3GPP TSG CN Plenary Meeting #23 10th – 12th March 2004 Phoenix, USA.

Source: TSG CN WG4

Title: Corrections on GRPS R99

Agenda item: 7.3

Document for: APPROVAL

Spec	CR	Rev	Doc-2nd-Level	Phase	Subject	Cat	Ver_C
29.060	491		N4-040315	R99	PDCP and GTP-U sequence numbers received in the PDP Context information element inside SGSN Context Response message.	F	3.18.0
29.060	490		N4-040314	Rel-4	PDCP and GTP-U sequence numbers received in the PDP Context information element inside SGSN Context Response message.	Α	4.10.0
29.060	489	1	N4-040313	Rel-5	PDCP and GTP-U sequence numbers received in the PDP Context information element inside SGSN Context Response message.	Α	5.8.0
29.060	482	1	N4-040312	Rel-6	PDCP and GTP-U sequence numbers received in the PDP Context information element inside SGSN Context Response message.	Α	6.3.0

CHANGE REQUEST									CR-Form-v7		
*	29	.060	CR 482	2	≋rev	1	Ж	Current ver	sion:	6.3.0	¥
For <u>HELP</u> on	using t	his for	m, see bott	om of this	s page or	look	at the	e pop-up tex	t over	the % syr	nbols.
Proposed change affects: UICC apps# ME Radio Access Network Core Network X											
Title:			d GTP-U se side SGSN					the PDP C	ontext	tinformation	on
Source:	⊮ CN				·		J				
Work item code: 8	₩ TEI							Date: មិ	19/	/02/2004	
Category:	Deta	F (corre A (corre B (adda C (fund D (edited lled exp	he following ection) esponds to eition of featuetional modifications of BGPP TR 21	a correctio ire), fication of f ation) the above	n in an ea eature)		elease	2	f the fo (GSN (Rele (Rele (Rele (Rele (Rele	I-6 Illowing relative policy of the second policy o	eases:
Reason for chang	уе: Ж							rpretation w			
			d inside the eceived in			espoi	nse r	nessage wh	en the	RAB Cor	itext IE
Summary of chan	ıge: ૠ	shall	be ignored	in the ne	w SGSN	in cas	se th	umbers insi e RAB Cont sponse mes	ext IE	was recei	
Consequences if not approved:	Ж		perability proced in a control			s inte	rpret	the sequen	ce nur	mbers whic	ch shall
Clauses affected:	* ¥	7.5.4									
Other specs affected:	*	Y N X X	Other core Test speci O&M Spec	ifications		¥					
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 $\underline{\text{ftp://ftp.3gpp.org/specs/}}$ 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.

The old SGSN shall send an SGSN Context Response to the new SGSN as a response to a previous SGSN Context Request.

Possible Cause values are:

- 'Request Accepted'.
- 'IMSI not known'.
- 'System failure'.
- 'Mandatory IE incorrect'.
- 'Mandatory IE missing'.
- 'Optional IE incorrect'.
- 'Invalid message format'.
- 'P-TMSI Signature mismatch'.

If the Cause contains the value 'Request accepted', all information elements are mandatory, except PDP Context, RAB Context and Private Extension.

If the Cause contains the value 'P-TMSI Signature mismatch' the IMSI information element shall be included in the response, otherwise only the Cause information element shall be included in the response.

The old SGSN shall include a SGSN Address for control plane. The new SGSN shall store this SGSN Address and use it when sending control plane messages for the MS to the old SGSN in the SGSN context transfer procedure.

The Tunnel Endpoint Identifier Control Plane field specifies a Tunnel Endpoint Identifier, which is chosen by the old SGSN. The new SGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent control plane messages, which are sent from the new SGSN to the old SGSN and related to the PDP context(s) requested.

The IMSI information element contains the IMSI matching the TLLI or P-TMSI (for GSM or UMTS respectively) and RAI in the SGSN Context Request.

The MM Context contains necessary mobility management and security parameters. An SGSN supporting the 'PUESBINE' feature (see 3GPP TS 23.195 [24] for more information) shall include the IMEISV in the MM Context when transferring the IMEISV from the old SGSN to the new SGSN.

