## 3GPP TSG CN Plenary Meeting #12, Stockholm, Sweden 13<sup>th</sup> - 15<sup>th</sup> June 2001

Source: TSG CN WG 1

Title: CRs to R97 and R99 (with mirror CRs) on Work Item GPRS towards 04.08 and

24.008

Agenda item: 7.12

**Document for: APPROVAL** 

#### Introduction:

This document contains 8 CRs on R97 and R99 (with mirror CRs) Work Item "GPRS", that have been agreed by TSG CN WG1, and are forwarded to TSG CN Plenary meeting #12 for approval.

Spec	CR	Re	Doc-2nd-	Phas	Subject		Version-	Workitem
		٧	Level	е			Current	
04.08	A1093		N1-010593	R97	Missing SM cause 40 in table 10.6.6	F	6.14.0	GPRS
04.08	A1095		N1-010594	R98	Missing SM cause 40 in table 10.6.6	Α	7.11.0	GPRS
24.008	393		N1-010595	R99	Missing SM cause 40 in table 10.6.6	Α	3.7.0	GPRS
24.008	394		N1-010596	Rel-4	Missing SM cause 40 in table 10.6.6	Α	4.2.0	GPRS
04.08	A1099	2	N1-010677	R97	Clarification of Network Initiated GPRS Detach Procedure	F	6.14.0	GPRS
04.08	A1101	2	N1-010678	R98	Clarification of Network Initiated GPRS Detach Procedure	Α	7.11.0	GPRS
24.008	405	2	N1-010679	R99	Clarification of Network Initiated GPRS Detach Procedure	Α	3.7.0	GPRS
24.008	411	2	N1-010680	Rel-4	Clarification of Network Initiated GPRS Detach Procedure	А	4.2.0	GPRS

## 3GPP TSG-N1 Meeting #N1-R99 Ad Hoc Helsinki, Finland, 8<sup>th</sup>-9<sup>th</sup> May 2001

## Tdoc N1-010593

CHANGE REQUEST										
*	04.08 CR A1093 ** rev - ** Current version: 6.14.0 **									
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the <b>%</b> symbols.										
Proposed change affects:    # (U)SIM ME/UE   Radio Access Network Core Network   X										
Title: ж	Missing SM cause 40 in table 10.5.6.6									
Source: #	Nokia									
Work item code: ₩	GPRS									
Category: 第	F Release:   Release:   R97									
Use one of the following categories:  F (essential correction)  A (corresponds to a correction in an earlier release)  B (Addition of feature),  C (Functional modification of feature)  P (Editorial modification)  D (Editorial modification)  E (Elease 1999)  Detailed explanations of the above categories can be found in 3GPP TR 21.900.   REL-4 (Release 4)  E (Release 5)  Reason for change:  The use of SM cause #40 'feature not supported' is specified in clause 6.1.3.1.4 and in Annex I. However, the cause value #40 is not included in the clause 10.5.6.6 which specifies the encoding of different SM cause values. This CR adds the missing encoding to clause 10.5.6.6.										
Summary of chang	ne:   Addition of missing encoding of SM cause #40.									
Consequences if not approved:	## Encoding of SM cause values is not in line with procedure description in 6.1.3.1.4 and usage purposes listed in Annex I. When MS receives SM cause 'feature not supported', it will treat the cause as 'service option temporarily out of order'. When network receives SM cause 'feature not supported', it will treat the cause as 'protocol error, unspecified'.									
Clauses affected:	<b>光</b> 10.5.6.6									
Other specs affected:	# Other core specifications # Test specifications O&M Specifications									
Other comments:	*									

## 6.1.3 Session Management procedures

#### 6.1.3.1 PDP context activation

The purpose of this procedure is to establish a PDP context between the MS and the network for a specific QoS on a specific NSAPI. The PDP context activation may be initiated by the MS or the initiation may be requested by the network.

#### 6.1.3.1.1 Successful PDP context activation initiated by the mobile station

In order to request a PDP context activation, the MS sends an ACTIVATE PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. The message contains the selected NSAPI, PDP type and, if the MS requests a static address, the PDP address. The MS shall ensure that the selected NSAPI is not currently being used by another Session Management entity in the MS.

Upon receipt of an ACTIVATE PDP CONTEXT REQUEST message, the network selects a radio priority level based on the QoS negotiated and may reply with an ACTIVATE PDP CONTEXT ACCEPT message. Upon receipt of the message ACTIVATE PDP CONTEXT ACCEPT the MS shall stop timer T3380, shall enter the state PDP-ACTIVE and shall initiate establishment of the logical link for the LLC SAPI indicated by the network with the offered QoS and selected radio priority level if no logical link has been already established for that SAPI. If the offered QoS parameters received from the network differ from the QoS requested by the MS, the MS shall either accept the negotiated QoS or initiate the PDP context deactivation procedure. If the LLC SAPI indicated by the network can not be supported by the MS, the MS shall initiate the PDP context deactivation procedure.

#### 6.1.3.1.2 Successful PDP context activation requested by the network

In order to request a PDP context activation, the network sends a REQUEST PDP CONTEXT ACTIVATION message to the MS and starts timer T3385. If available, the APN shall be included in the REQUEST PDP CONTEXT ACTIVATION message.

Upon receipt of a REQUEST PDP CONTEXT ACTIVATION message, the MS shall than either initiate the PDP context activation procedure as described in the previous section or shall reject the activation request by sending a REQUEST PDP CONTEXT ACTIVATION REJECT message as described in section 6.1.3.1.4. The value of the reject cause IE of the REQUEST PDP CONTEXT ACTIVATION REJECT message shall indicate the reason for rejection, e.g. "insufficient resources to activate another context".

The ACTIVATE PDP CONTEXT REQUEST message sent by the MS in order to initiate the PDP context activation procedure shall contain the PDP address, PDP type and APN requested by the network in the REQUEST PDP CONTEXT ACTIVATION message.

Upon receipt of the ACTIVATE PDP CONTEXT REQUEST message, the network shall stop timer T3385.

The same procedures then apply as described for MS initiated PDP context activation.

#### 6.1.3.1.3 Unsuccessful PDP context activation initiated by the MS

Upon receipt of an ACTIVATE PDP CONTEXT REQUEST message the network may reject the MS initiated PDP context activation by sending an ACTIVATE PDP CONTEXT REJECT message to the MS. The message shall contain a cause code that typically indicates one of the following causes:

- # 26: insufficient resources;
- # 27: missing or unknown APN;
- # 28: unknown PDP address or PDP type;
- # 29: user authentication failed;
- # 30: activation rejected by GGSN;
- #31: activation rejected, unspecified;
- # 32: service option not supported;
- # 33: requested service option not subscribed;
- # 34: service option temporarily out of order;

# 35: NSAPI already used; or # 95 - 111: protocol errors.

Upon receipt of an ACTIVATE PDP CONTEXT REJECT message, the MS shall stop timer T3380 and enter/remain in state PDP-INACTIVE.

#### 6.1.3.1.4 Unsuccessful PDP context activation requested by the network

Upon receipt of the REQUEST PDP CONTEXT ACTIVATION message, the MS may reject the network requested PDP context activation by sending the REQUEST PDP CONTEXT ACTIVATION REJECT message to the network. The message contains the same TI as included in REQUEST PDP CONTEXT ACTIVATION and an additional cause code that typically indicates one of the following causes:

# 26: insufficient resources;

#31: activation rejected, unspecified;

# 40: feature not supported; or

#95 - 111: protocol errors.

The network shall stop timer T3385 and enter state PDP-INACTIVE.

## \*\*\* THE MODIFIED SECTION \*\*\*

#### 10.5.6.6 SM cause

The purpose of the *SM cause* information element is to indicate the reason why a session management request is rejected.

The *SM cause* is a type 3 information element with 2 octets length.

The SM cause information element is coded as shown in figure 10.5.139/GSM 04.08 and table 10.5.157/GSM 04.08.

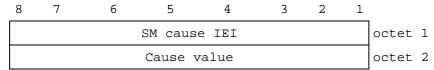


Figure 10.5.139/GSM 04.08: SM cause information element

#### Table 10.5.157/GSM 04.08: SM cause information element

```
Cause value (octet 2)
Bits
  7
        4 3 2 1
                 LLC or SNDCP failure
  0 0
      1 1 0 0 1
        1 0 1 0
                  Insufficient resources
                  Missing or unknown APN
             0 0
                  Unknown PDP address or PDP type
    0 1 1 1 0 1
                 User Aauthentication failed
    0 1 1 1 1 0
                 Activation rejected by GGSN
  0
    0
        1
               1
                  Activation rejected, unspecified
    1 0 0 0 0 0 Service option not supported
 0 1 0 0 0 0 1
                 Requested service option
       not subscribed
 0 1 0 0 0 1 0
0
                 Service option temporarily
        out of order
      0 0 0 1 1 NSAPI already used
                 Regular deactivation
          1 0 0
    1 0 0 1 0 1
                  QoS not accepted
    1 0 0 1 1 0
                 Network failure
    1
      0 0
          1
             1 1
                 Reactivation required
        1 0 0 0
                  Feature not supported
        0
          0
             0
               1
                  Invalid transaction identifier value
  1 0 1 1 1 1 1
                  Semantically incorrect message
  1 1 0 0 0 0 0
0
                  Invalid mandatory information
0
  1 1
      0 0 0 0 1
                 Message type non-existent
        or not implemented
 1 1 0 0 0 1 0 Message type not compatible with
        the protocol state
0 1 1 0 0 0 1 1
                  Information element non-existent
          not implemented
 1 1
      0 0 1 0 0 Conditional IE error
      0 0 1 0 1 Message not compatible with
        the protocol state
0 1 1 0 1 1 1 1 Protocol error, unspecified
Any other value received by the mobile station shall
be treated as 0010 0010, 'Service option temporarily out of order'. Any other value received by the network shall be treated as 0110 1111, 'Protocol error,
unspecified'.
NOTE: The listed cause values are defined in
      Annex I
```

### \*\*\* THE END OF MODIFIED SECTION \*\*\*

# Annex I (informative): GSM specific cause values for session management

This annex is informative.

