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GSM GENERAL PACKET RADIO SERVICES

TEST SPECIFICATION

SM

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3. Fill 'NOT_USED' params.
4. Routing Area Update.
5. Improved ti handling.
6. Add SMREG_PDP_ACT_REJ_RES.
7. Test rest of T3380, T3390.

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1.2 Abbreviations

ACI	Application Control Interface
AGCH	Access Grant Channel
AT	Attention sequence "AT" to indicate valid commands of the ACI
BCCH	Broadcast Control Channel
BS	Base Station
BSIC	Base Station Identification Code
C/R	Command/Response
C1	Path Loss Criterion
C2	Reselection Criterion
CBCH	Cell Broadcast Channel
CBQ	Cell Bar Qualify
CC	Call Control
CCCH	Common Control Channel
CCD	Condat Coder Decoder
CCI	Compression and Ciphering Interface
CHAP	Challenge Handshake Authentication Protocol
CKSN	Ciphering Key Sequence Number
CRC	Cyclic Redundancy Check
DCCH	Dedicated Control Channel
DCOMP	Identifier of the user data compression algorithm used for the N-DPU
DISC	Disconnect Frame
DL	Data Link Layer
DM	Disconnected Mode Frame
DTX	Discontinuous Transmission
E	Extension bit
EA	Extension Bit Address Field
EL	Extension Bit Length Field
EMMI	Electrical Man Machine Interface
F	Final Bit
FACCH	Fast Associated Control Channel
FHO	Forced Handover
GACI	GPRS Application Control Interface
GMM	GPRS Mobility Management
GP	Guard Period
GRR	GPRS RR
GSM	Global System for Mobile Communication
HDLC	High-level Data Link Control
HISR	High level Interrupt Service Routine
HPLMN	Home Public Land Mobile Network
I	Information Frame
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
IPCP	Internet Protocol Control Protocol
ITU	International Telecommunication Union
IWF	Interworking Function
Kc	Ciphering Key
L	Length Indicator
LAI	Location Area Information
LCP	Link Control Protocol
LISR	Low level Interrupt Service Routine

LLC	Logical Link Control
LPD	Link Protocol Discriminator
LQM	Link Quality Monitoring
M	More bit used to indicate the last segment of N-DPU
MAC	Medium Access Control
MCC	Mobile Country Code
MM	Mobility Management
MMI	Man Machine Interface
MNC	Mobile Network Code
MS	Mobile Station
MT	Mobile Termination
N(R)	Receive Number
N(S)	Send Number
NC	Network Control
NCC	National Colour Code
NCP	Network Control Protocol
NECI	New Establishment Causes included
N-PDU	Network Protocol Data Unit
NSAPI	Network Layer Service Access Point Identifier
OTD	Observed Time Difference
P	Poll Bit
P/F	Poll/Final Bit
PACCH	Packet Associated Control Channel
PAP	Password Authentication Protocol
PBCCH	Packet BCCH
PCCCH	Packet CCCH
PCOMP	Identifier of the protocol control information compression algorithm used for the N-DPU
PDCH	Packet Data Channel
PDP	Packet Data Protocol e.g. IP or X.25
PDTCH	Packet Data Traffic Channel
PRACH	Packet RACH
PSI	Packet System Information
PCH	Paging Channel
PCO	Point of Control and Observation
PDU	Protocol Data Unit
PL	Physical Layer
PLMN	Public Land Mobile Network
PPC	Packet Physical Convergence
PPP	Point-to-Point Protocol
PTP	Point to Point
QoS	Quality of Service
RACH	Random Access Channel
REJ	Reject Frame
RLC	Radio Link Control
RNR	Receive Not Ready Frame
RR	Radio Resource Management
RR	Receive Ready Frame
RTD	Real Time Difference
RTOS	Real Time Operating System
SABM	Set Asynchronous Balanced Mode
SACCH	Slow Associated Control Channel
SAP	Service Access Point
SAPI	Service Access Point Identifier
SDCCH	Stand alone Dedicated Control Channel
SDU	Service Data Unit
SGSN	Serving GPRS Support Node

SIM	Subscriber Identity Module
SM	Session Management
SMS	Short Message Service
SMSCB	Short Message Service Cell Broadcast
SNDCP	Subnetwork Dependant Convergence Protocol
SNSM	SNDCP-SM
SS	Supplementary Services
TAP	Test Application Program
TBF	Temporary Block Flow
TCH	Traffic Channel
TCH/F	Traffic Channel Full Rate
TCH/H	Traffic Channel Half Rate
TCP	Transmission Control Protocol
TDMA	Time Division Multiple Access
TE	Terminal Equipment - e. g. a PC
TFI	Temporary Flow Identifier
TLLI	Temporary Logical Link Identifier
TMSI	Temporary Mobile Subscriber Identity
TOM	Tunnelling of Messages
TQI	Temporary Queuing Identifier
UA	Unnumbered Acknowledgement Frame
UART	Universal Asynchronous Receiver Transmitter
UI	Unnumbered Information Frame
USF	Uplink State Flag
V(A)	Acknowledgement State Variable
V(R)	Receive State Variable
V(S)	Send State Variable
VPLMN	Visited Public Land Mobile Network

1.3 Terms

Entity:	Program which executes the functions of a layer
Message:	A message is a data unit which is transferred between the entities of the same layer (peer-to-peer) of the mobile and infrastructure side. Message is used as a synonym to protocol data unit (PDU). A message may contain several information elements.
Primitive:	A primitive is a data unit which is transferred between layers on one component (mobile station or infrastructure). The primitive has an operation code which identifies the primitive and its parameters.
Service Access Point	A Service Access Point is a data interface between two layers on one component (mobile station or infrastructure).

2 Overview

The Protocol Stacks are used to define the functionality of the GSM protocols for interfaces. The GSM specifications are normative when used to describe the functionality of interfaces, but the stacks and the subdivision of protocol layers does not imply or restrict any implementation.

The protocol stack for GPRS consists of several entities. Each entity has one or more service access points, over which the entity provides a service for the upper entity.

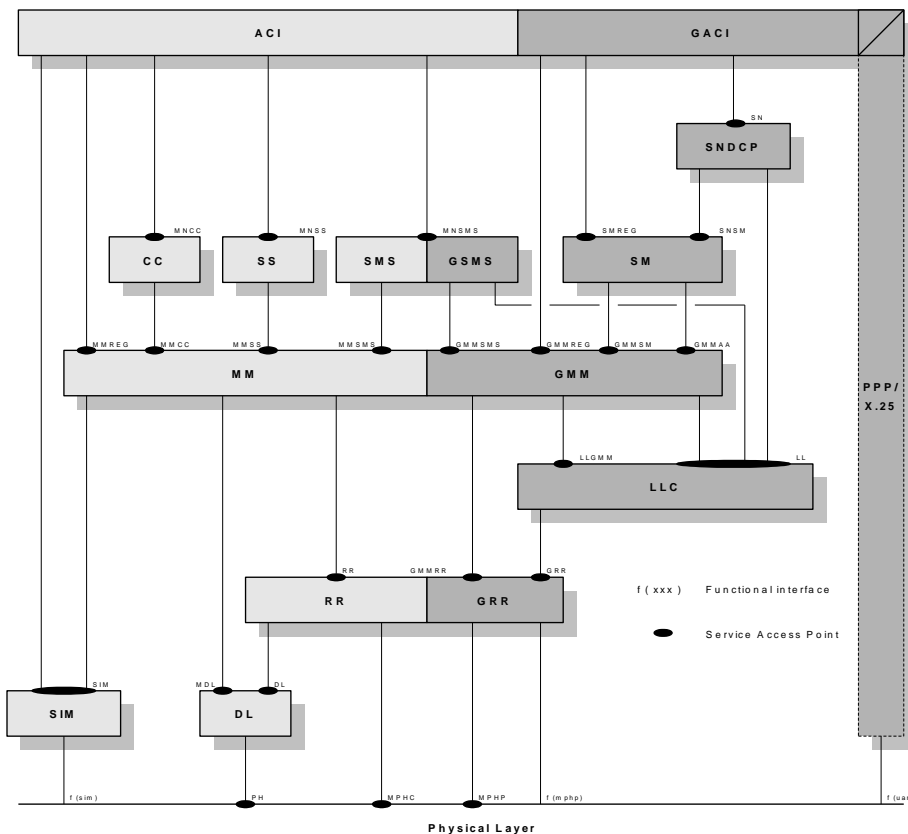


Figure 2-1: Architecture of the GSM/GPRS protocol stack

The information units passed via the SAPs are called primitives and consists of an operation code and several parameters. See the Users Guide for details.

The entities of the GPRS protocol stack are:

2.1 GRR (RLC/MAC) – Radio Link Control/Medium Access Control

This layer contains two functions: The Radio Link Control function provides a radio-solution-dependent reliable link. The Medium Access Control function controls the access signalling (request and grant) procedures for the radio channel, and the mapping of LLC frames onto the GSM physical channel.

2.2 LLC – Logical Link Control

The LLC entity provides multiple highly reliable logical links for asynchronous data transfer between the MS and the network. It supports variable-length information frames, acknowledged and unacknowledged data transfer, flow and sequence control, error detection and recovery, notification of unrecoverable errors, user identity confidentiality, and ciphering of user and signaling data.

2.3 GMM – GPRS Mobility Management

The GMM entity provides procedures for the mobility of the MS, such as informing the network of its present location, and user identity confidentiality. It manages the GMM context (attach, detach, routing area updating), supports security functions such as authentication of user and MS, controls ciphering of data, and initiates the response to paging messages.

2.4 SM – Session Management

The main function of the session management (SM) is to support PDP context handling of the user terminal. Session Management activates, modifies and deletes the contexts for packet data protocols (PDP). Session Management services are provided at the SMREG-SAP and the SNSM-SAP for anonymous and non-anonymous access. The non-anonymous and anonymous access procedures for PDP context activation and PDP context deactivation are available at the SMREG-SAP. In addition there exists a PDP context modification for non-anonymous PDP contexts.

2.5 SNDCP - Subnetwork Dependant Convergence Protocol

SNDCP carries out all functions related to transfer of Network layer Protocol Data Units (N-PDUs) over GPRS in a transparent way. SNDCP helps to improve channel efficiency by means of compression techniques. The set of protocol entities above SNDCP consists of commonly used network protocols. They all use the same SNDCP entity, which then performs multiplexing of data coming from different sources to be sent using the service provided by the LLC layer.

2.6 GACI – GPRS Application Control Interface

The GACI is the GPRS extension of the ACI. It is specified in GSM 07.07 and 07.60. It is responsible for processing of the GPRS related AT Commands to setup, activate and deactivate the PDP context parameter. It also provides functionality for the interworking between GMM/SM/SNDCP and a packet oriented protocol like PPP.

2.7 USART - Universal Synchronous Asynchronous Receiver Transmitter Driver

The USART is a hardware component that facilitates a connection between the mobile station and terminal equipment (e.g. a PC). This interface uses some of the circuits described in V.24.

The data exchange provided by this unit is serial and asynchronous (synchronous communication is not in the scope of this document). A driver that uses interrupts to manage a circular buffer for the sending and receiving direction is necessary in order to use this component in the GPRS. The driver has to be able to perform flow control.

2.8 TOM – Tunnelling of Messages

The TOM entity is present if and only if HS136 is supported (the feature flag FF_HS136 is enabled).

The main function of TOM is to tunnel non-GSM signalling messages between the MS and the SGSN. The only non-GSM signalling which is currently supported by TOM is for the EGPRS-136 system (according to TIA/EIA-136-376). Data transfer in both uplink and downlink direction is possible. Two different priorities (high, low) of signalling data transfer are supported. TOM uses the unacknowledged mode of LLC and the acknowledged mode of GRR (RLC/MAC).

