Source:	TSG CN WG3
Title:	CRs on Rel-5 Work Item E2EQoS.
Agenda item:	8.5
Document for:	APPROVAL

Introduction:

This document contains **2** CRs on **Rel-5 Work Item E2EQoS,** including the corresponding mirror CRs (as required).

These CRs have been agreed by TSG CN WG3 and are forwarded to TSG CN Plenary meeting for approval.

WG_tdoc	Title	Spec	CR	Rev	Cat	Rel	C_Ver
N3-030580	Closing the gate at HOLD	29.207	105	1	F	Rel-5	5.4.0
N3-030581	Closing the gate at HOLD	29.208	043	1	F	Rel-5	5.4.0

3GPP TSG-CN WG3 Meeting #29
Sophia Antipolis, France, 25th – 29th August 2003.

Tdoc ⌘N3-030580

<div align="right">*CR-Form-v7*</div>

CHANGE REQUEST

⌘	**29.207** CR **105**		⌘**rev**	**1**	⌘	Current version:	**5.4.0**	⌘

*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:	⌘	Closing the gate at HOLD
Source:	⌘	TSG_CN WG3 [Nokia]
Work item code: ⌘	E2EQoS	**Date:** ⌘ 29/08/2003

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

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change:	⌘	Gate control for the "media on hold" case is missing from the specification.

Summary of change: ⌘		Gate control operation for "media on hold" is added in subclause 5.2.1.4:

- Gate for RTP closed.
- Gate for RTCP left open to keep the connection alive.

Clarifications for closing the gate are added:
- The close gate command is not part of the revoke authorization decisions in PIB. Consequently, a correction in subclause 4.3.2.1.
- The open gate command may either be a part of the authorization decision or the PDF may provide a separate decision to open the gate. Consequently, a clarification in subclause 5.2.1.4.

Consequences if **not approved:**	⌘	Erroneous implementations leading to failed connections. Misalignment with stage 2, TS 23.207. Incompatibility with IETF RFC 3264 (5.1).

Clauses affected:	⌘	4.3.2.1, 5.2.1.4 and 6.3.2

		Y	**N**	
Other specs **affected:**	⌘	**X**		Other core specifications ⌘ TS 29.208
			X	Test specifications
			X	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.

4.3.2.1   Service-based local policy decision point

The PDF functions as a Policy Decision Point for the service-based local policy control. The PDF makes policy decisions based on session and media related information obtained from the P-CSCF. The PDF shall exchange the decision information with the GGSN via the Go interface.

The following policy decision point functionalities for SBLP are identified:

- Authorisation function:

     The PDF shall be able to provide an authorisation decision upon receiving a bearer authorisation request from the GGSN. The PDF shall authorise the request according to the stored session and media related information received from the P-CSCF.

     The PDF shall use the binding information to determine the IMS session and the set of media components. Based on the media components, the PDF shall determine the authorised QoS, packet filters, and gate status to be applied. The authorised QoS specifies the maximum allowed QoS class, and the data rate for the set of media components identified in the binding information.

     The PDF shall be able to provide updates to the authorisation decision at session modifications which change the QoS and packet classifiers for PDP contexts which are already established.

- Revoke function:

     The PDF may revoke the authorisation of resources at any time. Revoke Authorisation for GPRS and IP resources is communicated by the PDF to the GGSN.

- Approval of QoS Commit / Removal of QoS Commit:

     The PDF may allow or deny for the media component(s) the usage of the PDP context by controlling the correlated gate(s).

     The "Approval of QoS Commit" command may either be part of the authorisation decision, or the PDF may provide a separate decision with the "Approval of QoS Commit" command to open the gate.

     The "Removal of QoS Commit" command ~~may either be part of the revoke authorisation decision, or the PDF may provide~~is a separate decision ~~with the "Removal of QoS Commit" command~~ to close the gate(s) e.g. when a media IP flow(s) is put on hold.