All active PDP contexts in the old SGSN shall be included as PDP Context information elements. The PDP contexts are included in an implementation dependant prioritized order, and the most important PDP context is placed first. When the PDP Context Prioritization IE is included, it informs the new SGSN that the PDP contexts are sent prioritized. If the new SGSN is not able to maintain active all the PDP contexts received from the old SGSN when it is indicated that prioritization of the PDP contexts is applied, the new SGSN should use the prioritisation sent by old SGSN as input when deciding which PDP contexts to maintain active and which ones to delete.

If there is at least one active PDP context, the old SGSN shall start the T3-TUNNEL timer and store the address of the new SGSN in the "New SGSN Address" field of the MM context. The old SGSN shall wait for SGSN Context Acknowledge before sending T-PDUs to the new SGSN. If an SGSN Context Acknowledge message is not received within a time defined by T3-RESPONSE, the old SGSN shall retransmit the SGSN Context Response to the new SGSN as long as the total number of attempts is less than N3-REQUESTS. After N3-REQUESTS unsuccessfully attempts, the old SGSN shall proceed as described in section 'Reliable delivery of signalling messages' in case the transmission of a control plane message fails N3-REQUESTS times.

For each RAB using lossless PDCP context, the old SGSN shall include a RAB Context. If a RAB Context is included in the SGSN Context Response, the new SGSN shall ignore the N-PDU number fields (PDCP) and sequence number fields GTP U sequence numbers received in the PDP Context IE.

Radio Priority SMS contains the radio priority level for MO SMS transmission, and shall be included if a valid Radio Priority SMS value exists for the MS in the old SGSN.

Radio Priority LCS contains the radio priority level for MO LCS transmission, and shall be included if a valid Radio Priority LCS value exists for the MS in the old SGSN.

Radio Priority is the radio priority level that the MS uses when accessing the network for the transmission of uplink user data for a particular PDP context. One Radio Priority IE shall be included per PDP context that has a valid radio priority value assigned to it in the old SGSN.

Packet Flow Id is the packet flow identifier assigned to the PDP context. One Packet Flow Id IE shall be included per PDP context that has a valid packet flow identifier value assigned to it in the old SGSN.

Charging Characteristics IE contains the charching characteristics which apply for a PDP context; see 3GPP TS 32.215 [18]. One Charging Characteristics IE shall be included per PDP context IE. If no PDP context is active, this IE shall not be included. The mapping of a Charging Characteristics IE to a PDP Context IE is done according to the sequence of their appearance, e.g. the first Charging Characteristics IE is mapped to the first PDP Context IE.

Table 27: Information Elements in a SGSN Context Response

Information element	Presence requirement	Reference
Cause	Mandatory	7.7.1
IMSI	Conditional	7.7.2
Tunnel Endpoint Identifier Control Plane	Conditional	7.7.14
RAB Context	Conditional	7.7.19
Radio Priority SMS	Optional	7.7.20
Radio Priority	Optional	7.7.21
Packet Flow Id	Optional	7.7.22
CharingCharacteristics	Optional	7.7.23
Radio Priority LCS	Optional	7.7.25B
MM Context	Conditional	7.7.28
PDP Context	Conditional	7.7.29
SGSN Address for Control Plane	Conditional	7.7.32
PDP Context Prioritization	Optional	7.7.45
Private Extension	Optional	7.7.46