3 Parameters

/*

3.1 primitive elements

*/

```
BYTE MSID_0 0x00
BYTE MSID_4 0x04
BYTE NSAPI_2 0x2
BYTE NSAPI_8 0x8
BYTE PDP_TYPE_IP_V_4 0x21
BYTE PDP_TYPE_IP_V_6 0x57
BYTE TI_0 0x0
BYTE TI_1 0x1
BYTE TI_8 0x8
BYTE TI_111 0x7
BYTE TI_9 0x9
BYTE TI_1_000 0x8
BYTE TI_NOT_USED 0xff
SHORT NSAPI_SET_2 0x4 /* bit mask with 2**2 set to 1*/
SHORT REC_NO_AA 0xaa
LONG DTI_LINKID_ABCD 0xabcdabcd
LONG TIMER_2_SEC 2
LONG DTI_NEIGHBOR_ABCD 0xabcdabcd
/*
```

3.1.1 Fields

```
*/
```

```
FIELD(ADDRESS_BUF_1)
    0x01, 0x02, 0x03, 0x04
ENDFIELD(ADDRESS_BUF_1,4)
```

```
FIELD(ADDRESS_BUF_2)
    0x00, 0x08, 0x01, 0x05
ENDFIELD(ADDRESS_BUF_2,4)
```

```
/*
```

```
* Unexpected ACT_AA_PDP_ACC (also not correctly structured).
```

```
*/
```

```
FIELD (ACT_AA_PDP_ACC_UNEX)
    /* length */
    0x81, 0,
    /* offset */
    0x18, 0,
    /* */
    0, 0, 0, 0x0a,
    /* msg type */
    0x81,
    /* NOT_USED radio prio + half spare */
    0,
    /* SAPI */
    0x3
    /* mandatory IE 'QoS' missing! */
```

```
ENDFIELD(ACT_AA_PDP_ACC_UNEX, 11)
```

```
/*
```

```
* MOD_PDP_REQ message with mandatory IE 'QoS' missing.
```

```
*/
```

```
FIELD (MOD_PDP_REQ_IE_MISS)
    /* length */
    0x20, 0,
```



```
        /* offset */
        0x18, 0,
        /* */
        0, 0, 0, 0x0a,
        /* msg type */
        0x48,
        /* NOT_USED radio prio + half spare */
        0,
        /* SAPI */
        0x3
        /* mandatory IE 'QoS' missing! */
ENDFIELD(MOD_PDP_REQ_IE_MISS, 11)
/*
 * DEACT_PDP_REQ message with mandatory IE 'sm_cause' missing.
 */
FIELD (DEACT_PDP_REQ_IE_MISS)
    /* length */
    0x10, 0,
    /* offset */
    0x18, 0,
    /* */
    0, 0, 0, 0x8a,
    /* msg type */
    0x46
    /* mandatory IE 'sm_cause' missing! */
ENDFIELD(DEACT_PDP_REQ_IE_MISS, 11)
FIELD (PCO_123456789)
    /* length */
    0x48, 0,
    /* offset */
    0x08, 0x00,
    /* offset ENCODE_OFFSET */
    0x00,
    /* pco data */
    1, 2, 3, 4, 5, 6, 7, 8, 9
ENDFIELD(PCO_123456789, 14)
FIELD (PCO_987654321)
    /* length */
    0x48, 0,
    /* offset */
    0x0, 0x0,
    /* pco data */
    9, 8, 7, 6, 5, 4, 3, 2, 1
ENDFIELD(PCO_987654321, 13)

/*
 * REQ_PDP_ACT message with mandatory IE 'address' missing.
 */
FIELD (REQ_PDP_ACT_IE_MISS)
    /* length */
    0x10, 0,
    /* offset */
    0x18, 0,
    /* */
```

```
0, 0, 0, 0x0a,  
/* msg type */  
0x44  
/* mandatory IE 'address' missing! */  
ENDFIELD(REQ_PDP_ACT_IE_MISS, 9)
```

/*

3.2 Declarations

*/

/*

3.2.1 Message Struct Declarations

*/

```
DECLARATION(ADDRESS_BUF_DYN)  
DECLARATION(AIR_ADDRESS_DYN)  
DECLARATION(AIR_ADDRESS_IP6)  
DECLARATION(AIR_ADDRESS_1)  
DECLARATION(AIR_ADDRESS_2)  
DECLARATION(AIR_ADD_INFO_DYN)  
DECLARATION(AIR_ADD_INFO_1)  
DECLARATION(AIR_ADD_INFO_2)  
DECLARATION(APN_EMPTY_FIELD)  
DECLARATION(APN_TEST_FIELD)  
DECLARATION(APN_1234_FIELD)  
DECLARATION(APN_WELL_FORMED_FIELD)  
DECLARATION(AIR_APN_TEST)  
DECLARATION(AIR_APN_1234)  
DECLARATION(AIR_APN_EMPTY)  
DECLARATION(AIR_APN_WELL_FORMED)  
DECLARATION(AIR_APN_MT)  
DECLARATION(AIR_PCO_MT)  
DECLARATION(AIR_PCO_987654321)  
DECLARATION(AIR_PCO_123456789)  
DECLARATION(AIR_RADIO_PRIO_1)  
DECLARATION(AIR_READY_TIMER_10)  
DECLARATION(AIR_SM_CAUSE_GGSN_ACT_REJ)  
DECLARATION(AIR_SM_CAUSE_UNK_PDP)  
DECLARATION(AIR_SM_CAUSE_LLC_OR_SNDP)  
DECLARATION(AIR_SM_CAUSE_NET_FAIL)  
DECLARATION(AIR_SM_CAUSE_INSUF_RES)  
DECLARATION(AIR_SM_CAUSE_TI_INVALID)  
DECLARATION(AIR_SM_CAUSE_MSG_T_NON_X)  
DECLARATION(AIR_SM_CAUSE_MSG_T_NOT_COMP)  
DECLARATION(AIR_SM_CAUSE_MAND_INF_INVALID)  
DECLARATION(AIR_SM_CAUSE_REGULAR)  
DECLARATION(AIR_SM_CAUSE_UNSPEC)  
DECLARATION(AIR_SM_CAUSE_QOS_NOT_ACC)  
DECLARATION(AIR_NSAPI_2)  
DECLARATION(AIR_NSAPI_8)  
DECLARATION(AIR_NSAPI_5)  
DECLARATION(AIR_LLC_SAPI_3)  
DECLARATION(AIR_LLC_SAPI_17)  
DECLARATION(AIR_QOS_1)
```

```
DECLARATION(AIR_QOS_ACK)
DECLARATION(AIR_QOS_SUBSCRIBED)
DECLARATION(AIR_QOS_UNACCEPTABLE)
DECLARATION(LLC_SAPI_3)
DECLARATION(SM_CAUSE_REGULAR)
```

```
DECLARATION (NPDU_LIST_VAL_1)
```

```
/*
```

3.2.2 Primitive Struct Declarations

```
*/
```

```
DECLARATION(SNSM_QOS_0)
DECLARATION(SNSM_QOS_ACK)
DECLARATION(SMREG_QOS_0)
DECLARATION(SMREG_QOS_ACK)
DECLARATION(SMREG_QOS_SUBSCRIBED)
DECLARATION(SMREG_APN_EMPTY)
DECLARATION(SMREG_APN_TEST)
DECLARATION(SMREG_APN_1234)
DECLARATION(SMREG_APN_WELL_FORMED)
DECLARATION(PDP_ADDRESS_DYN)
DECLARATION(PDP_ADDRESS_1)
DECLARATION(PDP_ADDRESS_2)
DECLARATION (NPDU_LIST_OLD)
DECLARATION (NPDU_LIST_EMPTY)
DECLARATION (NPDU_LIST_INVALID)
DECLARATION (NPDU_LIST_INVALID)
```

```
/*
```

3.2.3 Message Array Declarations

```
*/
```

```
DECLARATION(AIR_PCO_RA_123456789)
DECLARATION(AIR_PCO_RA_987654321)
```

```
/*
```

3.3 Message Arrays

```
*/
```

```
BEGINARRAY (AIR_ADD_INFO_DYN, 0)
    0xff
ENDARRAY
BEGINARRAY (AIR_ADD_INFO_1, 4)
    0x1, 0x2, 0x3, 0x4
ENDARRAY
BEGINARRAY (AIR_ADD_INFO_2, 4)
    0x0, 0x8, 0x1, 0x5
ENDARRAY
BEGINARRAY (APN_1234_FIELD, 4)
```

```
        0x1, 0x2, 0x3, 0x4
ENDARRAY
BEGINARRAY (APN_TEST_FIELD, 12)
        0x7, 0x74, 0x2d, 0x65, 0x2d, 0x73, 0x2d, 0x74, 0x3, 0x41, 0x50, 0x4e
ENDARRAY
BEGINARRAY (APN_EMPTY_FIELD, 0)
        0xff
ENDARRAY
BEGINARRAY (APN_WELL_FORMED_FIELD, 17)
        0x8, 0x69, 0x6e, 0x74, 0x65, 0x72, 0x6e, 0x65, 0x74,
        0x4, 0x74, 0x2d, 0x64, 0x31, 0x2, 0x64, 0x65
ENDARRAY
BEGINARRAY (AIR_PCO_RA_123456789, 9)
        0x1, 0x2, 0x3, 0x4, 0x5, 0x6, 0x7, 0x8, 0x9
ENDARRAY
BEGINARRAY (AIR_PCO_RA_987654321, 9)
        0x9, 0x8, 0x7, 0x6, 0x5, 0x4, 0x3, 0x2, 0x1
ENDARRAY

BEGIN_STRUCT_ARRAY (NPDU_LIST_OLD, 1)
        NPDU_LIST_VAL_1
ENDARRAY

BEGIN_STRUCT_ARRAY (NPDU_LIST_INVALID, 1)
        NPDU_LIST_INVALID
ENDARRAY

BEGIN_STRUCT_ARRAY (NPDU_LIST_EMPTY, 0)
        0xff
ENDARRAY

BEGIN_MSTRUCT ("receive_n_pdu_number_list_val", NPDU_LIST_VAL_1)
        SET_COMP ("nsapi", 0x07)
        SET_COMP ("receive_n_pdu_number_val", 0xAA)
ENDSTRUCT

BEGIN_MSTRUCT ("receive_n_pdu_number_list_val", NPDU_LIST_INVALID)
        SET_COMP ("nsapi", 0x16)
        SET_COMP ("receive_n_pdu_number_val", 0xAA)
ENDSTRUCT

/*
```