# I.1 Causes related to nature of request

Cause value = 25 LLC or SNDCP failure

This cause code is used by the MS indicate that a PDP context is deactivated because of a LLC or SNDCP failure (e.g. if the SM receives a *SNSM-STATUS.request* message with cause "*DM received*" or " *invalid XID response*", see 04.65 [78])Cause value = 26 Insufficient resources

Cause value = 26 Insufficient resources

This cause code is used by the MS or by the network to indicate that a PDP context activation request or PDP context modification request cannot be accepted due to insufficient resources.

Cause value = 27 Unknown or missing access point name

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network because the access point name was not included although required or if the access point name could not be resolved.

Cause value = 28 Unknown PDP address or PDP type

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network because the PDP address or type could not be recognised.

Cause value = 29 User authentication failed

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network due to a failed user authentication.

Cause value = 30 Activation rejected by GGSN

This cause code is used by the network to indicate that the requested service was rejected by the GGSN..

Cause value = 31 Activation rejected, unspecified

This cause code is used by the network to indicate that the requested service was rejected due to unspecified reasons.

Cause value = 32 Service option not supported

This cause code is used by the network when the MS requests a service which is not supported by the PLMN.

Cause value = 33 Requested service option not subscribed

See Annex G, section 4.

Cause value = 34 Service option temporarily out of order

See Annex G, section 4.

Cause value = 35 NSAPI already used

This cause code is used by the network to indicate that the NSAPI requested by the MS in the PDP context activation is already used by another active PDP context of this MS.

Cause value = 36 Regular PDP context deactivation

This cause code is used to indicate a regular MS or network initiated PDP context deactivation.

Cause value = 37 QoS not accepted

This cause code is used by the MS if the new QoS cannot be accepted that were indicated by the network in the PDP Context Modification procedure.

Cause value = 38 Network failure

This cause code is used by the network to indicate that the PDP context deactivation is caused by an error situation in the network.

Cause value = 39 Reactivation requested

This cause code is used by the network to request a PDP context reactivation after a GGSN restart.

Cause value = 40 Feature not supported

This cause code is used by the MS to indicate that the PDP context activation initiated by the network is not supported by the MS.

# 3GPP TSG-N1 Meeting #N1-R99 Ad Hoc Helsinki, Finland, 8<sup>th</sup>-9<sup>th</sup> May 2001

CHANGE REQUEST									
*	04.08 CR A1095 # rev - # Co	urrent version: 7.11.0 *							
For <u>HELP</u> on u	ing this form, see bottom of this page or look at the p	op-up text over the <b>ૠ</b> symbols.							
Proposed change a	ffects:   ★ (U)SIM ME/UE X Radio Acces	ss Network Core Network X							
Title: 第	Missing SM cause 40 in table 10.5.6.6								
Source: #	Nokia								
Work item code: 第	GPRS	Date: 第 24-Apr-01							
Category: Ж	A R	elease: # R98							
	Use one of the following categories:  F (essential correction)  A (corresponds to a correction in an earlier release)  B (Addition of feature),  C (Functional modification of feature)  D (Editorial modification)  Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)							
Reason for change	The use of SM cause #40 'feature not supporte and in Annex I. However, the cause value #40 in 10.5.6.6 which specifies the encoding of differe adds the missing encoding to clause 10.5.6.6.	is not included in the clause							
Summary of chang	e: # Addition of missing encoding of SM cause #40.								
Consequences if not approved:	# Encoding of SM cause values is not in line with and usage purposes listed in Annex I. When M supported', it will treat the cause as 'service opt When network receives SM cause 'feature not sas 'protocol error, unspecified'.	S receives SM cause 'feature not tion temporarily out of order'.							
Clauses affected:	₩ 10.5.6.6								
Other specs affected:	# Other core specifications # Test specifications O&M Specifications								
Other comments:	<b>x</b>								

## 6.1.3 Session Management procedures

#### 6.1.3.1 PDP context activation

The purpose of this procedure is to establish a PDP context between the MS and the network for a specific QoS on a specific NSAPI. The PDP context activation may be initiated by the MS or the initiation may be requested by the network.

#### 6.1.3.1.1 Successful PDP context activation initiated by the mobile station

In order to request a PDP context activation, the MS sends an ACTIVATE PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. The message contains the selected NSAPI, PDP type and, if the MS requests a static address, the PDP address. The MS shall ensure that the selected NSAPI is not currently being used by another Session Management entity in the MS.

Upon receipt of an ACTIVATE PDP CONTEXT REQUEST message, the network selects a radio priority level based on the QoS negotiated and may reply with an ACTIVATE PDP CONTEXT ACCEPT message. Upon receipt of the message ACTIVATE PDP CONTEXT ACCEPT the MS shall stop timer T3380, shall enter the state PDP-ACTIVE and shall initiate establishment of the logical link for the LLC SAPI indicated by the network with the offered QoS and selected radio priority level if no logical link has been already established for that SAPI. If the offered QoS parameters received from the network differ from the QoS requested by the MS, the MS shall either accept the negotiated QoS or initiate the PDP context deactivation procedure. If the LLC SAPI indicated by the network can not be supported by the MS, the MS shall initiate the PDP context deactivation procedure.

#### 6.1.3.1.2 Successful PDP context activation requested by the network

In order to request a PDP context activation, the network sends a REQUEST PDP CONTEXT ACTIVATION message to the MS and starts timer T3385. If available, the APN shall be included in the REQUEST PDP CONTEXT ACTIVATION message.

Upon receipt of a REQUEST PDP CONTEXT ACTIVATION message, the MS shall than either initiate the PDP context activation procedure as described in the previous section or shall reject the activation request by sending a REQUEST PDP CONTEXT ACTIVATION REJECT message as described in section 6.1.3.1.4. The value of the reject cause IE of the REQUEST PDP CONTEXT ACTIVATION REJECT message shall indicate the reason for rejection, e.g. "insufficient resources to activate another context".

The ACTIVATE PDP CONTEXT REQUEST message sent by the MS in order to initiate the PDP context activation procedure shall contain the PDP address, PDP Type and APN requested by the network in the REQUEST PDP CONTEXT ACTIVATION message.

Upon receipt of the ACTIVATE PDP CONTEXT REQUEST message, the network shall stop timer T3385.

The same procedures then apply as described for MS initiated PDP context activation.

#### 6.1.3.1.3 Unsuccessful PDP context activation initiated by the MS

Upon receipt of an ACTIVATE PDP CONTEXT REQUEST message the network may reject the MS initiated PDP context activation by sending an ACTIVATE PDP CONTEXT REJECT message to the MS. The message shall contain a cause code that typically indicates one of the following causes:

- # 26: insufficient resources;
- # 27: missing or unknown APN;
- # 28: unknown PDP address or PDP type;
- # 29: user authentication failed;
- # 30: activation rejected by GGSN;
- #31: activation rejected, unspecified;
- # 32: service option not supported;
- # 33: requested service option not subscribed;
- # 34: service option temporarily out of order;
- #35: NSAPI already used; or
- #95 111: protocol errors.

Upon receipt of an ACTIVATE PDP CONTEXT REJECT message, the MS shall stop timer T3380 and enter/remain in state PDP-INACTIVE.

#### 6.1.3.1.4 Unsuccessful PDP context activation requested by the network

Upon receipt of the REQUEST PDP CONTEXT ACTIVATION message, the MS may reject the network requested PDP context activation by sending the REQUEST PDP CONTEXT ACTIVATION REJECT message to the network. The message contains the same TI as included in the REQUEST PDP CONTEXT ACTIVATION and an additional cause code that typically indicates one of the following causes:

# 26: insufficient resources;

# 31: activation rejected, unspecified;

# 40: feature not supported; or

# 95 - 111: protocol errors.

The network shall stop timer T3385 and enter state PDP-INACTIVE.

## \*\*\* THE MODIFIED SECTION \*\*\*

#### 10.5.6.6 SM cause

The purpose of the *SM cause* information element is to indicate the reason why a session management request is rejected.

The SM cause is a type 3 information element with 2 octets length.

The SM cause information element is coded as shown in figure 10.5.139/GSM 04.08 and table 10.5.157/GSM 04.08.