CHANGE REQUEST										CR-Form-v7					
*		29.	060	CR	489		ж rev	1	¥	Curre	nt vers	ion:	5.8.0)	¥
For <u>HE</u>	For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the 業 symbols.														
Proposed change affects: UICC apps# ME Radio Access Network Core Network X															
Title:	Ж				U seque GSN Co						DP Co	ntext	informa	tio	n
Source:	ж	CN ₄		iside o	0014 00	TITOAT	rcopon	30 1110	νοσας	yo.					
Work item	code: ૠ	TEI								Da	ate: ೫	19/	02/2004	ļ	
Category:		Detai	F (corr A (corr B (add C (fund D (edit led exp	rection) respond lition of to ctional mo olanatior	wing cate s to a cor feature), nodification dification as of the a	rrectior on of fe obove	n in an ea			Use 2 e) R R R R R	96 97 98 99	the for (GSN (Relea (Relea (Relea (Relea (Relea (Relea	II-5 Illowing r II Phase : ease 199 ease 199 ease 4) ease 5) ease 6)	2) 6) 7) 8)	ases:
Reason fo	r change	e: #	The	current	specifica	ation o	an lead	to mi	sinte	erpretati	on whi	ich se	equence	ะทเ	ımber is
Summary	of chang	ge: ૠ	Was N-PE shall	receive OU Seq be igno	e the SG d in the ruence no pred in the SN insid	new S umber ne nev	GSN rs and S v SGSN	eque	nce r se th	number	s insid Conte	e the	PDP C	ont	ext IE
Conseque		Ж			lity probl n a diffei			rs inte	rpre	t the se	quenc	e nun	nbers w	hicl	n shall
Clauses at	fected:	\mathfrak{H}	7.5.4												
Other spec affected:	es	¥	Y N X X	Other Test s	core spe pecificat Specifica	tions	tions	¥							
Other com	ments:	\aleph													

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 $\underline{\text{ftp://ftp.3gpp.org/specs/}}$ 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.

The old SGSN shall send an SGSN Context Response to the new SGSN as a response to a previous SGSN Context Request.

Possible Cause values are:

- 'Request Accepted'.
- 'IMSI not known'.
- 'System failure'.
- 'Mandatory IE incorrect'.
- 'Mandatory IE missing'.
- 'Optional IE incorrect'.
- 'Invalid message format'.
- 'P-TMSI Signature mismatch'.

If the Cause contains the value 'Request accepted', all information elements are mandatory, except PDP Context, RAB Context and Private Extension.

If the Cause contains the value 'P-TMSI Signature mismatch' the IMSI information element shall be included in the response, otherwise only the Cause information element shall be included in the response.

The old SGSN shall include a SGSN Address for control plane. The new SGSN shall store this SGSN Address and use it when sending control plane messages for the MS to the old SGSN in the SGSN context transfer procedure.

The Tunnel Endpoint Identifier Control Plane field specifies a Tunnel Endpoint Identifier, which is chosen by the old SGSN. The new SGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent control plane messages, which are sent from the new SGSN to the old SGSN and related to the PDP context(s) requested.

The IMSI information element contains the IMSI matching the TLLI or P-TMSI (for GSM or UMTS respectively) and RAI in the SGSN Context Request.

The MM Context contains necessary mobility management and security parameters. An SGSN supporting the 'PUESBINE' feature (see 3GPP TS 23.195 [24] for more information) shall include the IMEISV in the MM Context when transferring the IMEISV from the old SGSN to the new SGSN.

All active PDP contexts in the old SGSN shall be included as PDP Context information elements. The PDP contexts are included in an implementation dependant prioritized order, and the most important PDP context is placed first. When the PDP Context Prioritization IE is included, it informs the new SGSN that the PDP contexts are sent prioritized. If the new SGSN is not able to maintain active all the PDP contexts received from the old SGSN when it is indicated that prioritization of the PDP contexts is applied, the new SGSN should use the prioritisation sent by old SGSN as input when deciding which PDP contexts to maintain active and which ones to delete.

If there is at least one active PDP context, the old SGSN shall start the T3-TUNNEL timer and store the address of the new SGSN in the "New SGSN Address" field of the MM context. The old SGSN shall wait for SGSN Context Acknowledge before sending T-PDUs to the new SGSN. If an SGSN Context Acknowledge message is not received within a time defined by T3-RESPONSE, the old SGSN shall retransmit the SGSN Context Response to the new SGSN as long as the total number of attempts is less than N3-REQUESTS. After N3-REQUESTS unsuccessfully attempts, the old SGSN shall proceed as described in section 'Reliable delivery of signalling messages' in case the transmission of a control plane message fails N3-REQUESTS times.