3.4 Primitive Struct Arrays

```
*/

BEGINARRAY (ADDRESS_BUF_DYN, 0)
        0xff
ENDARRAY
```

```
/*
```

3.5 Message Structs

*/

```
BEGIN_MSTRUCT("address", AIR_ADDRESS_1)
    SET_COMP("pdp_type_org", IETF_ORG)
    SET_COMP("pdp_type_no", PDP_TYPE_IP_V_4)
    SET_COMP("add_info", AIR_ADD_INFO_1)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("address", AIR_ADDRESS_IP6)
    SET_COMP("pdp_type_org", IETF_ORG)
    SET_COMP("pdp_type_no", PDP_TYPE_IP_V_6)
    SKIP_COMP("add_info")
ENDSTRUCT
```

```
BEGIN_MSTRUCT("address", AIR_ADDRESS_DYN)
    SET_COMP("pdp_type_org", IETF_ORG)
    SET_COMP("pdp_type_no", PDP_TYPE_IP_V_4)
    SET_COMP("add_info", AIR_ADD_INFO_DYN)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("address", AIR_ADDRESS_2)
    SET_COMP("pdp_type_org", IETF_ORG)
    SET_COMP("pdp_type_no", PDP_TYPE_IP_V_4)
    SET_COMP("add_info", AIR_ADD_INFO_2)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("apn", AIR_APN_1234)
    SET_COMP("apn_value", APN_1234_FIELD)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("apn", AIR_APN_TEST)
    SET_COMP("apn_value", APN_TEST_FIELD)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("apn", AIR_APN_EMPTY)
    SET_COMP("apn_value", APN_EMPTY_FIELD)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("apn", AIR_APN_WELL_FORMED)
    SET_COMP("apn_value", APN_WELL_FORMED_FIELD)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("llc_sapi", AIR_LLC_SAPI_3)
    SET_COMP("sapi", 0x3)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("llc_sapi", AIR_LLC_SAPI_17)
    SET_COMP("sapi", 0x11)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("apn", AIR_APN_MT)
    SKIP_COMP("apn_value")
ENDSTRUCT
```

```
BEGIN_MSTRUCT("pco", AIR_PCO_987654321)
```

```
        SET_COMP("pco_value", AIR_PCO_RA_987654321)
ENDSTRUCT

BEGIN_MSTRUCT("pco", AIR_PCO_123456789)
    SET_COMP("pco_value", AIR_PCO_RA_123456789)
ENDSTRUCT

BEGIN_MSTRUCT("radio_prio", AIR_RADIO_PRIO_1)
    SET_COMP("radio_prio_val", 1)
ENDSTRUCT

BEGIN_MSTRUCT("ready_timer", AIR_READY_TIMER_10)
    SET_COMP("timer_unit", TIMER_2_SEC)
    SET_COMP("timer_value", 5)
ENDSTRUCT

BEGIN_MSTRUCT("nsapi", AIR_NSAPI_2)
    SET_COMP("nsapi_val", SMREG_NSAPI_2)
ENDSTRUCT

BEGIN_MSTRUCT("nsapi", AIR_NSAPI_8)
    SET_COMP("nsapi_val", SMREG_NSAPI_8)
ENDSTRUCT

BEGIN_MSTRUCT("nsapi", AIR_NSAPI_5)
    SET_COMP("nsapi_val", SMREG_NSAPI_5)
ENDSTRUCT

BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_GGSN_ACT_REJ)
    SET_COMP("sm_cause_val", GGSN_ACT_REJ)
ENDSTRUCT

BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_UNK_PDP)
    SET_COMP("sm_cause_val", UNK_PDP)
ENDSTRUCT

BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_LLC_OR_SNDP)
    SET_COMP("sm_cause_val", LLC_OR_SNDP)
ENDSTRUCT

BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_NET_FAIL)
    SET_COMP("sm_cause_val", NET_FAIL)
ENDSTRUCT

BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_INSUF_RES)
    SET_COMP("sm_cause_val", INSUF_RES)
ENDSTRUCT

BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_TI_INVALID)
    SET_COMP("sm_cause_val", TI_INVALID)
ENDSTRUCT

BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_MSG_T_NON_X)
    SET_COMP("sm_cause_val", MSG_T_NON_X)
ENDSTRUCT

BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_MSG_T_NOT_COMP)
    SET_COMP("sm_cause_val", MSG_T_NOT_COMP)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_MAND_INF_INVALID)
    SET_COMP("sm_cause_val", MAND_INF_INVALID)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_REGULAR)
    SET_COMP("sm_cause_val", REGULAR)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_UNSPEC)
    SET_COMP("sm_cause_val", UNSPEC)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("sm_cause", AIR_SM_CAUSE_QOS_NOT_ACC)
    SET_COMP("sm_cause_val", QOS_NOT_ACC)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("qos", AIR_QOS_1)
    SET_COMP("delay", DELAY_1)
    SET_COMP("reliability", RELY_3)
    SET_COMP("peak", PEAK_1000)
    SET_COMP("precedence", PRECED_HIGH)
    SET_COMP("mean", MEAN_100)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("qos", AIR_QOS_ACK)
    SET_COMP("delay", DELAY_1)
    SET_COMP("reliability", RELY_2)
    SET_COMP("peak", PEAK_1000)
    SET_COMP("precedence", PRECED_HIGH)
    SET_COMP("mean", MEAN_100)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("qos", AIR_QOS_SUBSCRIBED)
    SET_COMP("delay", DELAY_SUB)
    SET_COMP("reliability", RELY_SUB)
    SET_COMP("peak", PEAK_SUB)
    SET_COMP("precedence", PRECED_SUB)
    SET_COMP("mean", MEAN_SUB)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("qos", AIR_QOS_UNACCEPTABLE)
    SET_COMP("delay", DELAY_4)
    SET_COMP("reliability", RELY_3)
    SET_COMP("peak", PEAK_1000)
    SET_COMP("precedence", PRECED_HIGH)
    SET_COMP("mean", MEAN_100)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("sm_cause", SM_CAUSE_REGULAR)
    SET_COMP("sm_cause_val", REGULAR)
ENDSTRUCT
```

```
BEGIN_MSTRUCT("llc_sapi", LLC_SAPI_3)
    SET_COMP("sapi", SAPI_3)
ENDSTRUCT
```

/*

3.6 Primitive Structs

*/

```
BEGIN_PSTRUCT("snsm_qos", SNSM_QOS_0)
    SET_COMP("delay", SNSM_DELAY_1)
    SET_COMP("relclass", SNSM_RLC_PROT)
    SET_COMP("peak", SNSM_PEAK_1K)
    SET_COMP("preced", SNSM_PRIO_HIGH)
    SET_COMP("mean", SNSM_MEAN_100)
ENDSTRUCT
```

```
BEGIN_PSTRUCT("snsm_qos", SNSM_QOS_ACK)
    SET_COMP("delay", SNSM_DELAY_1)
    SET_COMP("relclass", SNSM_LLC_RLC_PROT)
    SET_COMP("peak", SNSM_PEAK_1K)
    SET_COMP("preced", SNSM_PRIO_HIGH)
    SET_COMP("mean", SNSM_MEAN_100)
ENDSTRUCT
```

```
BEGIN_PSTRUCT("smreg_apn", SMREG_APN_1234)
    SET_COMP("buffer", APN_1234_FIELD) /* this is not a valid apn */
ENDSTRUCT
```

```
BEGIN_PSTRUCT("smreg_apn", SMREG_APN_TEST)
    SET_COMP("buffer", APN_TEST_FIELD) /* this is a valid apn */
ENDSTRUCT
```

```
BEGIN_PSTRUCT("smreg_apn", SMREG_APN_EMPTY)
    SET_COMP("buffer", APN_EMPTY_FIELD) /* no APN requested */
ENDSTRUCT
```

```
BEGIN_PSTRUCT("smreg_apn", SMREG_APN_WELL_FORMED)
    SET_COMP("buffer", APN_WELL_FORMED_FIELD) /* this is a valid apn */
ENDSTRUCT
```

```
BEGIN_PSTRUCT("smreg_qos", SMREG_QOS_0)
    SET_COMP("delay", SMREG_DELAY_1)
    SET_COMP("relclass", SMREG_RLC_PROT)
    SET_COMP("peak", SMREG_PEAK_1K)
    SET_COMP("preced", SMREG_PRIO_HIGH)
    SET_COMP("mean", SMREG_MEAN_100)
ENDSTRUCT
```

```
BEGIN_PSTRUCT("smreg_qos", SMREG_QOS_ACK)
    SET_COMP("delay", SMREG_DELAY_1)
    SET_COMP("relclass", SMREG_LLC_RLC_PROT)
    SET_COMP("peak", SMREG_PEAK_1K)
    SET_COMP("preced", SMREG_PRIO_HIGH)
    SET_COMP("mean", SMREG_MEAN_100)
ENDSTRUCT
```

```
BEGIN_PSTRUCT("smreg_qos", SMREG_QOS_SUBSCRIBED)
    SET_COMP("delay", SNSM_DELAY_SUB)
    SET_COMP("relclass", SMREG_RELCLASS_SUB)
    SET_COMP("peak", SNSM_PEAK_SUB)
    SET_COMP("preced", SNSM_PRECED_SUB)
    SET_COMP("mean", SNSM_MEAN_SUB)
ENDSTRUCT
```



```
BEGIN_PSTRUCT("pdp_address", PDP_ADDRESS_DYN)
    SET_COMP("buff", ADDRESS_BUF_DYN)
ENDSTRUCT

BEGIN_PSTRUCT("pdp_address", PDP_ADDRESS_1)
    SET_COMP("buff", ADDRESS_BUF_1)
ENDSTRUCT

BEGIN_PSTRUCT("pdp_address", PDP_ADDRESS_2)
    SET_COMP("buff", ADDRESS_BUF_2)
ENDSTRUCT
```

4 TEST CASES

4.1 Routing (internal) (SM100)

4.1.1 SM100: Setup Routing and PCO View for SM Tests

Description:

Routings for SM tests are set.

Preamble:

None

SND/CP/GACI	SM	GMM
COMMAND (TAP RESET)		
COMMAND (MMI RESET)		
COMMAND (SND RESET)		
COMMAND (SM RESET)		
COMMAND (GMM RESET)		
COMMAND (TAP REDIRECT CLEAR)		
COMMAND (MMI REDIRECT CLEAR)		
COMMAND (SND REDIRECT CLEAR)		
COMMAND (SM REDIRECT CLEAR)		
COMMAND (GMM REDIRECT CLEAR)		
COMMAND (MMI REDIRECT SM NULL)		
COMMAND (SND REDIRECT SM NULL)		
COMMAND (GMM REDIRECT SM NULL)		
COMMAND (SM REDIRECT MMI TAP)		
COMMAND (SM REDIRECT SND TAP)		
COMMAND (SM REDIRECT GMM TAP)		
COMMAND (TAP REDIRECT TAP SM)		

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

History:

06-Nov-1999 HK Initial

4.2 Identified PDP context activation

4.2.1 SM201: PDP context activation, MS initiated, requested NSAPI not yet used

Description:

(MSC 3.1.1)

(SM 1)

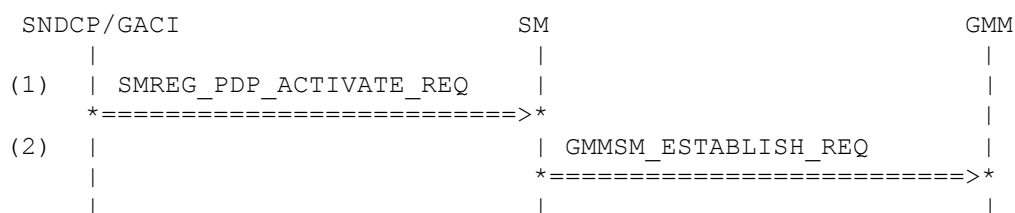
SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>, <R.SM.MS_CONT.M.001>. The requested NSAPI is not yet used <R.SM.MS_ACT_S.M.005>. ACI sends an SMREG_PDP_ACTIVATE_REQ to initiate a PDP context activation.

(LLC 1)

SM starts timer T3380 <R.SM.MS_ACT_S.M.003>. SM sends a GMMSM_ESTABLISH_REQ to force a setup of GMM connection <R.SM.MS_CONT.M.002>. (If the MS has already been attached GMM will just send back a confirmation.)

Preamble:

SM100



Parametrization:

Primitive	Parameter	Value
(1) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_2
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321

(2) GMMSM_ESTABLISH_REQ

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.2 SM202: PDP context activation, MS initiated, all possible 7 tis are used

Description:

(no MSC, multiplex issue)

(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. The user tries to activate all possible 7 MS initiated contexts.

(ACI 1)

SM sends a GMMSM_ESTABLISH_REQ for each attempt

Preamble:

SM100

	SNDCP/GACI	SM	GMM
(1)	SMREG_PDP_ACTIVATE_REQ *=====>*		
(2)		GMMSM_ESTABLISH_REQ *=====>*	
(3)	SMREG_PDP_ACTIVATE_REQ *=====>*		
(4)		GMMSM_ESTABLISH_REQ *=====>*	
(5)	SMREG_PDP_ACTIVATE_REQ *=====>*		
(6)		GMMSM_ESTABLISH_REQ *=====>*	
(7)	SMREG_PDP_ACTIVATE_REQ *=====>*		
(8)		GMMSM_ESTABLISH_REQ *=====>*	
(9)	SMREG_PDP_ACTIVATE_REQ *=====>*		
(10)		GMMSM_ESTABLISH_REQ *=====>*	
(11)	SMREG_PDP_ACTIVATE_REQ *=====>*		
(12)		GMMSM_ESTABLISH_REQ *=====>*	
(13)	SMREG_PDP_ACTIVATE_REQ *=====>*		
(14)		GMMSM_ESTABLISH_REQ *=====>*	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(1) SMREG_PDP_ACTIVATE_REQ

direc	DIREC_MO
ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_0
smreg_ti	TI_NOT_USED
pdp_address	PDP_ADDRESS_1
smreg_apn	SMREG_APN_TEST
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SMREG_HOME
sdu	PCO_987654321

(2) GMMSM_ESTABLISH_REQ

(3) SMREG_PDP_ACTIVATE_REQ

direc	DIREC_MO
ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_1
smreg_ti	TI_NOT_USED
pdp_address	PDP_ADDRESS_1
smreg_apn	SMREG_APN_TEST
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SMREG_HOME
sdu	PCO_987654321