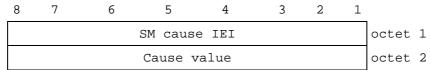


Figure 10.5.139/GSM 04.08: SM cause information element

Table 10.5.157/GSM 04.08: SM cause information element

```
Cause value (octet 2)
Bits
             2 10 0 0 1 1 0 0 1 LLC or SNDCP failure
      1 1 0
             1 0
                  Insufficient resources
  0 0 1 1 0 1 1
                  Missing or unknown APN
                  Unknown PDP address or PDP type
         1
           1 0 0
    0 1 1 1 0 1
                  User Aauthentication failed
         1 1 1 0 Activation rejected by GGSN
  0 0 1
         1 1
             1 1
                  Activation rejected, unspecified
0
  0 1 0 0 0 0 0
                 Service option not supported
      0 0 0 0 1 Requested service option
0
  0
    1
        not subscribed
0 0 1 0 0 0 1 0 Service option temporarily
        out of order
 0
      0 0 0 1 1 NSAPI already used
    1
           1 0 0
0
  0
    1
      0 0
                  Regular deactivation
  0 1 0 0 1 0 1
                  QoS not accepted
  0 1 0 0 1 1 0
                  Network failure
  0 1 0 0 1
             1 1
                  Reactivation required
  0
    1
      0
         1
           0 0 0
                   Feature not supported
                  Invalid transaction identifier value 
Semantically incorrect message
    0
      1
         0
           0
             0
               1
0 1 1 0 0 0 0 0 Invalid mandatory information 0 1 1 0 0 0 0 1 Message type non-existent
        or not implemented
0 1 1 0 0 0 1 0 Message type not compatible with
        the protocol state
0 1 1 0 0 0 1 1 Information element non-existent
        or not implemented
0 1 1 0 0 1 0 0 Conditional IE error
0 1 1 0 0 1 0 1
                  Message not compatible with
        the protocol state
0 1 1 0 1 1 1 1 Protocol error, unspecified
Any other value received by the mobile station shall
be treated as 0010 0010, 'Service option temporarily out of order'. Any other value received by the network
shall be treated as 0110 1111, 'Protocol error, unspecified'.
NOTE: The listed cause values are defined in
      Annex I
```

### \*\*\* THE END OF MODIFIED SECTION \*\*\*

# Annex I (informative): GSM specific cause values for session management

This annex is informative.

# I.1 Causes related to nature of request

Cause value = 25 LLC or SNDCP failure

This cause code is used by the MS indicate that a PDP context is deactivated because of a LLC or SNDCP failure (e.g. if the SM receives a *SNSM-STATUS.request* message with cause "*DM received*" or " *invalid XID response*", see 04.65 [78])

Cause value = 26 Insufficient resources

This cause code is used by the MS or by the network to indicate that a PDP context activation request or PDP context modification request cannot be accepted due to insufficient resources.

Cause value = 27 Unknown or missing access point name

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network because the access point name was not included although required or if the access point name could not be resolved.

Cause value = 28 Unknown PDP address or PDP type

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network because the PDP address or type could not be recognised.

Cause value = 29 User authentication failed

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network due to a failed user authentication.

Cause value = 30 Activation rejected by GGSN

This cause code is used by the network to indicate that the requested service was rejected by the GGSN..

Cause value = 31 Activation rejected, unspecified

This cause code is used by the network to indicate that the requested service was rejected due to unspecified reasons.

Cause value = 32 Service option not supported

This cause code is used by the network when the MS requests a service which is not supported by the PLMN.

Cause value = 33 Requested service option not subscribed

See Annex G, section 4.

Cause value = 34 Service option temporarily out of order

See Annex G, section 4.

Cause value = 35 NSAPI already used

This cause code is used by the network to indicate that the NSAPI requested by the MS in the PDP context activation is already used by another active PDP context of this MS.

Cause value = 36 Regular PDP context deactivation

This cause code is used to indicate a regular MS or network initiated PDP context deactivation.

Cause value = 37 QoS not accepted

This cause code is used by the MS if the new QoS cannot be accepted that were indicated by the network in the PDP Context Modification procedure.

Cause value = 38 Network failure

This cause code is used by the network to indicate that the PDP context deactivation is caused by an error situation in the network.

Cause value = 39 Reactivation requested

This cause code is used by the network to request a PDP context reactivation after a GGSN restart.

Cause value = 40 Feature not supported

This cause code is used by the MS to indicate that the PDP context activation initiated by the network is not supported by the MS.

# 3GPP TSG-N1 Meeting #N1-R99 Ad Hoc Helsinki, Finland, 8<sup>th</sup>-9<sup>th</sup> May 2001

CR-Form-v3														
CHANGE REQUEST														
*	24	.008	CR	393		¥ re	₽V	-	¥	Curren	it vers	sion:	3.7.0	æ
For <u><b>HELP</b></u> on u	sing	this fo	rm, see	e bottom	of this	page	or lo	ook a	at the	e pop-u	p text	over	the # s	ymbols.
Proposed change	affec	ts: ¥	(U)	SIM	ME/	UE X		Radio	o Ac	cess N	etwor	k	Core N	letwork X
Title: 第	Mis	sing S	SM cau	ise 40 in	table 1	0.5.6	.6							
Source: #	No	kia												
Work item code: 第	GP	RS								Da	ite: ೫	24-7	Apr-01	
Category: Ж	Α									Releas	se: ೫	R99	)	
Reason for change	Deta be fo	F (ess A (con B (Ad C (Fu D (Ed iled ex pund in	sential of rrespon- ldition of nctional litorial m planation 3GPP		rrection tion of fe n) above o	in an eature catego	ries	can ot su	<mark>appo</mark>	2 R9 R9 R9 R1 R1 rted' is	96 97 98 99 EL-4 EL-5	(GSM (Relea (Relea (Relea (Relea (Relea	clause	2) 5) 7) 3) 9) 6.1.3.1.4
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Summary of chang	уе: Ж	Add	ition of	missing	<mark>encodi</mark>	ng of	SM	caus	se #4	40.				
Consequences if not approved:	*	and supp Whe	usage ported', en netw	purpose: , it will tre	s listed at the ives SN	in Ar cause // cau	nex as	I. W 'serv	/hen /ice	MS reconstitution to	eives empo	SM c rarily	ause 'fe	n 6.1.3.1.4 eature not rder'. ne cause
Clauses affected:	ж	10.5	.6.6											
Other specs affected:	¥	O T	ther co	ore specil ecification pecification	าร	S	¥							
Other comments:	Ж													

## 6.1.3 Session Management procedures

#### 6.1.3.1 PDP context activation

The purpose of this procedure is to establish a PDP context between the MS and the network for a specific QoS on a specific NSAPI. The PDP context activation may be initiated by the MS or the initiation may be requested by the network.

Each PDP address may be described by one or more PDP contexts in the MS or the network. The PDP Context Activation procedure is used to activate the first PDP context for a given PDP address and APN, whereas all additional contexts associated to the same PDP address and APN are activated with the secondary PDP context activation procedure. When more than one PDP contexts are associated to a PDP address, there shall be a Traffic Flow Template (TFT) for each or all but one context. If present, the TFT shall be sent transparently via the SGSN to the GGSN to enable packet classification and policing for downlink data transfer (see 3GPP TS 23.060).

#### 6.1.3.1.1 Successful PDP context activation initiated by the mobile station

In order to request a PDP context activation, the MS sends an ACTIVATE PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. The message contains the selected NSAPI, PDP type, requested QoS and, if the MS requests a static address, the PDP address. The MS shall ensure that the selected NSAPI is not currently being used by another Session Management entity in the MS.

Upon receipt of an ACTIVATE PDP CONTEXT REQUEST message, the network selects a radio priority level based on the QoS negotiated and may reply with an ACTIVATE PDP CONTEXT ACCEPT message. Upon receipt of the message ACTIVATE PDP CONTEXT ACCEPT the MS shall stop timer T3380, shall enter the state PDP-ACTIVE. If the offered QoS parameters received from the network differ from the QoS requested by the MS, the MS shall either accept the negotiated QoS or initiate the PDP context deactivation procedure.

In GSM, the MS shall initiate establishment of the logical link for the LLC SAPI indicated by the network with the offered QoS and selected radio priority level if no logical link has been already established for that SAPI. If the offered QoS parameters received from the network differ from the QoS requested by the MS, the MS shall either accept the negotiated QoS or initiate the PDP context deactivation procedure. If the LLC SAPI indicated by the network can not be supported by the MS, the MS shall initiate the PDP context deactivation procedure.

In UMTS, both the network and the MS shall store the LLC SAPI and the radio priority in the PDP context. If a UMTS to GSM system change is performed, the new SGSN shall initiate establishment of the logical link using the negotiated QoS profile, the negotiated LLC SAPI, and selected radio priority level stored in the PDP context as in a GSM to GSM Routing Area Update.

An MS, which is capable of operating in both GSM and UMTS, shall use a valid LLC SAPI, while an MS which is capable of operating only in UMTS shall indicate the LLC SAPI value as "LLC SAPI not assigned" in order to avoid unnecessary value range checking and any other possible confusion in the network.

NOTE: The radio priority level and the LLC SAPI parameters, though not used in UMTS, shall be included in the messages, in order to support handover between UMTS and GSM networks.

#### 6.1.3.1.2 Successful PDP context activation requested by the network

In order to request a PDP context activation, the network sends a REQUEST PDP CONTEXT ACTIVATION message to the MS and starts timer T3385. The message contains an offered PDP address. If available, the APN shall be included in the REQUEST PDP CONTEXT ACTIVATION message.

Upon receipt of a REQUEST PDP CONTEXT ACTIVATION message, the MS shall than either initiate the PDP context activation procedure as described in the previous section or shall reject the activation request by sending a REQUEST PDP CONTEXT ACTIVATION REJECT message as described in section 6.1.3.1.4. The value of the reject cause IE of the REQUEST PDP CONTEXT ACTIVATION REJECT message shall indicate the reason for rejection, e.g. "insufficient resources to activate another context".

The ACTIVATE PDP CONTEXT REQUEST message sent by the MS in order to initiate the PDP context activation procedure shall contain the PDP address, PDP Type and APN requested by the network in the REQUEST PDP CONTEXT ACTIVATION message.

Upon receipt of the ACTIVATE PDP CONTEXT REQUEST message, the network shall stop timer T3385.

