICID and the IP address of that entity. The locally unique value shall be placed in the first instance of gen-value and the IP address will follow in the second instance of gen-value (after the comma).~~
- Inter Operator Identifier (IOI), which are globally unique identifiers for a particular network.
- Access Network Charging Information, where the GPRS is the initially supported access network. For GPRS there are the following components to track: GGSN address and one or more GPRS Charging Identifiers (GCID). Each GCID consists of an identifier of the PDP context assigned, the associated flow index into the SDP from the SIP signalling and the authorization token associated with the PDP context.

The first IM CN subsystem functional entity involved with a dialog or standalone transaction inserts the header with the icid parameter. Additional parameters are inserted into the P-Charging-Vector header by other entities as the processing continues. The header may be included in requests and responses.

7.2.6.2 Syntax

The P-Charging-Vector header field has the syntax described in table 7.3, which is extracted from draft-henrikson-sip-charging-information [45]. Table 7.3 describes extensions required for 3GPP.

Table 7.3: Syntax of extensions to P-Charging-Vector header

```
access-network-charging-info = (gprs-charging-info / gen-value)
gprs-charging-info = "gprs-charging-info" SEMI
                    "ggsn" EQUAL ggsn *(SEMI "gcid" EQUAL gcid)
                    [COMMA extension-param]
ggsn = gen-value
gcid = "pdp-id" EQUAL pdp-id COMMA "flow-index" EQUAL flow-index
      COMMA "auth-token" EQUAL auth-token
pdp-id = gen-value
flow-index = gen-value
auth-token = gen-value
extension-param = token [EQUAL (token | quoted-string)]
```

The gprs-charging-info parameter contains 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 is the PDP context identifier that the P-CSCF obtained from the GGSN. The flow-index parameter is the relative index to the media stream in the SDP for the PDP context. The auth-token parameter is the authorization token associated with the PDP context. For more information about the PDP contexts for media, see subclause 9.2.5. For the case of a primary PDP context that is used for signalling, the flow-id and auth-token parameters are set to 0.

7.2.6.3 Operation

The operation of this header is described in subclauses 5.2, 5.3, 5.4, 5.5, 5.6, 5.7 and 5.8.

End of second change

CHANGE REQUEST

⌘ **24.229 CR 163** ⌘ rev **-1** ⌘ 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

Title:	⌘ Clarifications of allocation of IP address		
Source:	⌘ NEC Corporation		
Work item code:	⌘ IMS-CCR	Date:	⌘ 2331/7/2002
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 the current 4.2 of 24.229, allocation of IP addresses for IM CN subsystems and UE are misaligned with 23.221 and cause confusion for many readers.
Summary of change:	⌘ Since 23.221 takes priority over 24.229, 24.229 shall be clearly stated that 24.229 are based on the principle of 23.221.
Consequences if not approved:	⌘ 24.229 remains misaligned with 23.221 and cause many readers confusion.

Clauses affected:	⌘ 4.2								
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;">X</td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>	Y	N	X				Other core specifications	⌘ 23.221
Y	N								
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.

Start of change

4.2 URL and address assignments

In order for SIP and SDP to operate, the following preconditions apply:

- 1) I-CSCFs used in registration are allocated SIP URLs. Other IM CN subsystem entities may be allocated SIP URLs. For example pcscf.home1.net and <impl-specific-info>@pcscf.home1.net are valid SIP URLs. If the user part exists, it is an essential part of the address and shall not be omitted when copying or moving the address. How these addresses are assigned to the logical entities is up to the network operator. For example, a single SIP URL may be assigned to all I-CSCFs, and the load shared between various physical boxes by underlying IP capabilities, or separate SIP URLs may be assigned to each I-CSCF, and the load shared between various physical boxes using DNS SRV capabilities.
- 2) All IM CN subsystem entities are allocated IP addresses. Allocation of ~~IPv6 and IPv4~~IP addresses fulfils is based on the requirements of of 3GPP TS 23.221 [6] subclause 5.1.
- 3) The subscriber is allocated a private user identity by the home network operator, and this is contained within the ISIM application, if present, on the UICC. Where no ISIM application is present, the private user identity is derived from the IMSI, which is contained on the USIM (see 3GPP TS 23.003 [3]). This private user identity is available to the SIP application within the UE.

NOTE: The SIP URLs may be resolved by using any of public DNSs, private DNSs, or peer-to-peer agreements.

- 4) The subscriber is allocated one or more public user identities by the home network operator. At least one of these is contained within the ISIM application, if present, on the UICC. Where no ISIM application is present, the UE shall derive a temporary public user identity from the IMSI contained on the USIM (see 3GPP TS 23.003 [3]). All registered public user identities are available to the SIP application within the UE, after registration.
- 5) The allocation of IP address for UE is dynamically assigned an IP version 6 address is also based on the requirements of 3GPP TS 23.221 [6] subclause 5.1 and 3GPP TS 23.228 [7] subclause 4.3.

End of change