(4) GMMSM_ESTABLISH_REQ

(5) SMREG_PDP_ACTIVATE_REQ

direc	DIREC_MO
ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_2
smreg_ti	TI_NOT_USED

	pdp_address smreg_apn dti_linkid dti_neighbor dti_direction sdu	PDP_ADDRESS_1 SMREG_APN_TEST DTI_LINKID_ABCD DTI_NEIGHBOR_ABCD SMREG_HOME PCO_987654321
(6) GMM SM_ESTABLISH_REQ		
(7) SMREG_PDP_ACTIVATE_REQ	direc ppp_hc msid dcomp SMREG_COMP_NEITHER_DIRECT hcomp SMREG_COMP_NEITHER_DIRECT pdp_type smreg_qos smreg_min_qos smreg_nsapi smreg_ti pdp_address smreg_apn dti_linkid dti_neighbor dti_direction sdu	DIREC_MO SMREG_VAN_NOT_USED MSID_0 PDP_TYPE_IP_V_4 SMREG_QOS_0 SMREG_QOS_0 SMREG_NSAPI_3 TI_NOT_USED PDP_ADDRESS_1 SMREG_APN_TEST DTI_LINKID_ABCD DTI_NEIGHBOR_ABCD SMREG_HOME PCO_987654321
(8) GMM SM_ESTABLISH_REQ		
(9) SMREG_PDP_ACTIVATE_REQ	direc ppp_hc msid dcomp SMREG_COMP_NEITHER_DIRECT hcomp SMREG_COMP_NEITHER_DIRECT pdp_type smreg_qos smreg_min_qos smreg_nsapi smreg_ti pdp_address smreg_apn dti_linkid dti_neighbor dti_direction sdu	DIREC_MO SMREG_VAN_NOT_USED MSID_0 PDP_TYPE_IP_V_4 SMREG_QOS_0 SMREG_QOS_0 SMREG_NSAPI_4 TI_NOT_USED PDP_ADDRESS_1 SMREG_APN_TEST DTI_LINKID_ABCD DTI_NEIGHBOR_ABCD SMREG_HOME PCO_987654321
(10) GMM SM_ESTABLISH_REQ		
(11) SMREG_PDP_ACTIVATE_REQ	direc ppp_hc	DIREC_MO SMREG_VAN_NOT_USED

msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_5
smreg_ti	TI_NOT_USED
pdp_address	PDP_ADDRESS_1
smreg_apn	SMREG_APN_TEST
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SMREG_HOME
sdu	PCO_987654321

(12) GMMSM_ESTABLISH_REQ

(13) SMREG_PDP_ACTIVATE_REQ

direc	DIREC_MO
ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_6
smreg_ti	TI_NOT_USED
pdp_address	PDP_ADDRESS_1
smreg_apn	SMREG_APN_TEST
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SMREG_HOME
sdu	PCO_987654321

(14) GMMSM_ESTABLISH_REQ

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.3 SM203: PDP context activation, MS initiated, requested NSAPI already used

Description:

(MSC 3.1.2)

(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. The requested NSAPI is already in use.

(ACI 1)

SM sends an SMREG_PDP_ACTIVATE_REJ to GMM with cause SMREG_RC_NSAPI_ALREADY_USED <R.SM.MS_ACT_S.M.005>.

Preamble:

SM201

	SNDCP/GACI	SM	GMM
(1)	SMREG_PDP_ACTIVATE_REQ		
	=====>		
(2)	SMREG_PDP_ACTIVATE_REJ		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_2
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321
(2) SMREG_PDP_ACTIVATE_REJ	smreg_cause	
	SMREG_RC_NSAPI_ALREADY_USED	
	smreg_nsapi	SMREG_NSAPI_2

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.4 SM204: PDP context activation, MS initiated, no more transaction identifiers available

Description:

(MSC 3.1.2)

(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. All available tfs are already in use.

(ACI 1)

SM sends an SMREG_PDP_ACTIVATE_REJ to GMM with cause SMREG_RC_INSUF_RES <R.SM.MS_ACT_S.M.005>.

Preamble:

SM100

SNDCP/GACI	SM	GMM
(1) SMREG_PDP_ACTIVATE_REQ		
=====>		
(2)	GMMSM_ESTABLISH_REQ	
	=====>	
(3) SMREG_PDP_ACTIVATE_REQ		
=====>		
(4)	GMMSM_ESTABLISH_REQ	
	=====>	
(5) SMREG_PDP_ACTIVATE_REQ		
=====>		
(6)	GMMSM_ESTABLISH_REQ	
	=====>	
(7) SMREG_PDP_ACTIVATE_REQ		
=====>		
(8)	GMMSM_ESTABLISH_REQ	
	=====>	
(9) SMREG_PDP_ACTIVATE_REQ		
=====>		
(10)	GMMSM_ESTABLISH_REQ	
	=====>	
(11) SMREG_PDP_ACTIVATE_REQ		
=====>		
(12)	GMMSM_ESTABLISH_REQ	
	=====>	
(13) SMREG_PDP_ACTIVATE_REQ		
=====>		
(14)	GMMSM_ESTABLISH_REQ	
	=====>	
(15) SMREG_PDP_ACTIVATE_REQ		
=====>		
(16) SMREG_PDP_ACTIVATE_REJ		
<=====		

Parametrization:

Primitive	Parameter	Value
(1) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_0
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321
(2) GMMSM_ESTABLISH_REQ		
(3) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_1
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321
(4) GMMSM_ESTABLISH_REQ		
(5) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0

	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_2
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321
(6) GMMSM_ESTABLISH_REQ		
(7) SMREG_PDP_ACTIVATE_REQ		
	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_3
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321
(8) GMMSM_ESTABLISH_REQ		
(9) SMREG_PDP_ACTIVATE_REQ		
	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_4
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321
(10) GMMSM_ESTABLISH_REQ		

(11) SMREG_PDP_ACTIVATE_REQ

direc	DIREC_MO
ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_5
smreg_ti	TI_NOT_USED
pdp_address	PDP_ADDRESS_1
smreg_apn	SMREG_APN_TEST
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SMREG_HOME
sdu	PCO_987654321

(12) GMMSM_ESTABLISH_REQ

(13) SMREG_PDP_ACTIVATE_REQ

direc	DIREC_MO
ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_6
smreg_ti	TI_NOT_USED
pdp_address	PDP_ADDRESS_1
smreg_apn	SMREG_APN_TEST
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SMREG_HOME
sdu	PCO_987654321

(14) GMMSM_ESTABLISH_REQ

(15) SMREG_PDP_ACTIVATE_REQ

direc	DIREC_MO
ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_7
smreg_ti	TI_NOT_USED

pdp_address	PDP_ADDRESS_1
smreg_apn	SMREG_APN_TEST
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SMREG_HOME
sdu	PCO_987654321

(16) SMREG_PDP_ACTIVATE_REJ

smreg_cause	SMREG_RC_INSUF_RES
smreg_nsapi	SMREG_NSAPI_7

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.5 SM205: PDP context activation, MS initiated, GMM attach rejected

Description:

(not mentioned in MSCs)

(SM 1)

A pdp context is in state CO_AWAIT_GMMSM_ESTABLISH_CNF. Instead of an expected GMMSM_ESTABLISH_CNF a GMMSM_ESTABLISH_REJ is received. The NSAPI of the pending context has number 0.

(ACI 1)

SM sends an SMREG_PDP_ACTIVATE_REJ to GMM with the cause given in the reject primitive and NSAPI number 0.

Preamble:

SM201

	SNDCP/GACI	SM	GMM
(1)			
		GMMSM_ESTABLISH_REJ	
		* <=====*	
(2)	SMREG_PDP_ACTIVATE_REJ		
	* <=====*		

Parametrization:

	Primitive	Parameter	Value
(1) GMMSM_ESTABLISH_REJ		sm_cause	SM_ERRCS_NET_FAIL
(2) SMREG_PDP_ACTIVATE_REJ		smreg_cause	SM_ERRCS_NET_FAIL
		smreg_nsapi	SMREG_NSAPI_2

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.6 SM206: PDP context activation, MS initiated, GMM attach rejected, multiple contexts waiting

Description:

(not mentioned in MSCs)

(SM 1)

A pdp context is in state CO_AWAIT_GMMSM_ESTABLISH_CNF. Instead of an expected GMMSM_ESTABLISH_CNF a GMMSM_ESTABLISH_REJ is received. The NSAPIs of the pending contexts have numbers 0...7.

(ACI 1...)

SM sends an SMREG_PDP_ACTIVATE_REJ to GMM with the cause given in the reject primitive and NSAPI numbers for all affected contexts.

Preamble:

SM202

SNDCP/GACI	SM	GMM
(1)	GMMSM_ESTABLISH_REJ	
	<=====	
(2) SMREG_PDP_ACTIVATE_REJ		
<=====		
(3) SMREG_PDP_ACTIVATE_REJ		
<=====		
(4) SMREG_PDP_ACTIVATE_REJ		
<=====		
(5) SMREG_PDP_ACTIVATE_REJ		
<=====		
(6) SMREG_PDP_ACTIVATE_REJ		
<=====		
(7) SMREG_PDP_ACTIVATE_REJ		
<=====		
(8) SMREG_PDP_ACTIVATE_REJ		
<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_ESTABLISH_REJ	sm_cause	SM_ERRCS_NET_FAIL

(2) SMREG_PDP_ACTIVATE_REJ	smreg_cause smreg_nsapi	SM_ERRCS_NET_FAIL SMREG_NSAPI_0
(3) SMREG_PDP_ACTIVATE_REJ	smreg_cause smreg_nsapi	SM_ERRCS_NET_FAIL SMREG_NSAPI_1
(4) SMREG_PDP_ACTIVATE_REJ	smreg_cause smreg_nsapi	SM_ERRCS_NET_FAIL SMREG_NSAPI_2
(5) SMREG_PDP_ACTIVATE_REJ	smreg_cause smreg_nsapi	SM_ERRCS_NET_FAIL SMREG_NSAPI_3
(6) SMREG_PDP_ACTIVATE_REJ	smreg_cause smreg_nsapi	SM_ERRCS_NET_FAIL SMREG_NSAPI_4
(7) SMREG_PDP_ACTIVATE_REJ	smreg_cause smreg_nsapi	SM_ERRCS_NET_FAIL SMREG_NSAPI_5
(8) SMREG_PDP_ACTIVATE_REJ	smreg_cause smreg_nsapi	SM_ERRCS_NET_FAIL SMREG_NSAPI_6

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.7 SM207: PDP context activation, MS initiated, new attach accepted by the network or MS already attached

Description:

(MSC 3.1.3)
(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>, but has sent a GMMSM_ESTABLISH_REQ to initiate a new GMM connection. The MS has already been attached or the network has sent the ATTACH ACCEPT message to the MS, the indirect attach was successful. GMM sends a GMMSM_ESTABLISH_CNF <R.SM.MS_CONT.M.003>. Now session management can proceed with PDP context activation.

(GMM 1)

SM sends an ACTIVATE_PDP_CONTEXT_REQ message to activate the requested PDP context <R.SM.MS_ACT_S.M.001>, <R.SM.MS_CONT.M.004> and changes to state PDP_ACTIVE_PENDING

<R.SM.PDP_A_P.M.001>, <R.SM.MS_ACT_S.M.002>. The message contains the selected NSAPI, PDP type and, if the MS requests a static address, the PDP address <R.SM.MS_ACT_S.M.004>.

Preamble:

SM201

SNDCP/GACI	SM	GMM
(1)	GMMSM_ESTABLISH_CNF	
	* <=====*	
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_ESTABLISH_CNF		
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti nsapi llc_sapi qos address apn pco }	SM UPLINK ACTIVATE_PDP_REQ TI_0 AIR_NSAPI_2 AIR_LLC_SAPI_3 AIR_QOS_1 AIR_ADDRESS_1 AIR_APN_TEST AIR_PCO_987654321

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.8 SM208: PDP context activation, MS initiated, new attach accepted, multiple instances

Description:

(MSC 3.1.3 with multiple instances)
(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>, but has sent a GMMSM_ESTABLISH_REQ to initiate a new GMM connection. The MS has already been attached or the network has sent the ATTACH ACCEPT message to the MS, the indirect attach was successful. GMM sends a GMMSM_ESTABLISH_CNF <R.SM.MS_CONT.M.003>. Now session management can proceed with PDP context activation.

(GMM 1)

SM sends an ACTIVATE_PDP_CONTEXT_REQ message to activate the requested PDP context <R.SM.MS_ACT_S.M.001>, <R.SM.MS_CONT.M.004> and changes to state PDP_ACTIVE_PENDING <R.SM.PDP_A_P.M.001>, <R.SM.MS_ACT_S.M.002>. The message contains the selected NSAPI, PDP type and, if the MS requests a static address, the PDP address <R.SM.MS_ACT_S.M.004>.