For each RAB using lossless PDCP context, the old SGSN shall include a RAB Context. If a RAB Context is included in the SGSN Context Response, the new SGSN shall ignore the N-PDU number fields PDCP and sequence number fields GTP U sequence numbers received in the PDP Context IE.

Radio Priority SMS contains the radio priority level for MO SMS transmission, and shall be included if a valid Radio Priority SMS value exists for the MS in the old SGSN.

Radio Priority LCS contains the radio priority level for MO LCS transmission, and shall be included if a valid Radio Priority LCS value exists for the MS in the old SGSN.

Radio Priority is the radio priority level that the MS uses when accessing the network for the transmission of uplink user data for a particular PDP context. One Radio Priority IE shall be included per PDP context that has a valid radio priority value assigned to it in the old SGSN.

Packet Flow Id is the packet flow identifier assigned to the PDP context. One Packet Flow Id IE shall be included per PDP context that has a valid packet flow identifier value assigned to it in the old SGSN.

Charging Characteristics IE contains the charching characteristics which apply for a PDP context; see 3GPP TS 32.215 [18]. One Charging Characteristics IE shall be included per PDP context IE. If no PDP context is active, this IE shall not be included. The mapping of a Charging Characteristics IE to a PDP Context IE is done according to the sequence of their appearance, e.g. the first Charging Characteristics IE is mapped to the first PDP Context IE.

Table 27: Information Elements in a SGSN Context Response

Information element	Presence requirement	Reference
Cause	Mandatory	7.7.1
IMSI	Conditional	7.7.2
Tunnel Endpoint Identifier Control Plane	Conditional	7.7.14
RAB Context	Conditional	7.7.19
Radio Priority SMS	Optional	7.7.20
Radio Priority	Optional	7.7.21
Packet Flow Id	Optional	7.7.22
CharingCharacteristics	Optional	7.7.23
Radio Priority LCS	Optional	7.7.25B
MM Context	Conditional	7.7.28
PDP Context	Conditional	7.7.29
SGSN Address for Control Plane	Conditional	7.7.32
PDP Context Prioritization	Optional	7.7.45
Private Extension	Optional	7.7.46

CHANGE REQUEST								
	29.060 CR 490 # rev #	Current version: 4.10.0 **						
For <u>HELP</u> on u	sing this form, see bottom of this page or look at the	e pop-up text over the						
Proposed change	affects: UICC apps第 <mark></mark> ME <mark></mark> Radio Ad	ccess Network Core Network X						
Title: ∺	PDCP and GTP-U sequence numbers received in element inside SGSN Context Response message							
		С.						
Source: #	CN4							
Work item code: ₩	TEI	<i>Date:</i>						
Category:	A 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.	Release: # Rel-4 Use one of the following releases: 2 (GSM Phase 2) P) 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	The current specification can lead to misinter invalid inside the SGSN Context Response nwas received in the new SGSN							
Summary of chang	N-PDU Sequence numbers and Seq	e RAB Context IE was received by						
Consequences if not approved:	# Interoperability problems if vendors interpret be ignored in a different way.	the sequence numbers which shall						
	,							
Clauses affected: Other specs affected:	 第 7.5.4 Y N X X X X X 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
- 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 $\underline{\text{ftp://ftp.3gpp.org/specs/}}$ 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.

The old SGSN shall send an SGSN Context Response to the new SGSN as a response to a previous SGSN Context Request.

Possible Cause values are:

- 'Request Accepted'.
- 'IMSI not known'.
- 'System failure'.
- 'Mandatory IE incorrect'.
- 'Mandatory IE missing'.
- 'Optional IE incorrect'.
- 'Invalid message format'.
- 'P-TMSI Signature mismatch'.

If the Cause contains the value 'Request accepted', all information elements are mandatory, except PDP Context, RAB Context and Private Extension.

If the Cause contains the value 'P-TMSI Signature mismatch' the IMSI information element shall be included in the response, otherwise only the Cause information element shall be included in the response.

The old SGSN shall include a SGSN Address for control plane. The new SGSN shall store this SGSN Address and use it when sending control plane messages for the MS to the old SGSN in the SGSN context transfer procedure.