The same procedures then apply as described for MS initiated PDP context activation.

#### 6.1.3.1.3 Unsuccessful PDP context activation initiated by the MS

Upon receipt of an ACTIVATE PDP CONTEXT REQUEST message the network may reject the MS initiated PDP context activation by sending an ACTIVATE PDP CONTEXT REJECT message to the MS. The message shall contain a cause code that typically indicates one of the following causes:

- # 26: insufficient resources;
- # 27: missing or unknown APN;
- # 28: unknown PDP address or PDP type;
- # 29: user authentication failed;
- # 30: activation rejected by GGSN;
- #31: activation rejected, unspecified;
- # 32: service option not supported;
- # 33: requested service option not subscribed;
- # 34: service option temporarily out of order;
- # 35: NSAPI already used. The network shall not send this cause code (Note 1); or
- # 95 111: protocol errors.
- NOTE 1: Pre-R99 network may send this cause code.

Upon receipt of an ACTIVATE PDP CONTEXT REJECT message, the MS shall stop timer T3380 and enter/remain in state PDP-INACTIVE.

#### 6.1.3.1.4 Unsuccessful PDP context activation requested by the network

Upon receipt of the REQUEST PDP CONTEXT ACTIVATION message, the MS may reject the network requested PDP context activation by sending the REQUEST PDP CONTEXT ACTIVATION REJECT message to the network. The message contains the same TI as included in the REQUEST PDP CONTEXT ACTIVATION and an additional cause code that typically indicates one of the following causes:

- # 26: insufficient resources;
- #31: activation rejected, unspecified;
- # 40: feature not supported; or
- #95 111: protocol errors.

The network shall stop timer T3385 and enter state PDP-INACTIVE.

## \*\*\* THE MODIFIED SECTION \*\*\*

#### 10.5.6.6 SM cause

The purpose of the *SM cause* information element is to indicate the reason why a session management request is rejected.

The SM cause is a type 3 information element with 2 octets length.

The SM cause information element is coded as shown in figure 10.5.139/3GPP TS 24.008 and table 10.5.157/3GPP TS 24.008.

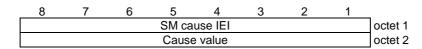


Figure 10.5.139/3GPP TS 24.008: SM cause information element

Table 10.5.157/3GPP TS 24.008: SM cause information element

```
Cause value (octet 2)
Bits
87654321
00011001
               LLC or SNDCP failure(GSM only)
00011010
               Insufficient resources
               Missing or unknown APN
00011011
00011100
               Unknown PDP address or PDP type
00011101
               User Aauthentication failed
00011110
               Activation rejected by GGSN
00011111
               Activation rejected, unspecified
               Service option not supported
00100000
00100001
               Requested service option not subscribed
00100010
               Service option temporarily out of order
00100011
               NSAPI already used (not sent)
00100100
               Regular deactivation
               QoS not accepted
00100101
00100110
               Network failure
00100111
               Reactivation required
00101000
               Feature not supported
0\,0\,1\,0\,1\,0\,0\,1
               Semantic error in the TFT operation
00101010
               Syntactical error in the TFT operation
00101011
               Unknown PDP context
00101110
               PDP context without TFT already activated
00101100
               Semantic errors in packet filter(s)
00101101
               Syntactical errors in packet filter(s)
01010001
               Invalid transaction identifier value
01011111
               Semantically incorrect message
01100000
               Invalid mandatory information
01100001
               Message type non-existent or not implemented
01100010
               Message type not compatible with the protocol state
01100011
               Information element non-existent or not implemented
01100100
               Conditional IE error
               Message not compatible with the protocol state
01100101
01101111
               Protocol error, unspecified
```

Any other value received by the mobile station shall be treated as 0010 0010, 'Service option temporarily out of order'. Any other value received by the network shall be treated as 0110 1111, 'Protocol error, unspecified'.

NOTE: The listed cause values are defined in Annex I

### \*\*\* THE END OF MODIFIED SECTION \*\*\*

# Annex I (informative): GPRS specific cause values for session management

This annex is informative.

## I.1 Causes related to nature of request

Cause value = 25 LLC or SNDCP failure (GSM only)

This cause code is used by the MS indicate that a PDP context is deactivated because of a LLC or SNDCP failure (e.g. if the SM receives a *SNSM-STATUS.request* message with cause "*DM received*" or "*invalid XID response*", see GSM 04.65 [78])

#### Cause value = 26 Insufficient resources

This cause code is used by the MS or by the network to indicate that a PDP context activation request, secondary PDP context activation request or PDP context modification request cannot be accepted due to insufficient resources.

Cause value = 27 Unknown or missing access point name

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network because the access point name was not included although required or if the access point name could not be resolved.

Cause value = 28 Unknown PDP address or PDP type

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network because the PDP address or type could not be recognised.

Cause value = 29 User authentication failed

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network due to a failed user authentication.

Cause value = 30 Activation rejected by GGSN

This cause code is used by the network to indicate that the requested service was rejected by the GGSN.

Cause value = 31 Activation rejected, unspecified

This cause code is used by the network to indicate that the requested service was rejected due to unspecified reasons.

Cause value = 32 Service option not supported

This cause code is used by the network when the MS requests a service which is not supported by the PLMN.

Cause value = 33 Requested service option not subscribed

See Annex G, section 4.

Cause value = 34 Service option temporarily out of order

See Annex G. section 4.

Cause value = 35 NSAPI already used

This cause code may be used by a network to indicate that the NSAPI requested by the MS in the PDP context activation request is already used by another active PDP context of this MS.

Never to be sent, but can be received from a R97/R98 network at PDP context activation

Cause value = 36 Regular PDP context deactivation

This cause code is used to indicate a regular MS or network initiated PDP context deactivation.

Cause value = 37 QoS not accepted

This cause code is used by the MS if the new QoS cannot be accepted that were indicated by the network in the PDP Context Modification procedure.

Cause value = 38 Network failure

This cause code is used by the network to indicate that the PDP context deactivation is caused by an error situation in the network.

Cause value = 39 Reactivation requested

This cause code is used by the network to request a PDP context reactivation after a GGSN restart.

Cause value = 40 Feature not supported

This cause code is used by the MS to indicate that the PDP context activation initiated by the network is not supported by the MS.

Cause value = 41 semantic error in the TFT operation.

This cause code is used by the network to indicate that the there is a semantic error in the TFT operation included in a secondary PDP context activation request or an MS-initiated PDP context modification.

Cause value = 42 syntactical error in the TFT operation.

This cause code is used by the network to indicate that there is a syntactical error in the TFT operation included in a secondary PDP context activation request or an MS-initiated PDP context modification.

Cause value = 43 unknown PDP context

This cause code is used by the network to indicate that the PDP context identified by the Linked TI IE the secondary PDP context activation request is not active.

Cause value = 44 semantic errors in packet filter(s)

This cause code is used by the network to indicate that there is one or more semantic errors in packet filter(s) of the TFT included in a secondary PDP context activation request or an MS-initiated PDP context modification.

Cause value = 45 syntactical error in packet filter(s)

This cause code is used by the network to indicate that there is one or more syntactical errors in packet filter(s) of the TFT included in a secondary PDP context activation request or an MS-initiated PDP context modification.

Cause value = 46 PDP context without TFT already activated

This cause code is used by the network to indicate that the network has already activated a PDP context without TFT.

# 3GPP TSG-N1 Meeting #N1-R99 Ad Hoc Helsinki, Finland, 8<sup>th</sup>-9<sup>th</sup> May 2001

CHANGE REQUEST														
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For <u><b>HELP</b></u> on using this form, see bottom of this page or look at the pop-up text over the <b>%</b> symbols.														
Proposed change affects:     (U)SIM ME/UE X Radio Access Network Core Network X														
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## 6.1.3 Session Management procedures

#### 6.1.3.1 PDP context activation

The purpose of this procedure is to establish a PDP context between the MS and the network for a specific QoS on a specific NSAPI. The PDP context activation may be initiated by the MS or the initiation may be requested by the network.

Each PDP address may be described by one or more PDP contexts in the MS or the network. The PDP Context Activation procedure is used to activate the first PDP context for a given PDP address and APN, whereas all additional contexts associated to the same PDP address and APN are activated with the secondary PDP context activation procedure. When more than one PDP contexts are associated to a PDP address, there shall be a Traffic Flow Template (TFT) for each or all but one context. If present, the TFT shall be sent transparently via the SGSN to the GGSN to enable packet classification and policing for downlink data transfer (see 3GPP TS 23.060).

#### 6.1.3.1.1 Successful PDP context activation initiated by the mobile station

In order to request a PDP context activation, the MS sends an ACTIVATE PDP CONTEXT REQUEST message to the network, enters the state PDP-ACTIVE-PENDING and starts timer T3380. The message contains the selected NSAPI, PDP type, requested QoS and, if the MS requests a static address, the PDP address. The MS shall ensure that the selected NSAPI is not currently being used by another Session Management entity in the MS.

Upon receipt of an ACTIVATE PDP CONTEXT REQUEST message, the network selects a radio priority level based on the QoS negotiated and may reply with an ACTIVATE PDP CONTEXT ACCEPT message. Upon receipt of the message ACTIVATE PDP CONTEXT ACCEPT the MS shall stop timer T3380, shall enter the state PDP-ACTIVE. If the offered QoS parameters received from the network differ from the QoS requested by the MS, the MS shall either accept the negotiated QoS or initiate the PDP context deactivation procedure.