Preamble:

SM202

SNDCP/GACI	SM	GMM
(1)	GMMSM_ESTABLISH_CNF	
	* <=====*	
(2)	GMMSM_UNITDATA_REQ	
	=====>*	
(3)	GMMSM_UNITDATA_REQ	
	=====>*	
(4)	GMMSM_UNITDATA_REQ	
	=====>*	
(5)	GMMSM_UNITDATA_REQ	
	=====>*	
(6)	GMMSM_UNITDATA_REQ	
	=====>*	
(7)	GMMSM_UNITDATA_REQ	
	=====>*	
(8)	GMMSM_UNITDATA_REQ	
	=====>*	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_ESTABLISH_CNF		
(2) GMMSM_UNITDATA_REQ	sdu	NOT_USED
(3) GMMSM_UNITDATA_REQ	sdu	NOT_USED
(4) GMMSM_UNITDATA_REQ	sdu	NOT_USED
(5) GMMSM_UNITDATA_REQ	sdu	NOT_USED
(6) GMMSM_UNITDATA_REQ	sdu	NOT_USED
(7) GMMSM_UNITDATA_REQ	sdu	NOT_USED

(8) GMMSM_UNITDATA_REQ

sdu

NOT_USED

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.9 SM209: PDP context activation, receiving ACTIVATE_PDP_CONTEXT_ACCEPT

Description:

(MSC 3.1.4)

(SM 1)

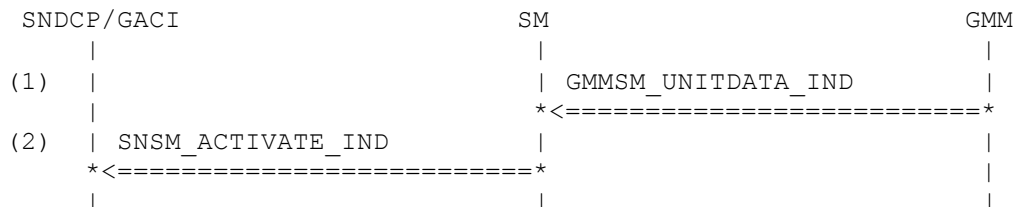
SM is in state PDP_ACTIVE_PENDING <R.SM.PDP_A_P.M.001>. SM receives an ACTIVATE_PDP_CONTEXT_ACCEPT message indicating that the MS indicated PDP context activation succeeded <R.SM.MS_ACT_S.M.009>, <R.SM.MS_CONT.M.009>.

(SND CP 1)

SM stops timer T3380 <R.SM.MS_ACT_S.M.010>, <R.SM.MS_CONT.M.010>. SM changes to state PDP_ACTIVE <R.SM.PDP_ACT.M.011>, <R.SM.MS_ACT_S.M.009>. SM sends an SNSM_ACTIVATE_IND to SND CP <R.SM.MS_CONT.M.011>.

Preamble:

SM207



Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti llc_sapi qos radio_prio address pco }	SM DOWNLINK ACTIVATE_PDP_ACC TI_8 LLC_SAPI_3 AIR_QOS_1 AIR_RADIO_PRIO_1 AIR_ADDRESS_1 AIR_PCO_123456789
(2) SNSM_ACTIVATE_IND	tlfi	NOT_USED

nsapi	NSAPI_2
snsn_qos	SNSM_QOS_0
sapi	SAPI_3
radio_prio	SNSM_RADIO_PRIO_1
ppp_hc	SMREG_VAN_NOT_USED
msid	NOT_USED
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SNSM_HOME

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.2.10 SM210: PDP context activation, NSAPI now in use

Description:

(MSC 3.1.5)

(SM 1)

SM is in state PDP_ACTIVE <R.SM.PDP_ACT.M.001> and SNDCP has sent an SNSM_ACTIVATE_RES to inform the SM entity that the indicated NSAPI is now in use and that the acknowledged peer-to-peer LLC operation for the indicated SAPI is established, if necessary <R.SM.MS_CONT.M.012>.

(ACI 1)

SM sends an SMREG_PDP_ACTIVATE_CNF to ACI to confirm that the PDP context is active <R.SM.MS_CONT.M.013>.

Preamble:

SM209

SNDCP/GACI	SM	GMM
(1) SNSM_ACTIVATE_RES		
=====>		
(2) SMREG_PDP_ACTIVATE_CNF		
<=====		

Parametrization:

Primitive	Parameter	Value
(1) SNSM_ACTIVATE_RES	ti	NOT_USED
	nsapi	SNSM_NSAPI_2
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0

dcomp
SMREG_COMP_NEITHER_DIRECT
hcomp
SMREG_COMP_NEITHER_DIRECT

(2) SMREG_PDP_ACTIVATE_CNF

ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_2
pdp_address	PDP_ADDRESS_1
sdu	PCO_123456789

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.11 SM211: PDP context activation, timer expiring up to four times

Description:

(MSC 3.1.9)

(GMM 1)

SM is in state PDP_ACTIVE_PENDING. Instead of receiving the expected ACTIVATE_PDP_CONTEXT_ACCEPT message the timer T3380 expires (for a first, second, third or fourth time) <R.SM.ACT_ABNO.M.001>. Then the MS resends the ACTIVATE_PDP_CONTEXT_REQ message <R.SM.ACT_ABNO.M.002> and resets and restarts T3380 <R.SM.ACT_ABNO.M.003>.

Preamble:

SM207

SNDCP/GACI	SM	GMM
TIMEOUT (30000)		
(1)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(1) GMMSM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK

		pd	ACTIVATE_PDP_REQ
		ti	TI_0
		nsapi	AIR_NSAPI_2
		llc_sapi	AIR_LLC_SAPI_3
		qos	AIR_QOS_1
		address	AIR_ADDRESS_1
		apn	AIR_APN_TEST
		pco	AIR_PCO_987654321
		}	
History:			
	12-Nov-1999	HK	Initial
	11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.12 SM212: PDP context activation, timer expiring for the fifth time

Description:

(MSC 3.1.10)

(GMM 1)

SM is in state PDP_ACTIVE_PENDING. Instead of receiving the expected ACTIVATE_PDP_CONTEXT_ACCEPT message the timer T3380 expires for the fifth time <R.SM.ACT_ABNO.M.004>. Then the MS releases all resources possibly allocated for this invocation <R.SM.ACT_ABNO.M.005> and aborts the procedure without re-attempting to activate the context <R.SM.ACT_ABNO.M.006>.

(ACI 1)

SM sends an SMREG_PDP_ACTIVATE_REJ with cause "Network failure". [HK: primitive not explicitly mentioned in GSM 4.08, 6.1.3.1.5, cause "Network failure" is just assumed here.].

Preamble:

SM207

SND/CP/GACI	SM	GMM
TIMEOUT (30000)		
(1)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (30000)		
(2)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (30000)		
(3)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (30000)		
(4)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (30000)		
(5) SMREG_PDP_ACTIVATE_REJ		
<=====		

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(1) GMM SM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 ACTIVATE_PDP_REQ
  ti                 TI_0
  nsapi              AIR_NSAPI_2
  llc_sapi            AIR_LLC_SAPI_3
  qos                AIR_QOS_1
  address            AIR_ADDRESS_1
  apn                 AIR_APN_TEST
  pco                AIR_PCO_987654321
}
```

(2) GMM SM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 ACTIVATE_PDP_REQ
  ti                 TI_0
  nsapi              AIR_NSAPI_2
  llc_sapi            AIR_LLC_SAPI_3
  qos                AIR_QOS_1
  address            AIR_ADDRESS_1
  apn                 AIR_APN_TEST
  pco                AIR_PCO_987654321
}
```

(3) GMM SM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 ACTIVATE_PDP_REQ
  ti                 TI_0
  nsapi              AIR_NSAPI_2
  llc_sapi            AIR_LLC_SAPI_3
  qos                AIR_QOS_1
  address            AIR_ADDRESS_1
  apn                 AIR_APN_TEST
  pco                AIR_PCO_987654321
}
```

(4) GMM SM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 ACTIVATE_PDP_REQ
  ti                 TI_0
  nsapi              AIR_NSAPI_2
  llc_sapi            AIR_LLC_SAPI_3
  qos                AIR_QOS_1
  address            AIR_ADDRESS_1
  apn                 AIR_APN_TEST
  pco                AIR_PCO_987654321
}
```

(5) SMREG_PDP_ACTIVATE_REJ

smreg_cause
SMREG_RC_NETWORK_FAILURE
smreg_nsapi SMREG_NSAPI_2

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.13 SM213: PDP context activation, network initiated

Description:

(MSC 3.1.7)

(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. SM receives a REQUEST_PDP_CONTEXT_ACTIVATION message to be informed about a network initiated PDP context activation <R.SM.N_ACT_S.M.003>, <R.SM.NET_CONT.M.004>.

(ACI 1)

SM sends an SMREG_PDP_ACTIVATE_IND to inform ACI about the requested connection. <R.SM.NET_CONT.M.005>.

Preamble:

SM100

	SNDCP/GACI	SM	GMM
(1)		GMMSM_UNITDATA_IND	
		<=====	
(2)	SMREG_PDP_ACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti address apn }	SM DOWNLINK REQ_PDP_ACT TI_0 AIR_ADDRESS_1 AIR_APN_WELL_FORMED
(2) SMREG_PDP_ACTIVATE_IND	smreg_qos smreg_ti smreg_apn SMREG_APN_WELL_FORMED pdp_type	NOT_USED TI_8 PDP_TYPE_IP_V_4

pdp_address

PDP_ADDRESS_1

History:

10-May-2000	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.2.14 SM214: PDP context activation, network initiated, ACI accepts

Description:

(MSC 3.1.8)

(SM 1)

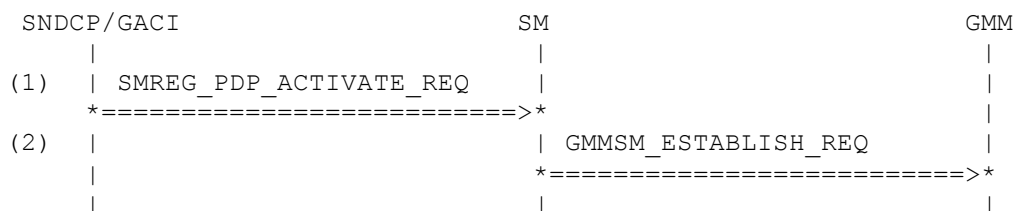
SM has sent an SMREG_PDP_ACTIVATE_IND to ACI and receives an SMREG_PDP_ACTIVATE_REQ <R.SM.NET_CONT.M.006>.

(GMM 1)

SM starts timer3380 and sends GMMSM_ESTABLISH_REQ

Preamble:

SM213



Parametrization:

Primitive	Parameter	Value
(1) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MT
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_5
	smreg_ti	TI_8
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321

(2) GMMSM_ESTABLISH_REQ

History:

10-May-2000	HK	Initial
04-Oct-2000	HK	Replaced NOT_USEDs.
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.
08-Feb-2001	HK	GMMSM_UNITDATA_REQ replaced by GMMSM_ESTABLISH_REQ.

4.2.15 SM229: PDP context activation, network initiated, ACI accepts

Description:

(MSC 3.1.8)

(SM 1)

SM has sent an SMREG_PDP_ACTIVATE_IND to ACI and receives an SMREG_PDP_ACTIVATE_REQ <R.SM.NET_CONT.M.006>.

(GMM 1)

SM starts timer3380 <R.SM.NET_CONT.M.007>. SM sends an ACTIVATE_PDP_CONTEXT_REQ message and changes to state PDP_ACTIVE_PENDING <R.SM.PDP_A_P.M.001>, <R.SM.NET_CONT.M.008>. The ACTIVATE_PDP_CONTEXT_REQ message sent by the MS in order to initiate the PDP context activation shall contain the PDP address requested by the network in the REQUEST_PDP_CONTEXT_ACTIVATION message <R.SM.N_ACT_S.M.007>. The rest of the activation procedure is the same for MS initiated and network initiated context activation. <R.SM.N_ACT_S.A.009>

Preamble:

SM214

SND/CP/GACI	SM	GMM
(1)	GMMSM_ESTABLISH_CNF	
	* <=====*	
(2)	GMMSM_UNITDATA_REQ	
	* =====>*	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_ESTABLISH_CNF		
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	ACTIVATE_PDP_REQ
	ti	TI_8
	nsapi	AIR_NSAPI_5
	llc_sapi	AIR_LLC_SAPI_3
	qos	AIR_QOS_1
	address	AIR_ADDRESS_1


```

apn
pco
}
AIR_APN_TEST
AIR_PCO_987654321

```

History:

10-May-2000	HK	Initial
04-Oct-2000	HK	Replaced NOT_USEDs.
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.2.16 SM216: Receiving ACTIVATE_PDP_CONTEXT_ACCEPT after collision

Description:

(similar to SM209)
There has been a collision of MS and MT context activation. The MT activation was discarded and the accept from the network is expected. Now in this case this accept arrives.