The Tunnel Endpoint Identifier Control Plane field specifies a Tunnel Endpoint Identifier, which is chosen by the old SGSN. The new SGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent control plane messages, which are sent from the new SGSN to the old SGSN and related to the PDP context(s) requested.

The IMSI information element contains the IMSI matching the TLLI or P-TMSI (for GSM or UMTS respectively) and RAI in the SGSN Context Request.

The MM Context contains necessary mobility management and security parameters.

All active PDP contexts in the old SGSN shall be included as PDP Context information elements.

If there is at least one active PDP context, the old SGSN shall start the T3-TUNNEL timer and store the address of the new SGSN in the "New SGSN Address" field of the MM context. The old SGSN shall wait for SGSN Context Acknowledge before sending T-PDUs to the new SGSN. If an SGSN Context Acknowledge message is not received within a time defined by T3-RESPONSE, the old SGSN shall retransmit the SGSN Context Response to the new SGSN as long as the total number of attempts is less than N3-REQUESTS. After N3-REQUESTS unsuccessfully attempts, the old SGSN shall proceed as described in section 'Reliable delivery of signalling messages in case the transmission of a control plane message fails N3-REQUESTS times.

For each RAB using lossless PDCP context, the old SGSN shall include a RAB Context. If a RAB Context is included in the SGSN Context Response, the new SGSN shall ignore the N-PDU number fields PDCP and sequence number fields GTP U sequence numbers received in the PDP Context IE.

Radio Priority SMS contains the radio priority level for MO SMS transmission, and shall be included if a valid Radio Priority SMS value exists for the MS in the old SGSN.

Radio Priority is the radio priority level that the MS uses when accessing the network for the transmission of uplink user data for a particular PDP context. One Radio Priority IE shall be included per PDP context that has a valid radio priority value assigned to it in the old SGSN.

Packet Flow Id is the packet flow identifier assigned to the PDP context. One Packet Flow Id IE shall be included per PDP context that has a valid packet flow identifier value assigned to it in the old SGSN.

Charging Characteristics IE contains the charching characteristics which apply for a PDP context; see 3GPP TS 32.215. One Charging Characteristics IE shall be included per PDP context IE. If no PDP context is active, this IE shall not be included. The mapping of a Charging Characteristics IE to a PDP Context IE is done according to the sequence of their appearance, e.g. the first Charging Characteristics IE is mapped to the first PDP Context IE.

Table 27: Information Elements in a SGSN Context Response

Information element	Presence requirement	Reference		
Cause	Mandatory	7.7.1		
IMSI	Conditional	7.7.2		
Tunnel Endpoint Identifier Control Plane	Conditional	7.7.14		
RAB Context	Conditional	7.7.19		
Radio Priority SMS	Optional	7.7.20		
Radio Priority	Optional	7.7.21		
Packet Flow Id	Optional	7.7.22		
Charging Characteristics	Optional	7.7.23		
MM Context	Conditional	7.7.28		
PDP Context	Conditional	7.7.29		
SGSN Address for Control Plane	Conditional	7.7.32		
Private Extension	Optional	7.7.44		

CHANGE REQUEST								
	29.	<mark>060</mark> CR	491	жrev	ж	Current vers	sion: 3.18.0	æ
For <u>HELP</u> on u	using t	his form, see	bottom of	this page or	look at ti	he pop-up text	t over the	mbols.
Proposed change	affect	s: UICC a	pps#	ME	Radio A	Access Netwo	rk Core No	etwork X
Title: ∺		CP and GTP nent inside S					ontext informati	on
Source: #	CN4	4						
Work item code: ₩	TEI					Date: #	19/02/2004	
Category: 第	Detai	one of the followard for the followard for the following forms of th	ds to a correct feature), modification odification) ns of the abo	ction in an ea		2	R99 the following rel (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) (Release 6)	
Reason for change	e: #	This is ess	ential corr	ection		7.07.0	(1.10.0000 0)	
Summary of chang	ge: ૠ	invalid insid was receive N-PDU Sed shall be ign	de the SGS and in the ne quence num cored in the	N Context Rew SGSN There and Series and Series SGSN	equence in case t	message who	lich sequence renthe RAB Collection the PDP Collect IE was recessage.	ntext IE
Consequences if not approved:	Ж	Interoperation be ignored			s interpre	et the sequence	e numbers whi	ch shall
Clauses affected:	ж	7.5.4						
Other specs affected:	Ж	X Test	core speci specification Specification	ns	黑			
Other comments:	مو							

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:

- 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.