- Actions due to Indication of bearer release:

     When the GGSN informs the PDF of bearer deactivation, the PDF shall remove the corresponding authorisation request state. Additionally, the PDF shall inform the P-CSCF about this deletion event.

- Actions due to Indication of bearer modification:

     When the PDF receives an indication of bearer modification of the maximum bitrate to or from 0 kbits/s, the PDF shall inform the P-CSCF about this modification event.

- Generation of authorisation token:

     During the session set-up the PDF generates an authorisation token for the IMS session.

- Mapping SDP parameters to "Authorized QoS" parameters:

     To perform proper authorisation, the PDF shall map the necessary SDP parameters containing session and media related information to "Authorized QoS" parameters.

- Charging identifiers exchange:

     The PDF shall send the ICID provided by the P-CSCF as part of the initial authorisation decision of all the bearer authorization requests that correspond to the respective SIP session.

When the PDF receives the GCID together with the GGSN address from the GGSN, it shall forward this information to the P-CSCF to ensure charging correlation.

5.2.1.4 SBLP gate decision

The PDF may send a gate decision during the session set-up or whenever the status of a media component changes during the session (e.g. a media component is put on hold, resumed or removed). The PDF shall not send a gate decision to the GGSN before it has sent the initial authorisation decision. If the initial authorisation decision has already been sent, the PDF may send a gate decision to the GGSN to modify the status of one or several gate(s) on the user plane. The gate decision shall only contain the gate(s) for which the status was changed compared to the last authorisation or gate decision sent to the GGSN. The gate decision contains for each gate either the "Approval of QoS Commit" command to open the gate or the "Removal of QoS Commit" command to close the gate. The open gate command may either be a part of the authorization decision or the PDF may provide a separate decision with the "Approval of QoS Commit" command to open the gate. When a media IP flow is put on hold, the PDF may send the "Removal of QoS Commit" command to the GGSN to close the relevant gate – the possible RTCP gate shall be left open to keep the connection alive. The open gate command shall be used to resume the media from hold.

CR-Form-v7

CHANGE REQUEST

⌘	**29.208** CR **043**	⌘**rev**	**1**	⌘	Current version:	**5.4.0**	⌘

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Proposed change affects: UICC apps⌘ ☐   ME ☐   Radio Access Network ☐   Core Network **X**

Title:	⌘	Closing the gate at HOLD		
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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: ⌘	Gate control for the "media on hold" case is missing from the specification.
Summary of change: ⌘	Gate control operation for "media on hold" is added in subclause 6.2.1: • Gate for RTP closed. • Gate for RTCP left open to keep the connection alive. Clarifications for closing the gate are added: • When media stream is removed, both RTP and RTCP gates are closed, subclause 6.2.2. Editorial corrections.
Consequences if not approved: ⌘	Erroneous implementations leading to failed connections. Incompatibility with IETF RFC 3264 (5.1).

Clauses affected:	⌘	6.2, 6.2.1 and 6.2.2.		

		Y	**N**			
Other specs affected:	⌘	**X**		Other core specifications	⌘	TS 29.207
			X	Test specifications		
			X	O&M Specifications		

Other comments:	⌘		

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6.2 Removal of QoS commit

The "Removal of QoS commit" procedure is used e.g. when a media component of a session is put on hold. (e.g. in case of a media re-negotiation or call hold). The PDF decision of "Removal of QoS commit-" shall be sent as a separate decision to the GGSN corresponding to the previous "Authorize QoS Resources" request.