Preamble:

SM803a

	SNDCP/GACI	SM	GMM
(1)		GMMSM_UNITDATA_IND	
		<=====	
(2)	SNSM_ACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	ACTIVATE_PDP_ACC
	ti	TI_8
	llc_sapi	LLC_SAPI_3
	qos	AIR_QOS_1
	radio_prio	AIR_RADIO_PRIO_1
	address	AIR_ADDRESS_1
	pco	AIR_PCO_123456789
	}	
(2) SNSM_ACTIVATE_IND	lli	NOT_USED
	nsapi	NSAPI_2
	snsn_qos	SNSM_QOS_0
	sapi	SAPI_3
	radio_prio	SNSM_RADIO_PRIO_1
	ppp_hc	SMREG_VAN_NOT_USED
	msid	NOT_USED

dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SNSM_HOME

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.2.17 SM217: GMM establishment requested, timer expiring for the fifth time

Description:

In preamble 201 a first GMMSM_ESTABLISH_REQ has been sent, but not been confirmed. Now 4 other requestes are also not confirmed and the context activation is rejected.

Preamble:

SM201

SNDCP/GACI	SM	GMM
TIMEOUT (30000)		
(1)	GMMSM_ESTABLISH_REQ	
	=====>	
TIMEOUT (30000)		
(2)	GMMSM_ESTABLISH_REQ	
	=====>	
TIMEOUT (30000)		
(3)	GMMSM_ESTABLISH_REQ	
	=====>	
TIMEOUT (30000)		
(4)	GMMSM_ESTABLISH_REQ	
	=====>	
TIMEOUT (30000)		
(5) SMREG_PDP_ACTIVATE_REJ		
<=====		

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

- (1) GMMSM_ESTABLISH_REQ
- (2) GMMSM_ESTABLISH_REQ
- (3) GMMSM_ESTABLISH_REQ
- (4) GMMSM_ESTABLISH_REQ

(5) SMREG_PDP_ACTIVATE_REJ

smreg_cause
SMREG_RC_NETWORK_FAILURE
smreg_nsapi SMREG_NSAPI_2

History:

12-Oct-2000 HK Initial

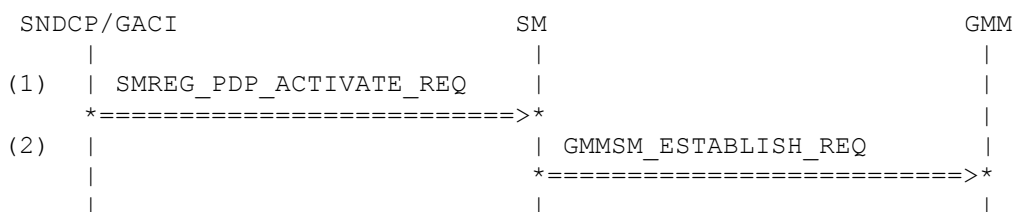
4.2.18 SM218: PDP context activation, requested QoS “subscribed”

Description:

A context is requested by the user. The special issue of this case is to test the correct handling of “subscribed” QoS parameters: if the user requests subscribed QoS parameters, any answer from the net shall to be accepted. In this case the requested QoS is set to subscribed values.

Preamble:

SM100



Parametrization:

Primitive	Parameter	Value
(1) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	SMREG_COMP_NEITHER_DIRECT
	hcomp	SMREG_COMP_NEITHER_DIRECT
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_SUBSCRIBED
	smreg_min_qos	SMREG_QOS_SUBSCRIBED
	smreg_nsapi	SMREG_NSAPI_2
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321

(2) GMMSM_ESTABLISH_REQ

History:

17-Nov-2000 HK Initial

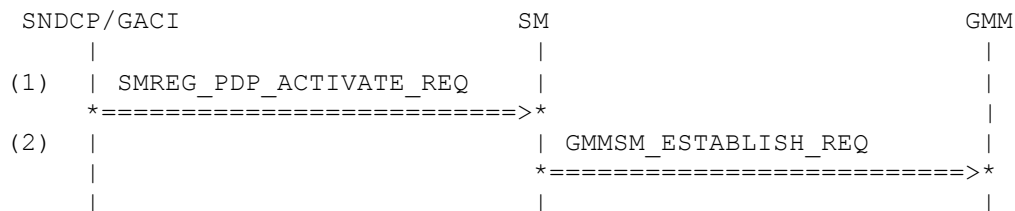
4.2.19 SM219: PDP context activation, minimum QoS “subscribed”

Description:

A context is requested by the user. The special issue of this case is to test the correct handling of “subscribed” QoS parameters: if the user requests subscribed QoS parameters, any answer from the net shall to be accepted. In this case the minimum QoS is set to subscribed values.

Preamble:

SM100



Parametrization:

Primitive	Parameter	Value
(3) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_SUBSCRIBED
	smreg_nsapi	SMREG_NSAPI_2
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321
(4) GMMSM_ESTABLISH_REQ		

History:

17-Nov-2000 HK Initial

4.2.20 SM220: PDP context activation, MS initiated, new attach accepted by the network or MS already attached

Description:

A context activation has been requested by the user. The quality of service has “subscribed” values for <A> the requested and minimum QoS or the minimum QoS.

Variants:

<A>...

Preamble:

<A>SM218
SM219

SNDCP/GACI	SM	GMM
(1)	GMMSM_ESTABLISH_CNF	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_ESTABLISH_CNF		
(2) GMMSM_UNITDATA_REQ		
	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	ACTIVATE_PDP_REQ
	ti	TI_0
	nsapi	AIR_NSAPI_2
	llc_sapi	AIR_LLC_SAPI_3
<A>	qos	AIR_QOS_SUBSCRIBED
	qos	AIR_QOS_1
	address	AIR_ADDRESS_1
	apn	AIR_APN_TEST
	pco	AIR_PCO_987654321
	}	

History:

17-Nov-2000 HK Initial

4.2.21 SM221: PDP context activation, requested QoS “subscribed”receiving ACTIVATE_PDP_CONTEXT_ACCEPT

Description:

A context activation with requested QoS set to “subscribed” values has been requested by SMREG user. The network responds with a set of QoS values which must be accepted because the requested QoS was all “subscribed”

Preamble:

SM220A

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	SNSM_ACTIVATE_IND	
	<=====	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti llc_sapi qos radio_prio address pco }	SM DOWNLINK ACTIVATE_PDP_ACC TI_8 LLC_SAPI_3 AIR_QOS_1 AIR_RADIO_PRIO_1 AIR_ADDRESS_1 AIR_PCO_123456789
(2) SNSM_ACTIVATE_IND	tlli nsapi snsm_qos sapi radio_prio ppp_hc msid dcomp SMREG_COMP_NEITHER_DIRECT hcomp SMREG_COMP_NEITHER_DIRECT dti_linkid dti_neighbor	NOT_USED NSAPI_2 SNSM_QOS_0 SAPI_3 SNSM_RADIO_PRIO_1 SMREG_VAN_NOT_USED NOT_USED DTI_LINKID_ABCD DTI_NEIGHBOR_ABCD

dti_direction

SNSM_HOME

History:

17-Nov-2000	HK	Initial
24-Nov-2000	HK	Improved ti handling.

4.2.22 SM222: PDP context activation, network initiated, ACI does not accept

Description:

An MT context activation has been indicated to ACI. ACI does not accept. SM sends a REQ_PDP_ACT_REJ message to the network.

Note: SMREG_PDP_ACTIVATE_RES will be renamed to SMREG_PDP_ACT_REJ_RES when changes from Aalborg are submitted!!!

Preamble:

SM213

	SNDCP/GACI	SM	GMM
(1)	SMREG_PDP_ACTIVATE_RES		
	=====>		
(2)		GMMSM_UNITDATA_REQ	
		=====>	

Parametrization:

Primitive	Parameter	Value
(1) SMREG_PDP_ACTIVATE_RES	smreg_ti	TI_8
	smreg_cause	SMREG_RC_INSUF_RES
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	REQ_PDP_ACT_REJ
	ti	TI_8
	sm_cause	
	AIR_SM_CAUSE_INSUF_RES	
	}	

History:

04-Jan-2001 HK Initial

4.2.23 SM223: PDP context activation, NSAPI now in use

Description:

In preamble SM210 an unacknowledged context for NSAPI 2 has been successfully activated. Now in this case a second context for NSAPI 8 is activated, but this time one with acknowledged LLC operation mode.

Preamble:

SM210

	SNDCP/GACI	SM	GMM
(1)	SMREG_PDP_ACTIVATE_REQ		
	=====>		
(2)		GMMSM_ESTABLISH_REQ	
		=====>	
(1)		GMMSM_ESTABLISH_CNF	
		<=====	
(2)		GMMSM_UNITDATA_REQ	
		=====>	
(1)		GMMSM_UNITDATA_IND	
		<=====	
(2)	SNSM_ACTIVATE_IND		
	<=====		
(1)	SNSM_ACTIVATE_RES		
	=====>		
(2)	SMREG_PDP_ACTIVATE_CNF		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_ACK
	smreg_min_qos	SMREG_QOS_ACK
	smreg_nsapi	SMREG_NSAPI_8
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_2
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321

(2) GMMSM_ESTABLISH_REQ

(3) GMMSM_ESTABLISH_CNF

(4) GMMSM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 ACTIVATE_PDP_REQ
  ti                 TI_1
  nsapi              AIR_NSAPI_8
  llc_sapi            AIR_LLC_SAPI_3
  qos                AIR_QOS_ACK
  address             AIR_ADDRESS_2
  apn                 AIR_APN_TEST
  pco                 AIR_PCO_987654321
}
```

(5) GMMSM_UNITDATA_IND

```
sdu
{
  component          SM
  direction          DOWNLINK
  pd                 ACTIVATE_PDP_ACC
  ti                 TI_9
  llc_sapi            LLC_SAPI_3
  qos                AIR_QOS_ACK
  radio_prio          AIR_RADIO_PRIO_1
  address             AIR_ADDRESS_2
  pco                 AIR_PCO_123456789
}
```

(6) SNSM_ACTIVATE_IND

```
tti                 NOT_USED
nsapi                NSAPI_8
snsm_qos              SNSM_QOS_ACK
sapi                  SAPI_3
radio_prio            SNSM_RADIO_PRIO_1
ppp_hc                SMREG_VAN_NOT_USED
msid                  NOT_USED
dcomp                 SMREG_COMP_NEITHER_DIRECT
hcomp                 SMREG_COMP_NEITHER_DIRECT
dti_linkid             DTI_LINKID_ABCD
dti_neighbor           DTI_NEIGHBOR_ABCD
dti_direction          SNSM_HOME
```

(7) SNSM_ACTIVATE_RES