In GSM, the MS shall initiate establishment of the logical link for the LLC SAPI indicated by the network with the offered QoS and selected radio priority level if no logical link has been already established for that SAPI. If the offered QoS parameters received from the network differ from the QoS requested by the MS, the MS shall either accept the negotiated QoS or initiate the PDP context deactivation procedure. If the LLC SAPI indicated by the network can not be supported by the MS, the MS shall initiate the PDP context deactivation procedure.

In UMTS, both the network and the MS shall store the LLC SAPI and the radio priority in the PDP context. If a UMTS to GSM system change is performed, the new SGSN shall initiate establishment of the logical link using the negotiated QoS profile, the negotiated LLC SAPI, and selected radio priority level stored in the PDP context as in a GSM to GSM Routing Area Update.

An MS, which is capable of operating in both GSM and UMTS, shall use a valid LLC SAPI, while an MS which is capable of operating only in UMTS shall indicate the LLC SAPI value as "LLC SAPI not assigned" in order to avoid unnecessary value range checking and any other possible confusion in the network.

NOTE: The radio priority level and the LLC SAPI parameters, though not used in UMTS, shall be included in the messages, in order to support handover between UMTS and GSM networks.

#### 6.1.3.1.2 Successful PDP context activation requested by the network

In order to request a PDP context activation, the network sends a REQUEST PDP CONTEXT ACTIVATION message to the MS and starts timer T3385. The message contains an offered PDP address. If available, the APN shall be included in the REQUEST PDP CONTEXT ACTIVATION message.

Upon receipt of a REQUEST PDP CONTEXT ACTIVATION message, the MS shall than either initiate the PDP context activation procedure as described in the previous section or shall reject the activation request by sending a REQUEST PDP CONTEXT ACTIVATION REJECT message as described in section 6.1.3.1.4. The value of the reject cause IE of the REQUEST PDP CONTEXT ACTIVATION REJECT message shall indicate the reason for rejection, e.g. "insufficient resources to activate another context".

The ACTIVATE PDP CONTEXT REQUEST message sent by the MS in order to initiate the PDP context activation procedure shall contain the PDP address, PDP Type and APN requested by the network in the REQUEST PDP CONTEXT ACTIVATION message.

Upon receipt of the ACTIVATE PDP CONTEXT REQUEST message, the network shall stop timer T3385.

The same procedures then apply as described for MS initiated PDP context activation.

#### 6.1.3.1.3 Unsuccessful PDP context activation initiated by the MS

Upon receipt of an ACTIVATE PDP CONTEXT REQUEST message the network may reject the MS initiated PDP context activation by sending an ACTIVATE PDP CONTEXT REJECT message to the MS. The message shall contain a cause code that typically indicates one of the following causes:

- #8: Operator Determined Barring
- # 26: insufficient resources;
- # 27: missing or unknown APN;
- # 28: unknown PDP address or PDP type;
- #29: user authentication failed;
- # 30: activation rejected by GGSN;
- # 31: activation rejected, unspecified;
- # 32: service option not supported;
- # 33: requested service option not subscribed;
- # 34: service option temporarily out of order;
- # 35: NSAPI already used. The network shall not send this cause code (Note 1); or
- # 95 111: protocol errors.

NOTE 1: Pre-R99 network may send this cause code.

Upon receipt of an ACTIVATE PDP CONTEXT REJECT message, the MS shall stop timer T3380 and enter/remain in state PDP-INACTIVE.

#### 6.1.3.1.4 Unsuccessful PDP context activation requested by the network

Upon receipt of the REQUEST PDP CONTEXT ACTIVATION message, the MS may reject the network requested PDP context activation by sending the REQUEST PDP CONTEXT ACTIVATION REJECT message to the network. The message contains the same TI as included in the REQUEST PDP CONTEXT ACTIVATION and an additional cause code that typically indicates one of the following causes:

- # 26: insufficient resources;
- #31: activation rejected, unspecified;
- # 40: feature not supported; or
- #95 111: protocol errors.

The network shall stop timer T3385 and enter state PDP-INACTIVE.

## \*\*\* THE MODIFIED SECTION \*\*\*

#### 10.5.6.6 SM cause

The purpose of the *SM cause* information element is to indicate the reason why a session management request is rejected.

The SM cause is a type 3 information element with 2 octets length.

The  $SM\ cause$  information element is coded as shown in figure 10.5.139/3GPP TS 24.008 and table 10.5.157/3GPP TS 24.008.

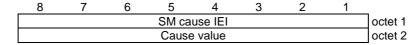


Figure 10.5.139/3GPP TS 24.008: SM cause information element

Table 10.5.157/3GPP TS 24.008: SM cause information element

```
Cause value (octet 2)
Bits
87654321
00001000
               Operator Determined Barring
00011001
               LLC or SNDCP failure(GSM only)
00011010
               Insufficient resources
00011011
               Missing or unknown APN
00011100
               Unknown PDP address or PDP type
00011101
               User Aauthentication failed
00011110
               Activation rejected by GGSN
               Activation rejected, unspecified
00011111
00100000
               Service option not supported
00100001
               Requested service option not subscribed
00100010
               Service option temporarily out of order
00100011
               NSAPI already used (not sent)
00100100
               Regular deactivation
00100101
               QoS not accepted
00100110
               Network failure
00100111
               Reactivation required
00101000
               Feature not supported
00101001
               Semantic error in the TFT operation
00101010
               Syntactical error in the TFT operation
               Unknown PDP context
00101011
00101110
               PDP context without TFT already activated
00101100
               Semantic errors in packet filter(s)
               Syntactical errors in packet filter(s)
00101101
01010001
               Invalid transaction identifier value
01011111
               Semantically incorrect message
01100000
               Invalid mandatory information
01100001
               Message type non-existent or not implemented
01100010
               Message type not compatible with the protocol state
01100011
               Information element non-existent or not implemented
01100100
               Conditional IE error
01100101
               Message not compatible with the protocol state
01101111
               Protocol error, unspecified
```

Any other value received by the mobile station shall be treated as 0010 0010, 'Service option temporarily out of order'. Any other value received by the network shall be treated as 0110 1111, 'Protocol error, unspecified'.

NOTE: The listed cause values are defined in Annex I

### \*\*\* THE END OF MODIFIED SECTION \*\*\*

# Annex I (informative): GPRS specific cause values for session management

This annex is informative.

# I.1 Causes related to nature of request

Cause value = 8 Operator Determined Barring

This cause code is used by the network to indicate that the requested service was rejected by the SGSN due to Operator Determined Barring.

Cause value = 25 LLC or SNDCP failure (GSM only)

This cause code is used by the MS indicate that a PDP context is deactivated because of a LLC or SNDCP failure (e.g. if the SM receives a *SNSM-STATUS.request* message with cause "*DM received*" or " *invalid XID response*", see 3GPP TS 44.065 [78])

Cause value = 26 Insufficient resources

This cause code is used by the MS or by the network to indicate that a PDP context activation request, secondary PDP context activation request or PDP context modification request cannot be accepted due to insufficient resources.

Cause value = 27 Unknown or missing access point name

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network because the access point name was not included although required or if the access point name could not be resolved.

Cause value = 28 Unknown PDP address or PDP type

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network because the PDP address or type could not be recognised.

Cause value = 29 User authentication failed

This cause code is used by the network to indicate that the requested service was rejected by the external packet data network due to a failed user authentication.

Cause value = 30 Activation rejected by GGSN

This cause code is used by the network to indicate that the requested service was rejected by the GGSN.

Cause value = 31 Activation rejected, unspecified

This cause code is used by the network to indicate that the requested service was rejected due to unspecified reasons.

Cause value = 32 Service option not supported

This cause code is used by the network when the MS requests a service which is not supported by the PLMN.

Cause value = 33 Requested service option not subscribed

See Annex G, section 4.

Cause value = 34 Service option temporarily out of order

See Annex G, section 4.

Cause value = 35 NSAPI already used

This cause code may be used by a network to indicate that the NSAPI requested by the MS in the PDP context activation request is already used by another active PDP context of this MS.

Never to be sent, but can be received from a R97/R98 network at PDP context activation

Cause value = 36 Regular PDP context deactivation

This cause code is used to indicate a regular MS or network initiated PDP context deactivation.

Cause value = 37 QoS not accepted

This cause code is used by the MS if the new QoS cannot be accepted that were indicated by the network in the PDP Context Modification procedure.

Cause value = 38 Network failure

This cause code is used by the network to indicate that the PDP context deactivation is caused by an error situation in the network.

Cause value = 39 Reactivation requested

This cause code is used by the network to request a PDP context reactivation after a GGSN restart.

Cause value = 40 Feature not supported

This cause code is used by the MS to indicate that the PDP context activation initiated by the network is not supported by the MS.

Cause value = 41 semantic error in the TFT operation.

This cause code is used by the network to indicate that the there is a semantic error in the TFT operation included in a secondary PDP context activation request or an MS-initiated PDP context modification.

Cause value = 42 syntactical error in the TFT operation.

This cause code is used by the network to indicate that there is a syntactical error in the TFT operation included in a secondary PDP context activation request or an MS-initiated PDP context modification.

Cause value = 43 unknown PDP context

This cause code is used by the network to indicate that the PDP context identified by the Linked TI IE the secondary PDP context activation request is not active.

Cause value = 44 semantic errors in packet filter(s)

This cause code is used by the network to indicate that there is one or more semantic errors in packet filter(s) of the TFT included in a secondary PDP context activation request or an MS-initiated PDP context modification.

Cause value = 45 syntactical error in packet filter(s)

This cause code is used by the network to indicate that there is one or more syntactical errors in packet filter(s) of the TFT included in a secondary PDP context activation request or an MS-initiated PDP context modification.