6.2.1 Removal of QoS commit at Session on Hold

Figure 6.2.1 presents the "Removal of QoS commit" procedure at session on hold to both the Mobile Originating (MO) side and the Mobile Terminating (MT) side.
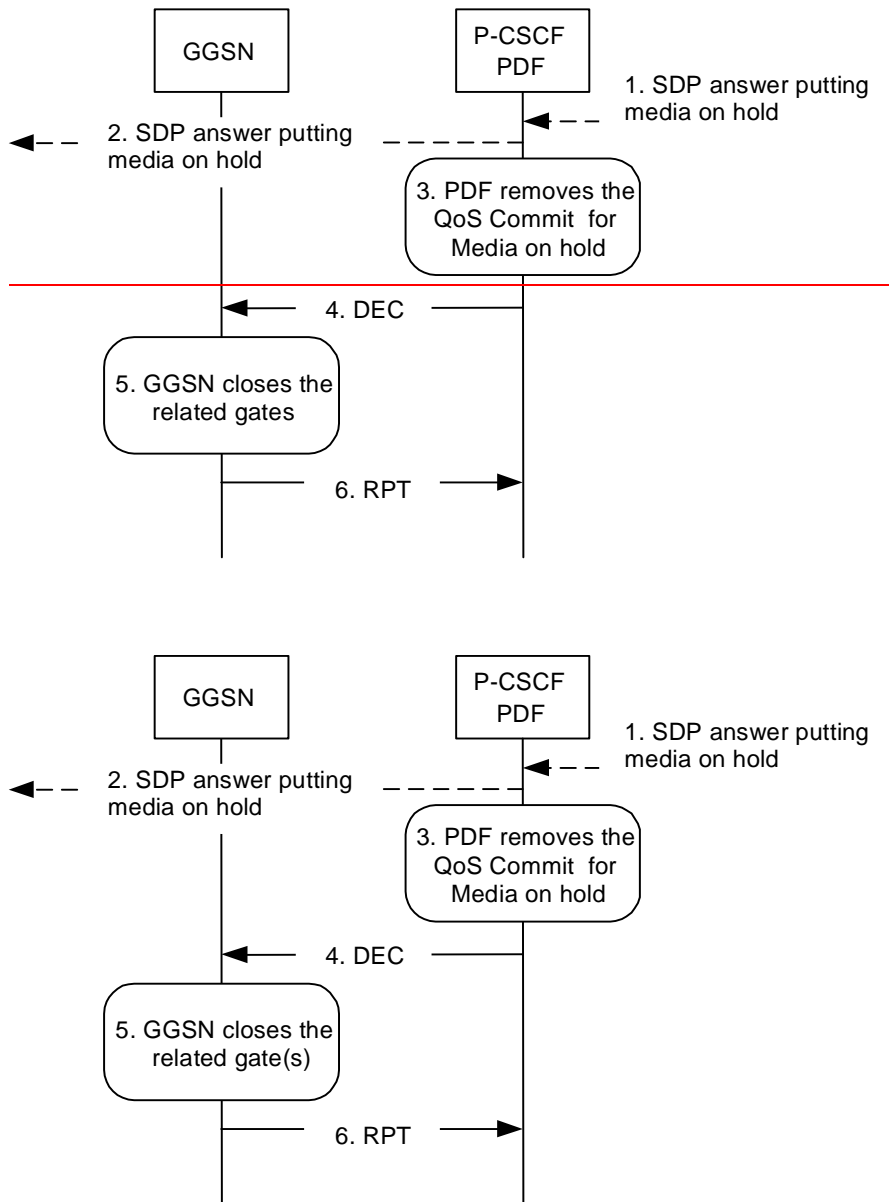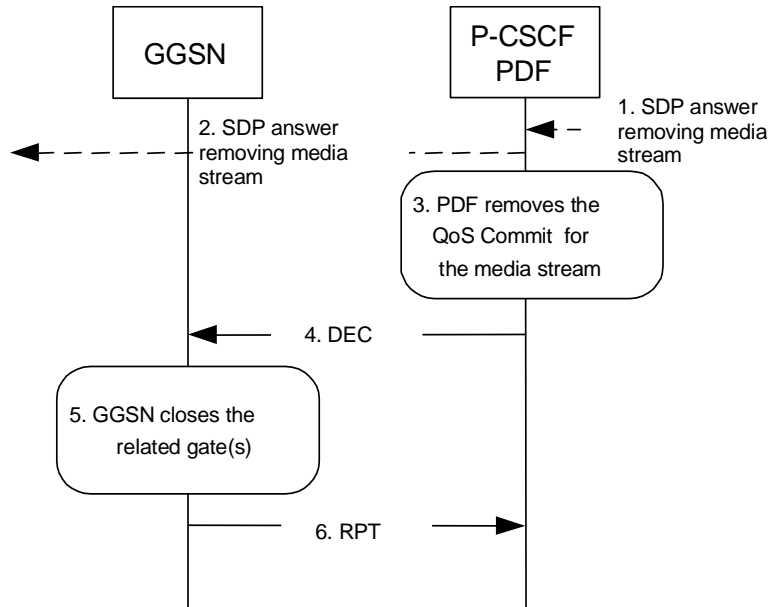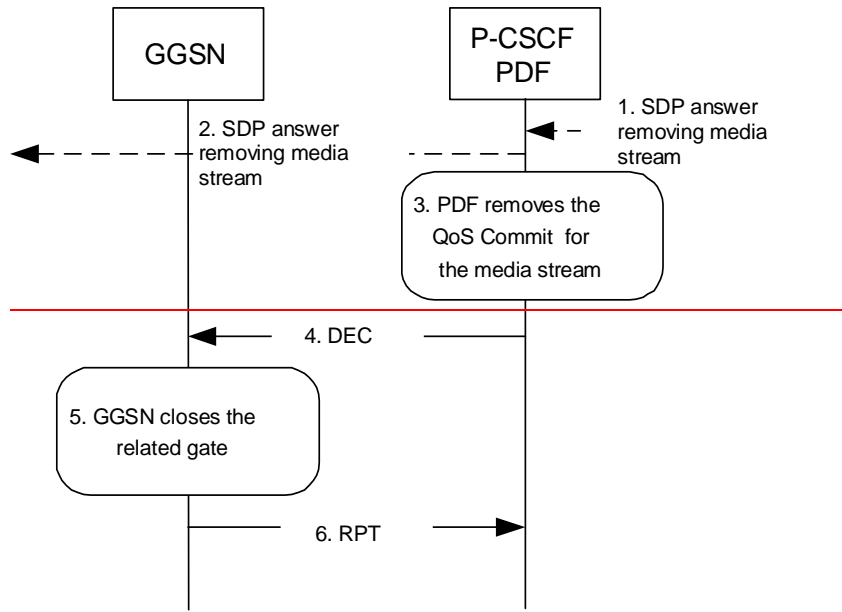
1.   P-CSCF receives an SDP answer putting media on hold within a SIP message i.e. the media is set to "inactive".
2.   P-CSCF forwards an SDP answer putting media on hold within a SIP message.
3.   PDF removes the QoS commit for the media on hold.
4.   PDF sends COPS DEC message(s) to the GGSN to close the relevant media IP flow gate(s), the related leaving the possible related RTCP gate(s) open to keep the connection alive'gates'.
5.   GGSN receives the COPS DEC message(s), and closes the requested gate(s) 'gates'.
6.   GGSN sends COPS RPT message(s) back to the PDF.

Figure 6.2.1: Removal of QoS commit at Session on Hold to both the Mobile Originating (MO) side and the Mobile Terminating (MT) side

6.2.2   Removal of QoS commit at media stream remove

Figure 6.2.2 presents the "Removal of QoS commit" procedure at media stream remove to both the Mobile Originating (MO) side and the Mobile Terminating (MT) side.

1.   P-CSCF receives an SDP answer removing media stream.
2.   P-CSCF forwards the SDP answer removing media stream.
3.   PDF removes the QoS commit for the related media stream.
4.   PDF sends a COPS DEC message to the GGSN to close the related gate(s)'gate'.
5.   GGSN receives the COPS DEC message, and closes the gate(s)'gate'.
6.   GGSN sends a COPS RPT message back to the PDF.

Figure 6.2.2: Removal of QoS commit at media stream remove to both the Mobile Originating (MO) side and the Mobile Terminating (MT) side