```
tti                 NOT_USED
nsapi                SNSM_NSAPI_8
ppp_hc                SMREG_VAN_NOT_USED
msid                  MSID_0
dcomp                 SMREG_COMP_NEITHER_DIRECT
```

hcomp
SMREG_COMP_NEITHER_DIRECT

(8) SMREG_PDP_ACTIVATE_CNF

ppp_hc	SMREG_VAN_NOT_USED
msid	MSID_0
dcomp	
SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_ACK
smreg_nsapi	SMREG_NSAPI_8
pdp_address	PDP_ADDRESS_2
sdu	PCO_123456789

History:

08-Jan-2001	HK	Initial
-------------	----	---------

4.2.24 SM224: PDP context activation, receiving ACTIVATE_PDP_CONTEXT_REJECT

Description:

After reception of an ACTIVATE_PDP_CONTEXT_REJECT the activation is rejected.
.

Preamble:

SM207

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2) SMREG_PDP_ACTIVATE_REJ		
<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	ACTIVATE_PDP_REJ
	ti	TI_8
	sm_cause	
	AIR_SM_CAUSE_GGSN_ACT_REJ	
	pcp	AIR_PCO_123456789
	}	

(2) SMREG_PDP_ACTIVATE_REJ

smreg_cause
SMREG_RC_GGSN_ACT_REJ
smreg_nsapi SMREG_NSAPI_2

History:

18-Jan-2001 HK Initial

4.2.25 SM226: PDP context activation, MS initiated, header compression

Description:

Like test case 201, but with header compression

Preamble:

SM100

	SNDCP/GACI	SM	GMM
(1)	SMREG_PDP_ACTIVATE_REQ		
	=====>		
(2)		GMMSM_ESTABLISH_REQ	
		=====>	

Parametrization:

Primitive	Parameter	Value
(1) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_4
	dcomp	SMREG_COMP_NEITHER_DIRECT
	hcomp	SMREG_COMP_BOTH_DIRECT
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_2
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321

(2) GMMSM_ESTABLISH_REQ

History:

02-Feb-2001 HK Initial

4.2.26 SM227: PDP context activation, MS initiated, new attach accepted by the network or MS already attached, header compression

Description:

Like test case 207, but with header compression

Preamble:

SM226

SNDP/GACI	SM	GMM
(1)	GMMSM_ESTABLISH_CNF	
	*<=====	*
(2)	GMMSM_UNITDATA_REQ	
	*=====>	*

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(1) GMMSM_ESTABLISH_CNF

(2) GMMSM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK
pd	ACTIVATE_PDP_REQ
ti	TI_0
nsapi	AIR_NSAPI_2
llc_sapi	AIR_LLC_SAPI_3
qos	AIR_QOS_1
address	AIR_ADDRESS_1
apn	AIR_APN_TEST
pco	AIR_PCO_987654321
}	

History:

02-Feb-2001 HK Initial

4.2.27 SM228: PDP context activation, receiving ACTIVATE_PDP_CONTEXT_ACCEPT, header compression

Description:

Like test case 209, but with header compression

Preamble:

SM227

	SNDCP/GACI	SM	GMM
(1)			
		GMMSM_UNITDATA_IND	
		<=====	
(2)	SNSM_ACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti llc_sapi qos radio_prio address pco }	SM DOWNLINK ACTIVATE_PDP_ACC TI_8 LLC_SAPI_3 AIR_QOS_1 AIR_RADIO_PRIO_1 AIR_ADDRESS_1 AIR_PCO_123456789
(2) SNSM_ACTIVATE_IND	tl nsapi snsm_qos sapi radio_prio ppp_hc msid dcomp SMREG_COMP_NEITHER_DIRECT hcomp SMREG_COMP_BOTH_DIRECT dti_linkid dti_neighbor dti_direction	NOT_USED NSAPI_2 SNSM_QOS_0 SAPI_3 SNSM_RADIO_PRIO_1 SMREG_VAN_NOT_USED MSID_4 DTI_LINKID_ABCD DTI_NEIGHBOR_ABCD SNSM_HOME

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.2.28 SM230: PDP context activation, receiving ACTIVATE_PDP_CONTEXT_ACCEPT

Description:

Like SM209, but in the SMREG_PDP_ACTIVATE_REQ PDP_ADDRESS_1 was requested and the ACTIVATE_PDP_ACC comes back with PDP_ADDRESS_2. In SM209 the requested address was the same as the accepted one.

Preamble:

SM207

	SNDCP/GACI	SM	GMM
(1)			
		GMMSM_UNITDATA_IND	
		<=====	
(2)	SNSM_ACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(3) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	ACTIVATE_PDP_ACC
	ti	TI_8
	llc_sapi	LLC_SAPI_3
	qos	AIR_QOS_1
	radio_prio	AIR_RADIO_PRIO_1
	address	AIR_ADDRESS_2
	pco	AIR_PCO_123456789
	}	
(4) SNSM_ACTIVATE_IND	tl	NOT_USED
	nsapi	NSAPI_2
	snsn_qos	SNSM_QOS_0
	sapi	SAPI_3
	radio_prio	SNSM_RADIO_PRIO_1
	ppp_hc	SMREG_VAN_NOT_USED
	msid	NOT_USED
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	

hcomp	
SMREG_COMP_NEITHER_DIRECT	
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SNSM_HOME

History:

19-Apr-2001	HK	Initial
-------------	----	---------

4.2.29 SM231: PDP context activation, NSAPI now in use

Description:

Like SM209, but in the SMREG_PDP_ACTIVATE_REQ PDP_ADDRESS_1 was requested and the ACTIVATE_PDP_ACC comes back with PDP_ADDRESS_2. In SM209 the requested address was the same as the accepted one.

Preamble:

SM230

	SNDCP/GACI	SM	GMM
(1)	SNSM_ACTIVATE_RES		
	*=====>		
(2)	SMREG_PDP_ACTIVATE_CNF		
	<=====		

Parametrization:

Primitive	Parameter	Value
(3) SNSM_ACTIVATE_RES	tlli	NOT_USED
	nsapi	SNSM_NSAPI_2
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
(4) SMREG_PDP_ACTIVATE_CNF	SMREG_COMP_NEITHER_DIRECT	
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_2

pdp_address
sdu

PDP_ADDRESS_2
PCO_123456789

History:

19-Apr-2001

HK

Initial

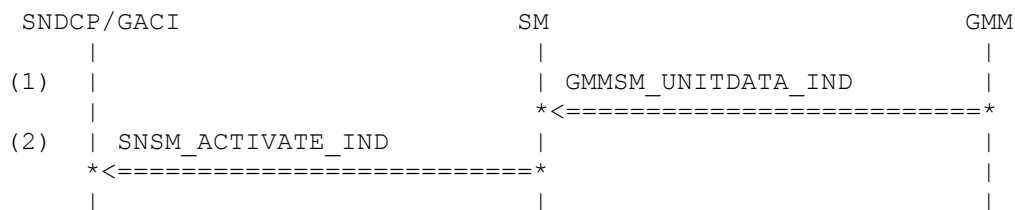
4.2.30 SM232: PDP context activation, receiving ACTIVATE_PDP_CONTEXT_ACCEPT

Description:

Networks accepts ACTIVATE_PDP_REQ during MT activation procedure.

Preamble:

SM229



Parametrization:

Primitive	Parameter	Value
(5) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	ACTIVATE_PDP_ACC
	ti	TI_0
	llc_sapi	LLC_SAPI_3
	qos	AIR_QOS_1
	radio_prio	AIR_RADIO_PRIO_1
	address	AIR_ADDRESS_1
	pco	AIR_PCO_123456789
	}	
(6) SNSM_ACTIVATE_IND	tl	NOT_USED
	nsapi	NSAPI_5
	snsn_qos	SNSM_QOS_0
	sapi	SAPI_3
	radio_prio	SNSM_RADIO_PRIO_1
	ppp_hc	SMREG_VAN_NOT_USED
	msid	NOT_USED
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	

dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SNSM_HOME

History:

02-may-2001	HK	Initial
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4.2.31 SM233: PDP context activation, MS initiated, dynamic address allocation requested

Description:

An MO context activation requests dynamic pdp address allocation.

Preamble:

SM100

SNDCP/GACI	SM	GMM
(1) SMREG_PDP_ACTIVATE_REQ		
=====>		
(2)	GMMSM_ESTABLISH_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(3) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_2
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_DYN
	smreg_apn	SMREG_APN_TEST
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321

(4) GMMSM_ESTABLISH_REQ

History:

17-May-2001 HK Initial

4.2.32 SM234: PDP context activation, MS initiated, new attach accepted by the network or MS already attached

Description:

An MO context activation requests dynamic pdp address allocation. In this case the GMM SM_ESTABLISH_CNF is received.

Preamble:

SM233

SND CP/GACI	SM	GMM
(1)	GMM SM_ESTABLISH_CNF	
	* <=====	*
(2)	GMM SM_UNITDATA_REQ	
	* =====>	*

Parametrization:

Primitive	Parameter	Value
(3) GMM SM_ESTABLISH_CNF		
(4) GMM SM_UNITDATA_REQ	sdu { component direction pd ti nsapi llc_sapi qos address apn pco }	SM UPLINK ACTIVATE_PDP_REQ TI_0 AIR_NSAPI_2 AIR_LLC_SAPI_3 AIR_QOS_1 AIR_ADDRESS_DYN AIR_APN_TEST AIR_PCO_987654321

History:

17-May-2001 HK Initial

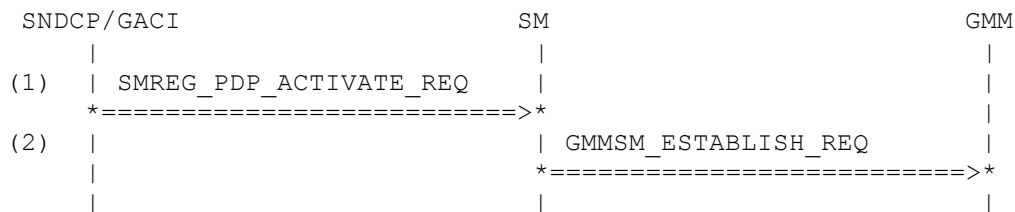
4.2.33 SM235: 2nd PDP context activation after dynamic one, MS initiated, APN not given in request: not comparable with possible MT activation

Description:

An MO context activation does not explicitly request an APN.

Preamble:

SM234



Parametrization:

Primitive	Parameter	Value
(5) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_8
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	SMREG_APN_EMPTY
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321

(6) GMMSM_ESTABLISH_REQ

History:

17-May-2001 HK Initial

4.2.34 SM236: 2nd PDP context activation after dynamic one, PDP context activation, MS initiated, APN not given in request: not comparable with possible MT activation

Description:

An MO context activation does not explicitly request an APN.
In this case the GMM SM_ESTABLISH_CNF is received.

Preamble:

SM235

SNDP/GACI	SM	GMM
(1)	GMM SM_ESTABLISH_CNF	
	* <=====*	
(2)	GMM SM_UNITDATA_REQ	
	* =====>*	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(5) GMM SM_ESTABLISH_CNF

(6) GMM SM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK
pd	ACTIVATE_PDP_REQ
ti	TI_1
nsapi	AIR_NSAPI_8
llc_sapi	AIR_LLC_SAPI_3
qos	AIR_QOS_1
address	AIR_ADDRESS_1
apn	NOT_USED
pco	AIR_PCO_987654321
}	

History:

17-May-2001 HK Initial

4.2.35 SM237: 2nd PDP context activation after dynamic one, MS initiated comparable with possible MT activation

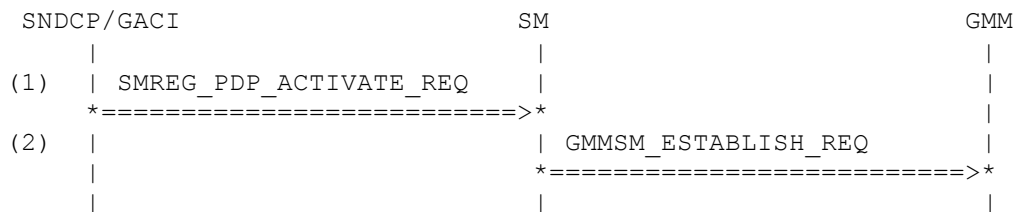
Description:

Type, address and APN given.

.

Preamble:

SM234



Parametrization:

Primitive	Parameter	Value
(7) SMREG_PDP_ACTIVATE_REQ	direc	DIREC_MO
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	
	SMREG_COMP_NEITHER_DIRECT	
	hcomp	
	SMREG_COMP_NEITHER_DIRECT	
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_min_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_8
	smreg_ti	TI_NOT_USED
	pdp_address	PDP_ADDRESS_1
	smreg_apn	
	SMREG_APN_WELL_FORMED	
	dti_linkid	DTI_LINKID_ABCD
	dti_neighbor	DTI_NEIGHBOR_ABCD
	dti_direction	SMREG_HOME
	sdu	PCO_987654321

(8) GMMSM_ESTABLISH_REQ

History:

17-May-2001 HK Initial

4.2.36 SM238: 2nd PDP context activation after dynamic one, PDP context activation, MS initiated, comparable with possible MT activation

Description:

Type, address and APN given.
In this case the GMM SM_ESTABLISH_CNF is received.

Preamble:

SM237

SNDCP/GACI	SM	GMM
(1)	GMM SM_ESTABLISH_CNF	
	<=====	
(2)	GMM SM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(7) GMM SM_ESTABLISH_CNF

(8) GMM SM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK
pd	ACTIVATE_PDP_REQ
ti	TI_1
nsapi	AIR_NSAPI_8
llc_sapi	AIR_LLC_SAPI_3
qos	AIR_QOS_1
address	AIR_ADDRESS_1
apn	AIR_APN_WELL_FORMED
pco	AIR_PCO_987654321
}	

History:

17-May-2001 HK Initial

4.2.37 SM239: PDP context activation, NSAPI now in use, header compression rejected by SNDCP

Description:

An SNSM_ACTIVATE_IND has been sent to SNDCP with header compression requested. Now in this case SNDCP responds, but rejects the header compression.

Preamble:

SM228

	SNDP/GACI	SM	GMM
(1)	SNSM_ACTIVATE_RES		
	=====>		
(2)	SMREG_PDP_ACTIVATE_CNF		
	<=====		

Parametrization:

Primitive	Parameter	Value
(5) SNSM_ACTIVATE_RES	tlli	NOT_USED
	nsapi	SNSM_NSAPI_2
	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	SMREG_COMP_NEITHER_DIRECT
	hcomp	SMREG_COMP_NEITHER_DIRECT
(6) SMREG_PDP_ACTIVATE_CNF	ppp_hc	SMREG_VAN_NOT_USED
	msid	MSID_0
	dcomp	SMREG_COMP_NEITHER_DIRECT
	hcomp	SMREG_COMP_NEITHER_DIRECT
	pdp_type	PDP_TYPE_IP_V_4
	smreg_qos	SMREG_QOS_0
	smreg_nsapi	SMREG_NSAPI_2
	pdp_address	PDP_ADDRESS_1
	sdu	PCO_123456789

History:

29-Oct-1999	HK	Initial
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4.2.38 SM240: PDP context activation, timer expiring for the third time, the ACTIVATE_PDP_ACC, then deactivation and reactivation attempt with 5 expiries of T3380

Description:

A context activation is started, timer T3380 expires 3 times, activation is accepted by the network, the context is deactivated. Reactivation is attempted, the T3380 expires 5 times and the SMREG_PDP_ACTIVATE_REQ is rejected.

Preamble:

SM207

SNDCP/GACI	SM	GMM
TIMEOUT (4500)		
(1)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (4500)		
(2)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (4500)		
(3)	GMMSM_UNITDATA_IND	
	<=====	
(4) SNSM_ACTIVATE_IND		
	<=====	
(5) SNSM_ACTIVATE_RES		
	=====>	
(6) SMREG_PDP_ACTIVATE_CNF		
	<=====	
(7) SMREG_PDP_DEACTIVATE_REQ		
	=====>	
TIMEOUT (8000)		
(8)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (8000)		
(9)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (8000)		
(10)	GMMSM_UNITDATA_REQ	
	=====>	
(11)	GMMSM_UNITDATA_IND	
	<=====	
(12) SNSM_DEACTIVATE_IND		
	<=====	
TIMEOUT (1000)		
(13) SNSM_DEACTIVATE_RES		
	=====>	
(14) SMREG_PDP_DEACTIVATE_CNF		
	<=====	
(15) SMREG_PDP_ACTIVATE_REQ		
	=====>	
(16)	GMMSM_ESTABLISH_REQ	
	=====>	
(17)	GMMSM_ESTABLISH_CNF	
	<=====	
(18)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (4500)		
(19)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (4500)		
(20)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (4500)		
(21)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (4500)		
(22)	GMMSM_UNITDATA_REQ	
	=====>	
TIMEOUT (4500)		
(23) SMREG_PDP_ACTIVATE_REJ		
	<=====	

Parametrization:

Primitive	Parameter	Value
(6) GMM SM_UNITDATA_REQ	sdu { component direction pd ti nsapi llc_sapi qos address apn pco }	SM UPLINK ACTIVATE_PDP_REQ TI_0 AIR_NSAPI_2 AIR_LLC_SAPI_3 AIR_QOS_1 AIR_ADDRESS_1 AIR_APN_TEST AIR_PCO_987654321
(7) GMM SM_UNITDATA_REQ	sdu { component direction pd ti nsapi llc_sapi qos address apn pco }	SM UPLINK ACTIVATE_PDP_REQ TI_0 AIR_NSAPI_2 AIR_LLC_SAPI_3 AIR_QOS_1 AIR_ADDRESS_1 AIR_APN_TEST AIR_PCO_987654321
(7) GMM SM_UNITDATA_IND	sdu { component direction pd ti llc_sapi qos radio_prio address pco }	SM DOWNLINK ACTIVATE_PDP_ACC TI_8 LLC_SAPI_3 AIR_QOS_1 AIR_RADIO_PRIO_1 AIR_ADDRESS_1 AIR_PCO_123456789
(8) SNSM_ACTIVATE_IND	tl nsapi snsm_qos sapi radio_prio ppp_hc msid	NOT_USED NSAPI_2 SNSM_QOS_0 SAPI_3 SNSM_RADIO_PRIO_1 SMREG_VAN_NOT_USED NOT_USED

	dcomp SMREG_COMP_NEITHER_DIRECT hcomp SMREG_COMP_NEITHER_DIRECT dti_linkid dti_neighbor dti_direction	DTI_LINKID_ABCD DTI_NEIGHBOR_ABCD SNSM_HOME
(7) SNSM_ACTIVATE_RES	tlli nsapi ppp_hc msid dcomp SMREG_COMP_NEITHER_DIRECT hcomp SMREG_COMP_NEITHER_DIRECT	NOT_USED SNSM_NSAPI_2 SMREG_VAN_NOT_USED MSID_0
(9) SMREG_PDP_ACTIVATE_CNF	ppp_hc msid dcomp SMREG_COMP_NEITHER_DIRECT hcomp SMREG_COMP_NEITHER_DIRECT pdp_type smreg_qos smreg_nsapi pdp_address sdu	SMREG_VAN_NOT_USED MSID_0 PDP_TYPE_IP_V_4 SMREG_QOS_0 SMREG_NSAPI_2 PDP_ADDRESS_1 PCO_123456789
(1) SMREG_PDP_DEACTIVATE_REQ	nsapi_set smreg_local	NSAPI_SET_2 SMREG_NONLOCAL
(1) GMMSM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR

(3) GMM SM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 DEACT_PDP_REQ
  ti                 TI_0
  sm_cause           SM_CAUSE_REGULAR
}
```