#### Cause value = 46 PDP context without TFT already activated

This cause code is used by the network to indicate that the network has already activated a PDP context without TFT.

## Tdoc N1-010624N1-01065577

3GPP TSG\_CN WG1 Ad-Hoc Helsinki, Finland 8 - 9 May, 2001

CHANGE REQUEST										
*	04.08 CR A1099 * rev 21- *	Current version: 6.14.0								
For <u><b>HELP</b></u> on using this form, see bottom of this page or look at the pop-up text over the <b>%</b> symbols.										
Proposed change a	affects:   # (U)SIM ME/UE   Radio Acc	cess Network Core Network X								
Title: 第	Clarification of Network Initiated GPRS Detach Pr	ocedure								
Source: #	Qualcomm									
Work item code: 第	GPRS	Date: # 02.05.2001								
Category: 第	F	Release: # R97								
	Use <u>one</u> of the following categories:  F (essential correction)  A (corresponds to a correction in an earlier release  B (Addition of feature),  C (Functional modification of feature)  D (Editorial modification)  Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Use <u>one</u> of the following releases: 2 (GSM Phase 2) e) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)								
Reason for change	The current specification for "network initiated inconsistent for the case where the detach ty cause code is "IMSI unknown in HLR". There the mobile behaviour in this case.	pe is "re-attach no required" and the								
Summary of chang	e: # An exception phrase is added to remove the	inconsistency in the specification.								
Consequences if not approved:	# The inconsistent specification cannot be corr	ectly implemented.								
Clauses affected:	<b>%</b> 4.7.4.2.2									
Other specs affected:	Other core specifications     Test specifications     O&M Specifications									
Other comments:	<b>X</b>									

#### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <a href="http://www.3gpp.org/3G">http://www.3gpp.org/3G</a> Specs/CRs.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 <a href="ftp://www.3gpp.org/specs/">ftp://www.3gpp.org/specs/</a> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3)	3) With "track changes" disabled, paste the entire CR form (the clause containing the first piece of changed text. Delethe change request.	use CTRL-A to select it) into the specification just in front of ete those parts of the specification which are not relevant to

#### 4.7.4.2.2 Network initiated GPRS detach procedure completion by the MS

When receiving the DETACH REQUEST message and the detach type IE indicates "re-attach not required" or "re-attach required", except for the case where the detach type is "re-attach not required" and the cause code is "IMSI unknown in HLR", the MS shall deactivate the PDP contexts and deactivate the logical link(s), if any. The MS shall then send a DETACH ACCEPT message to the network and shall change state to GMM-DEREGISTERED. The MS shall, after the completion of the GPRS detach procedure, initiate a GPRS attach procedure if indicated by the network in the detach type IE. The MS should also activate PDP context(s) to replace any previously active PDP contexts.

NOTE: In some cases, user interaction may be required and then the MS cannot activate the PDP context(s) automatically.

A GPRS MS operating in MS operation mode A or B in network operation mode I, which receives an DETACH REQUEST message with detach type indicating "re-attach required" or "re-attach not required" and no cause code, is only detached for GPRS services in the network.

When receiving the DETACH REQUEST message and the detach type IE indicates "IMSI detach", the MS shall not deactivate the PDP contexts. A MS in operation mode A or B in network operation mode I may send a DETACH ACCEPT message to the network., and shall re-attach to non-GPRS service by performing the combined routing area updating procedure, sending a ROUTING AREA UPDATE REQUEST message with Update type IE indicating "combined RA/LA updating with IMSI attach". A MS in operation mode C, or in MS operation mode A or B in network operation mode II or III, shall send a DETACH ACCEPT message to the network.

If the detach type IE indicates "IMSI detach" or "re-attach required", then the MS shall ignore the cause code if received.

If the detach type information element value indicates "re-attach required" or "re-attach not required" and the MS is attached for GPRS and non-GPRS services and the network operates in network operation mode I, then if in the MS the timer T3212 is not already running, the timer T3212 shall be set to its initial value and restarted.

If the detach type IE indicates "re-attach required", the MS shall perform a new attach procedure. The MS should also activate PDP context(s) to replace any previously active PDP contexts.

NOTE: In some cases, user interaction may be required and then the MS cannot activate the PDP context(s) automatically.

When receiving the DETACH REQUEST message and the detach type IE indicates "re-attach not required" and the cause code is not "#2 (IMSI unknown in HLR)", the MS shall deactivate the PDP contexts and deactivate the logical link(s), if any. The MS shall then send a DETACH ACCEPT message to the network and shall change state to GMM-DEREGISTERED.

If the detach type IE indicates "re-attach not required", then, depending on the received cause code, the MS shall act as follows:

#2 (IMSI unknown in HLR);

The MS shall set the update status to U3 ROAMING NOT ALLOWED and shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM IDLE. The SIM shall be considered as invalid for non-GPRS services until switching off or the SIM is removed. A GPRS MS operating in MS operation mode A or B in network operation mode I, is still IMSI attached for GPRS services in the network.

#3 (Illegal MS);

#6(Illegal ME);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number. The new GMM state is GMM-DEREGISTERED. The SIM shall be considered as invalid for GPRS services until switching off or the SIM is removed.

A GPRS MS operating in MS operation mode A or B shall in addition set the update status to U3 ROAMING NOT ALLOWED, shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM idle. The SIM shall be considered as invalid also for non-GPRS services until switching off or the SIM is removed.

#7 (GPRS services not allowed);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number. The SIM shall be considered as invalid for GPRS services until switching off or the SIM is removed. The new state is GMM-DEREGISTERED.

A GPRS MS operating in MS operation mode A or B in network operation mode I shall set the timer T3212 to its initial value and restart it, if it is not already running.

A GPRS MS operating in MS operation mode A or B in network operation mode I, is still IMSI attached for CS services in the network.

#8 (GPRS services and non-GPRS services not allowed);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED and the update status to U3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2). Furthermore, it shall delete any P-TMSI, P-TMSI signature, TMSI, RAI, LAI, ciphering key sequence number and GPRS ciphering key sequence number and shall consider the SIM as invalid for GPRS and non-GPRS services until switching off or the SIM is removed.

- #11 (PLMN not allowed);
- # 12 (Location area not allowed);
- # 13 (Roaming not allowed in this location area); or

The MS shall delete any RAI or LAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number, shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2).

A GPRS MS operating in MS operation mode A or B shall in addition set the update status to U3 ROAMING NOT ALLOWED and shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM IDLE.

The MS shall store the LAI or the PLMN identity in the appropriate forbidden list, i.e. in the "forbidden PLMN list" for cause #11, in the list of "forbidden location areas for regional provision of service" for cause #12 or in the list of "forbidden location areas for roaming" for cause #13. If #11or #13 was received, the MS shall perform a PLMN selection instead of a cell selection.

# 14 (GPRS services not allowed in this PLMN)

The MS shall delete any RAI, P-TMSI, P-TMSI signature, and GPRS ciphering key sequence number stored, shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall change to state GMM-DEREGISTERED.

The MS shall store the PLMN identity in the "forbidden PLMNs for GPRS service" list.

A GPRS MS operating in MS operation mode A or B in network operation mode I shall set the timer T3212 to its initial value and restart it, if it is not already running.

A GPRS MS operating in MS operation mode A or B, is still IMSI attached for CS services in the network.

Other cause values shall not impact the update status. Further actions of the MS are implementation dependent.

# Tdoc N1-010625N1-01067856

3GPP TSG\_CN WG1 Ad-Hoc Helsinki, Finland 8 - 9 May, 2001

	CHANGE REQUEST	CR-Form-v3
*	04.08 CR A1101 * rev 21- *	Current version: 7.11.0 *
For <b>HELP</b> on us	sing this form, see bottom of this page or look at the	pop-up text over the # symbols.
Proposed change a	affects:    ### (U)SIM ME/UE     X Radio Acc	cess Network Core Network X
Title: 第	Clarification of Network Initiated GPRS Detach Pr	ocedure
Source: #	Qualcomm	
Work item code: ₩	GPRS	Date: 第 02.05.2001
Category: 第	A	Release: # R98
	Use <u>one</u> of the following categories:  F (essential correction)  A (corresponds to a correction in an earlier release  B (Addition of feature),  C (Functional modification of feature)  D (Editorial modification)  Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)
Reason for change	The current specification for "network initiated inconsistent for the case where the detach ty cause code is "IMSI unknown in HLR". There the mobile behaviour in this case.	pe is "re-attach no required" and the
Summary of chang	e: # An exception phrase is added to remove the	inconsistency in the specification.
Consequences if not approved:	# The inconsistent specification cannot be corre	ectly implemented.
Clauses affected:	<b>%</b> 4.7.4.2.2	
Other specs affected:	# Other core specifications # Test specifications O&M Specifications	
Other comments:	<b>*</b>	

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: <a href="http://www.3gpp.org/3G">http://www.3gpp.org/3G</a> Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked \$\mathbb{x}\$ 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 <a href="ftp://www.3gpp.org/specs/">ftp://www.3gpp.org/specs/</a> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

## 4.7.4.2.2 Network initiated GPRS detach procedure completion by the MS

When receiving the DETACH REQUEST message and the detach type IE indicates "re-attach not required" or "reattach required", except for the case where the detach type is "re-attach not required" and the cause code is "IMSI unknown in HLR", the MS shall deactivate the PDP contexts and deactivate the logical link(s), if any. The MS shall then send a DETACH ACCEPT message to the network and shall change state to GMM-DEREGISTERED. The MS shall, after the completion of the GPRS detach procedure, initiate a GPRS attach procedure if indicated by the network in the detach type IE. The MS should also activate PDP context(s) to replace any previously active PDP contexts.