The old SGSN shall send an SGSN Context Response to the new SGSN as a response to a previous SGSN Context Request.

Possible Cause values are:

- 'Request Accepted'.
- 'IMSI not known'.
- 'System failure'.
- 'Mandatory IE incorrect'.
- 'Mandatory IE missing'.
- 'Optional IE incorrect'.
- 'Invalid message format'.
- 'P-TMSI Signature mismatch'.

If the Cause contains the value 'Request accepted', all information elements are mandatory, except PDP Context, RAB Context and Private Extension.

If the Cause contains the value 'P-TMSI Signature mismatch' the IMSI information element shall be included in the response, otherwise only the Cause information element shall be included in the response.

The old SGSN shall include a SGSN Address for control plane. The new SGSN shall store this SGSN Address and use it when sending control plane messages for the MS to the old SGSN in the SGSN context transfer procedure.

The Tunnel Endpoint Identifier Control Plane field specifies a Tunnel Endpoint Identifier, which is chosen by the old SGSN. The new SGSN shall include this Tunnel Endpoint Identifier in the GTP header of all subsequent control plane messages, which are sent from the new SGSN to the old SGSN and related to the PDP context(s) requested.

The IMSI information element contains the IMSI matching the TLLI or P-TMSI (for GSM or UMTS respectively) and RAI in the SGSN Context Request.

The MM Context contains necessary mobility management and security parameters.

All active PDP contexts in the old SGSN shall be included as PDP Context information elements.

If there is at least one active PDP context, the old SGSN shall start the T3-TUNNEL timer and store the address of the new SGSN in the "New SGSN Address" field of the MM context. The old SGSN shall wait for SGSN Context Acknowledge before sending T-PDUs to the new SGSN. If an SGSN Context Acknowledge message is not received within a time defined by T3-RESPONSE, the old SGSN shall retransmit the SGSN Context Response to the new SGSN as long as the total number of attempts is less than N3-REQUESTS. After N3-REQUESTS unsuccessfully attempts, the old SGSN shall proceed as described in section 'Reliable delivery of signalling messages in case the transmission of a control plane message fails N3-REQUESTS times.

For each RAB using lossless PDCP context, the old SGSN shall include a RAB Context. If a RAB Context is included in the SGSN Context Response, the new SGSN shall ignore the N-PDU number fields PDCP and sequence number fields GTP U sequence numbers received in the PDP Context IE.

Radio Priority SMS contains the radio priority level for MO SMS transmission, and shall be included if a valid Radio Priority SMS value exists for the MS in the old SGSN.

Radio Priority is the radio priority level that the MS uses when accessing the network for the transmission of uplink user data for a particular PDP context. One Radio Priority IE shall be included per PDP context that has a valid radio priority value assigned to it in the old SGSN.

Packet Flow Id is the packet flow identifier assigned to the PDP context. One Packet Flow Id IE shall be included per PDP context that has a valid packet flow identifier value assigned to it in the old SGSN.

Table 27: Information Elements in a SGSN Context Response

Information element	Presence requirement	Reference
Cause	Mandatory	7.7.1
IMSI	Conditional	7.7.2
Tunnel Endpoint Identifier Control Plane	Conditional	7.7.14
RAB Context	Conditional	7.7.19
Radio Priority SMS	Optional	7.7.20
Radio Priority	Optional	7.7.21
Packet Flow Id	Optional	7.7.22
MM Context	Conditional	7.7.28
PDP Context	Conditional	7.7.29
SGSN Address for Control Plane	Conditional	7.7.32
Private Extension	Optional	7.7.44