NOTE: In some cases, user interaction may be required and then the MS cannot activate the PDP context(s) automatically.

A GPRS MS operating in MS operation mode A or B in network operation mode I, which receives an DETACH REQUEST message with detach type indicating "re-attach required" or "re-attach not required" and no cause code, is only detached for GPRS services in the network.

When receiving the DETACH REQUEST message and the detach type IE indicates "IMSI detach", the MS shall not deactivate the PDP contexts. A MS in operation mode A or B in network operation mode I may send a DETACH ACCEPT message to the network, and shall re-attach to non-GPRS service by performing the combined routing area updating procedure, sending a ROUTING AREA UPDATE REQUEST message with Update type IE indicating "combined RA/LA updating with IMSI attach". An MS in operation mode C, or in MS operation mode A or B in network operation mode II or III, shall send a DETACH ACCEPT message to the network.

If the detach type IE indicates "IMSI detach" or "re-attach required", then the MS shall ignore the cause code if received.

If the detach type information element value indicates "re-attach required" or "re-attach not required" and the MS is attached for GPRS and non-GPRS services and the network operates in network operation mode I, then if in the MS the timer T3212 is not already running, the timer T3212 shall be set to its initial value and restarted.

If the detach type IE indicates "re-attach required", the MS shall perform a new attach procedure. The MS should also activate PDP context(s) to replace any previously active PDP contexts.

NOTE: In some cases, user interaction may be required and then the MS cannot activate the PDP context(s) automatically.

When receiving the DETACH REQUEST message and the detach type IE indicates "re-attach not required" and the cause code is not "#2 (IMSI unknown in HLR)", the MS shall deactivate the PDP contexts and deactivate the logical link(s), if any. The MS shall then send a DETACH ACCEPT message to the network and shall change state to GMM-DEREGISTERED.

If the detach type IE indicates "re-attach not required", then, depending on the received cause code, the MS shall act as follows:

#2 (IMSI unknown in HLR);

The MS shall set the update status to U3 ROAMING NOT ALLOWED and shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM IDLE. The SIM shall be considered as invalid for non-GPRS services until switching off or the SIM is removed.

A GPRS MS operating in MS operation mode A or B in network operation mode I, is still IMSI attached for GPRS services in the network.

#3 (Illegal MS);

#6(Illegal ME);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number. The new GMM state is GMM-DEREGISTERED. The SIM shall be considered as invalid for GPRS services until switching off or the SIM is removed.

A GPRS MS operating in MS operation mode A or B shall in addition set the update status to U3 ROAMING NOT ALLOWED, shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM

idle. The SIM shall be considered as invalid also for non-GPRS services until switching off or the SIM is removed.

#7 (GPRS services not allowed);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number. The SIM shall be considered as invalid for GPRS services until switching off or the SIM is removed. The new state is GMM-DEREGISTERED.

A GPRS MS operating in MS operation mode A or B in network operation mode I shall set the timer T3212 to its initial value and restart it, if it is not already running.

A GPRS MS operating in MS operation mode A or B in network operation mode I, is still IMSI attached for CS services in the network.

#8 (GPRS services and non-GPRS services not allowed)

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED and the update status to U3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2). Furthermore, it shall delete any P-TMSI, P-TMSI signature, TMSI, RAI, LAI, ciphering key sequence number and GPRS ciphering key sequence number and shall consider the SIM as invalid for GPRS and non-GPRS services until switching off or the SIM is removed.

- #11 (PLMN not allowed);
- # 12 (Location area not allowed); or
- # 13 (Roaming not allowed in this location area)

The MS shall delete any RAI or LAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number, shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2).

A GPRS MS operating in MS operation mode A or B shall in addition set the update status to U3 ROAMING NOT ALLOWED and shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM IDLE.

The MS shall store the LAI or the PLMN identity in the appropriate forbidden list, i.e. in the "forbidden PLMN list" for cause #11, in the list of "forbidden location areas for regional provision of service" for cause #12 or in the list of "forbidden location areas for roaming" for cause #13. If #11or #13 was received, the MS shall perform a PLMN selection instead of a cell selection.

# 14 (GPRS services not allowed in this PLMN)

The MS shall delete any RAI, P-TMSI, P-TMSI signature, and GPRS ciphering key sequence number stored, shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall change to state GMM-DEREGISTERED.

The MS shall store the PLMN identity in the "forbidden PLMNs for GPRS service" list.

A GPRS MS operating in MS operation mode A or B in network operation mode I shall set the timer T3212 to its initial value and restart it, if it is not already running.

A GPRS MS operating in MS operation mode A or B, is still IMSI attached for CS services in the network.

Other cause values shall not impact the update status. Further actions of the MS are implementation dependent.

## Tdoc N1-010626N1-01067957

3GPP TSG\_CN WG1 Ad-Hoc Helsinki, Finland 8 - 9 May, 2001

		(	CHAN	GE R	EQI	JEST	•			CR-Form-v3
*	24.0	08 CR	405	ж	rev 2	<b>1</b> - <sup>∺</sup>	Current v	ersion:	3.7.0	H
For <u><b>HELP</b></u> on using this form, see bottom of this page or look at the pop-up text over the <b>ૠ</b> symbols.										
Proposed change a	affects:	₩ (U)	SIM	ME/UE	X	Radio A	ccess Netw	ork	Core N	etwork X
Title: 第	Clarific	cation of N	Network In	nitiated G	PRS D	etach P	rocedure			
Source: #	Qualc	omm								
Work item code: ₩	GPRS	}					Date:	第 02	.05.2001	
Category: 第	Α						Release:	# RS	9	
	F (ABC) Detailed	e of the folk (essential of (correspon- (Addition of (Functional (Editorial m I explanation d in 3GPP	correction) ds to a con f feature), I modification ons of the a	rection in a on of featu ) above cate	ure)		2	(GS) (Reli (Reli (Reli (Reli 4 (Reli	ollowing rel M Phase 2) ease 1996) ease 1997) ease 1998) ease 4) ease 5)	
Reason for change	ir C	nconsister	nt for the ce is "IMSI	ase whe unknown	re the in HL	detach t	ed GPRS d ype is "re-a e are two c	ittach n	o required	" and the
Summary of chang	ye:Ж <mark>∧</mark>	n exception	on phrase	is added	to rer	nove the	e inconsiste	ency in t	the specifi	cation.
Consequences if not approved:	ж T	he incons	istent spe	cification	canno	ot be cor	rectly imple	emente	d.	
Clauses affected:	ж <u>4</u>	.7.4.2.2								
Other specs affected:	*	Test spe	ore specifi ecifications ecification	S	*					
Other comments:	ж									

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Comprehensive information and tips about how to create CRs can be found at: <a href="http://www.3gpp.org/3G">http://www.3gpp.org/3G</a> Specs/CRs.htm. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked \$\mathbb{x}\$ contain pop-up help information about the field that they are closest to.
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## 4.7.4.2.2 Network initiated GPRS detach procedure completion by the MS

When receiving the DETACH REQUEST message and the detach type IE indicates "re-attach not required" or "re-attach required", except for the case where the detach type is "re-attach not required" and the cause code is "IMSI unknown in HLR", the MS shall deactivate the PDP contexts and deactivate the logical link(s), if any. The MS shall then send a DETACH ACCEPT message to the network and shall change state to GMM-DEREGISTERED. The MS shall, after the completion of the GPRS detach procedure, initiate a GPRS attach procedure if indicated by the network in the detach type IE. The MS should also activate PDP context(s) to replace any previously active PDP contexts.

NOTE: In some cases, user interaction may be required and then the MS cannot activate the PDP context(s) automatically.

A GPRS MS operating in MS operation mode A or B in network operation mode I, which receives an DETACH REQUEST message with detach type indicating "re-attach required" or "re-attach not required" and no cause code, is only detached for GPRS services in the network.

When receiving the DETACH REQUEST message and the detach type IE indicates "IMSI detach", the MS shall not deactivate the PDP contexts. The MS shall set the MM update status to U2 NOT UPDATED. A MS in operation mode A or B in network operation mode I may send a DETACH ACCEPT message to the network, and shall re-attach to non-GPRS service by performing the combined routing area updating procedure according to section 4.7.5.2, sending a ROUTING AREA UPDATE REQUEST message with Update type IE indicating "combined RA/LA updating with IMSI attach". A MS in operation mode C, or in MS operation mode A or B in network operation mode II or III, shall send a DETACH ACCEPT message to the network.

If the detach type IE indicates "IMSI detach", or "re-attach required" then the MS shall ignore the cause code if received.

If the detach type information element value indicates "re-attach required" or "re-attach not required" and the MS is attached for GPRS and non-GPRS services and the network operates in network operation mode I, then if in the MS the timer T3212 is not already running, the timer T3212 shall be set to its initial value and restarted.

If the detach type IE indicates "re-attach required", the MS shall perform a new attach procedure. The MS should also activate PDP context(s) to replace any previously active PDP contexts.

NOTE: In some cases, user interaction may be required and then the MS cannot activate the PDP context(s) automatically.

When receiving the DETACH REQUEST message and the detach type IE indicates "re-attach not required" and the cause code is not "#2 (IMSI unknown in HLR)", the MS shall deactivate the PDP contexts and deactivate the logical link(s), if any. The MS shall then send a DETACH ACCEPT message to the network and shall change state to GMM-DEREGISTERED.

If the detach type IE indicates "re-attach not required", then, depending on the received cause code, the MS shall act as follows:

#### #2 (IMSI unknown in HLR)

The MS shall set the update status to U3 ROAMING NOT ALLOWED and shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM IDLE. The SIM shall be considered as invalid for non-GPRS services until switching off or the SIM is removed.

A GPRS MS operating in MS operation mode A or B in network operation mode I, is still IMSI attached for GPRS services in the network.

- # 3 (Illegal MS);
- #6 (Illegal ME);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number. The new GMM state is GMM-DEREGISTERED. The SIM shall be considered as invalid for GPRS services until switching off or the SIM is removed.

A GPRS MS operating in MS operation mode A or B shall in addition set the update status to U3 ROAMING NOT ALLOWED, shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM

idle. The SIM shall be considered as invalid also for non-GPRS services until switching off or the SIM is removed.

#### #7 (GPRS services not allowed);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number. The SIM shall be considered as invalid for GPRS services until switching off or the SIM is removed. The new state is GMM-DEREGISTERED.

A GPRS MS operating in MS operation mode A or B in network operation mode I shall set the timer T3212 to its initial value and restart it, if it is not already running.

A GPRS MS operating in MS operation mode A or B in network operation mode I, is still IMSI attached for CS services in the network.

#### #8 (GPRS services and non-GPRS services not allowed);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED and the update status to U3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2). Furthermore, it shall delete any P-TMSI, P-TMSI signature, TMSI, RAI, LAI, ciphering key sequence number and GPRS ciphering key sequence number and shall consider the SIM as invalid for GPRS and non-GPRS services until switching off or the SIM is removed.

- #11 (PLMN not allowed);
- # 12 (Location area not allowed),
- # 13 (Roaming not allowed in this location area), or

The MS shall delete any RAI or LAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number, shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2).

A GPRS MS operating in MS operation mode A or B shall in addition set the update status to U3 ROAMING NOT ALLOWED and shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM IDLE.

The MS shall store the LAI or the PLMN identity in the appropriate forbidden list, i.e. in the "forbidden PLMN list" for cause #11, in the list of "forbidden location areas for regional provision of service" for cause #12 or in the list of "forbidden location areas for roaming" for cause #13. If #11or #13 was received, the MS shall perform a PLMN selection instead of a cell selection.

#### # 14 (GPRS services not allowed in this PLMN)

The MS shall delete any RAI, P-TMSI, P-TMSI signature, and GPRS ciphering key sequence number stored, shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall change to state GMM-DEREGISTERED.

The MS shall store the PLMN identity in the "forbidden PLMNs for GPRS service" list.

A GPRS MS operating in MS operation mode A or B in network operation mode I shall set the timer T3212 to its initial value and restart it, if it is not already running.

A GPRS MS operating in MS operation mode A or B, is still IMSI attached for CS services in the network.

Other cause values shall not impact the update status. Further actions of the MS are implementation dependent.

## Tdoc N1-010644N1-01068058

3GPP TSG\_CN WG1 Ad-Hoc Helsinki, Finland 8 - 9 May, 2001

CHANGE REQUEST								
*	24.0	08 CR 4	11	₩ rev	<mark>21-</mark> #	Current vers	4.2.0	¥
For <u><b>HELP</b></u> on using this form, see bottom of this page or look at the pop-up text over the <b>\$\mathbb{x}</b> symbols.								
Proposed change a	affects:	₩ (U)SII	ME/	UE X	Radio A	ccess Networ	k Core Ne	etwork X
Title: 第	Clarific	cation of Net	twork Initiated	d GPRS	Detach P	rocedure		
Source: #	Qualc	omm						
Work item code: ₩	GPRS					Date: ℜ	02.05.2001	
Category: #	Α					Release: #	REL-4	
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Reason for change	ir C	consistent for ause code is	or the case w	here the wn in Hl	e detach t	ype is "re-atta	ach procedure" ich no required flicting requirer	" and the
Summary of chang	je: Ж <mark>A</mark>	n exception	phrase is ad	ded to re	emove the	inconsistenc	y in the specific	cation.
Consequences if not approved:	жТ	he inconsist	ent specificat	tion canr	not be cor	rectly implem	ented.	
Clauses affected:	₩ 4	.7.4.2.2						
Other specs affected:	*	Other core Test specif O&M Spec		s ¥				
Other comments:	*							

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## 4.7.4.2.2 Network initiated GPRS detach procedure completion by the MS

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NOTE: In some cases, user interaction may be required and then the MS cannot activate the PDP context(s) automatically.

A GPRS MS operating in MS operation mode A or B in network operation mode I, which receives an DETACH REQUEST message with detach type indicating "re-attach required" or "re-attach not required" and no cause code, is only detached for GPRS services in the network.

When receiving the DETACH REQUEST message and the detach type IE indicates "IMSI detach", the MS shall not deactivate the PDP contexts. The MS shall set the MM update status to U2 NOT UPDATED. A MS in operation mode A or B in network operation mode I may send a DETACH ACCEPT message to the network, and shall re-attach to non-GPRS service by performing the combined routing area updating procedure according to section 4.7.5.2, sending a ROUTING AREA UPDATE REQUEST message with Update type IE indicating "combined RA/LA updating with IMSI attach". A MS in operation mode C, or in MS operation mode A or B in network operation mode II or III, shall send a DETACH ACCEPT message to the network.

If the detach type IE indicates "IMSI detach", or "re-attach required" then the MS shall ignore the cause code if received.

If the detach type information element value indicates "re-attach required" or "re-attach not required" and the MS is attached for GPRS and non-GPRS services and the network operates in network operation mode I, then if in the MS the timer T3212 is not already running, the timer T3212 shall be set to its initial value and restarted.

If the detach type IE indicates "re-attach required", the MS shall perform a new attach procedure. The MS should also activate PDP context(s) to replace any previously active PDP contexts.

NOTE: In some cases, user interaction may be required and then the MS cannot activate the PDP context(s) automatically.

When receiving the DETACH REQUEST message and the detach type IE indicates "re-attach not required" and the cause code is not "#2 (IMSI unknown in HLR)", the MS shall deactivate the PDP contexts and deactivate the logical link(s), if any. The MS shall then send a DETACH ACCEPT message to the network and shall change state to GMM-DEREGISTERED.

If the detach type IE indicates "re-attach not required", then, depending on the received cause code, the MS shall act as follows:

## # 2 (IMSI unknown in HLR);

The MS shall set the update status to U3 ROAMING NOT ALLOWED and shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM IDLE. The SIM shall be considered as invalid for non-GPRS services until switching off or the SIM is removed.

A GPRS MS operating in MS operation mode A or B in network operation mode I, is still IMSI attached for GPRS services in the network.

- # 3 (Illegal MS);
- # 6 (Illegal ME);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number. The new GMM state is GMM-DEREGISTERED. The SIM shall be considered as invalid for GPRS services until switching off or the SIM is removed.

A GPRS MS operating in MS operation mode A or B shall in addition set the update status to U3 ROAMING NOT ALLOWED, shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM

idle. The SIM shall be considered as invalid also for non-GPRS services until switching off or the SIM is removed.

#### #7 (GPRS services not allowed);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall delete any P-TMSI, P-TMSI signature, RAI and GPRS ciphering key sequence number. The SIM shall be considered as invalid for GPRS services until switching off or the SIM is removed. The new state is GMM-DEREGISTERED.

A GPRS MS operating in MS operation mode A or B in network operation mode I shall set the timer T3212 to its initial value and restart it, if it is not already running.

A GPRS MS operating in MS operation mode A or B in network operation mode I, is still IMSI attached for CS services in the network.

#### #8 (GPRS services and non-GPRS services not allowed);

The MS shall set the GPRS update status to GU3 ROAMING NOT ALLOWED and the update status to U3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2). Furthermore, it shall delete any P-TMSI, P-TMSI signature, TMSI, RAI, LAI, ciphering key sequence number and GPRS ciphering key sequence number and shall consider the SIM as invalid for GPRS and non-GPRS services until switching off or the SIM is removed.

- #11 (PLMN not allowed);
- # 12 (Location area not allowed);
- # 13 (Roaming not allowed in this location area); or

The MS shall delete any RAI or LAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number, shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2).

A GPRS MS operating in MS operation mode A or B shall in addition set the update status to U3 ROAMING NOT ALLOWED and shall delete any TMSI, LAI and ciphering key sequence number. The new MM state is MM IDLE.

The MS shall store the LAI or the PLMN identity in the appropriate forbidden list, i.e. in the "forbidden PLMN list" for cause #11, in the list of "forbidden location areas for regional provision of service" for cause #12 or in the list of "forbidden location areas for roaming" for cause #13. If #11or #13 was received, the MS shall perform a PLMN selection instead of a cell selection.

#### # 14 (GPRS services not allowed in this PLMN)

The MS shall delete any RAI, P-TMSI, P-TMSI signature, and GPRS ciphering key sequence number stored, shall set the GPRS update status to GU3 ROAMING NOT ALLOWED (and shall store it according to section 4.1.3.2) and shall change to state GMM-DEREGISTERED.

The MS shall store the PLMN identity in the "forbidden PLMNs for GPRS service" list.

A GPRS MS operating in MS operation mode A or B in network operation mode I shall set the timer T3212 to its initial value and restart it, if it is not already running.

A GPRS MS operating in MS operation mode A or B, is still IMSI attached for CS services in the network.

Other cause values shall not impact the update status. Further actions of the MS are implementation dependent.