(1) GMM SM_UNITDATA_IND

```
sdu
{
  component          SM
  direction          DOWNLINK
  pd                 DEACT_PDP_ACC
  ti                 TI_8
}
```

(2) SNSM_DEACTIVATE_IND

```
tti
nsapi_set           NSAPI_SET_2
rel_ind             REL_IND_NO
```

(3) SNSM_DEACTIVATE_RES

```
tti
nsapi               SMREG_NSAPI_2
```

(1) SMREG_PDP_DEACTIVATE_CNF

```
nsapi_set           NSAPI_SET_2
```

(9) SMREG_PDP_ACTIVATE_REQ

```
direc              DIREC_MO
ppp_hc             SMREG_VAN_NOT_USED
msid               MSID_0
dcomp              SMREG_COMP_NEITHER_DIRECT
hcomp              SMREG_COMP_NEITHER_DIRECT
pdp_type           PDP_TYPE_IP_V_4
smreg_qos           SMREG_QOS_0
smreg_min_qos       SMREG_QOS_0
smreg_nsapi         SMREG_NSAPI_2
smreg_ti           TI_NOT_USED
pdp_address         PDP_ADDRESS_1
smreg_apn           SMREG_APN_TEST
dti_linkid          DTI_LINKID_ABCD
dti_neighbor        DTI_NEIGHBOR_ABCD
dti_direction       SMREG_HOME
sdu                 PCO_987654321
```

(10) GMM SM_ESTABLISH_REQ

(11) GMM SM_ESTABLISH_CNF

(12) GMM SM_UNITDATA_REQ

```
sdu
{
```

	component	SM
	direction	UPLINK
	pd	ACTIVATE_PDP_REQ
	ti	TI_0
	nsapi	AIR_NSAPI_2
	llc_sapi	AIR_LLC_SAPI_3
	qos	AIR_QOS_1
	address	AIR_ADDRESS_1
	apn	AIR_APN_TEST
	pco	AIR_PCO_987654321
	}	
(13) GMM SM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	ACTIVATE_PDP_REQ
	ti	TI_0
	nsapi	AIR_NSAPI_2
	llc_sapi	AIR_LLC_SAPI_3
	qos	AIR_QOS_1
	address	AIR_ADDRESS_1
	apn	AIR_APN_TEST
	pco	AIR_PCO_987654321
	}	
(14) GMM SM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	ACTIVATE_PDP_REQ
	ti	TI_0
	nsapi	AIR_NSAPI_2
	llc_sapi	AIR_LLC_SAPI_3
	qos	AIR_QOS_1
	address	AIR_ADDRESS_1
	apn	AIR_APN_TEST
	pco	AIR_PCO_987654321
	}	
(15) GMM SM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	ACTIVATE_PDP_REQ
	ti	TI_0
	nsapi	AIR_NSAPI_2
	llc_sapi	AIR_LLC_SAPI_3
	qos	AIR_QOS_1
	address	AIR_ADDRESS_1
	apn	AIR_APN_TEST
	pco	AIR_PCO_987654321
	}	
(16) GMM SM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	ACTIVATE_PDP_REQ
	ti	TI_0
	nsapi	AIR_NSAPI_2
	llc_sapi	AIR_LLC_SAPI_3
	qos	AIR_QOS_1
	address	AIR_ADDRESS_1
	apn	AIR_APN_TEST
	pco	AIR_PCO_987654321
	}	
(16) GMM SM_UNITDATA_REQ	sdu	

```
{
  component      SM
  direction      UPLINK
  pd             ACTIVATE_PDP_REQ
  ti             TI_0
  nsapi          AIR_NSAPI_2
  llc_sapi       AIR_LLC_SAPI_3
  qos            AIR_QOS_1
  address        AIR_ADDRESS_1
  apn            AIR_APN_TEST
  pco            AIR_PCO_987654321
}
```

(17) SMREG_PDP_ACTIVATE_REJ

```
smreg_cause      SMREG_RC_NETWORK_FAILURE
smreg_nsapi      SMREG_NSAPI_2
```

History:

12-Apr-2002

HK

Initial

4.3 Context deactivation

4.3.1 SM301: PDP context deactivation, MS initiated

Description:

(MSC 3.3.1)

(SM 1)

SM is in state PDP_ACTIVE <R.SM.PDP_ACT.M.001>. ACI sends an SMREG_PDP_DEACTIVATE_REQ to initiate the anonymous PDP context deactivation <R.SM.PDP_DE_M.M.001>.

(GMM 1)

SM starts timer T3390 <R.SM.MS_DEACT.M.003>, <R.SM.PDP_DE_M.M.002>. SM enters state PDP_INACTIVE_PENDING <R.SM.PDP_I_P.M.001><R.SM.MS_DEACT.M.002> and sends a DEACTIVATE_PDP_CONTEXT_REQ message <R.SM.MS_DEACT.M.001>, <R.SM.PDP_DE_M.M.003> containing the transaction identifier in use for the PDP context to be deactivated and a cause code that typically indicates one of the following causes: #26 insufficient resources, #36 regular PDP context deactivation or #37 QoS not accepted.

Preamble:

SM210

	SNDCP/GACI	SM	GMM
(1)	SMREG_PDP_DEACTIVATE_REQ		
	=====>		
(2)		GMMSM_UNITDATA_REQ	
		=====>	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(2) SMREG_PDP_DEACTIVATE_REQ

nsapi_set	NSAPI_SET_2
smreg_local	SMREG_NONLOCAL

(3) GMMSM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK
pd	DEACT_PDP_REQ
ti	TI_0
sm_cause	SM_CAUSE_REGULAR
}	

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.3.2 SM302: PDP context deactivation, MS initiated, network accepts

Description:

(MSC 3.3.2)
(SM 1)
SM is in state PDP_INACTIVE_PENDING <R.SM.PDP_I_P.M.001>. The network sends a DEACTIVATE_PDP_CONTEXT_ACCEPT message to inform the MS that the deactivation request is accepted <R.SM.MS_DEACT.M.007>, <R.SM.PDP_DE_M.M.007>.
(SND CP 1)
SM stops timer T3390 <R.SM.MS_DEACT.M.008>, <R.SM.PDP_DE_M.M.008>. SM enters state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. SM sends an SNSM_DEACTIVATE_IND to inform SND CP that the NSAPI in question can be de-allocated <R.SM.PDP_DE_M.M.009>. (SND CP will do so only if the LLC link in question is not used by any other PDP context using acknowledged mode <R.SM.MS_DEACT.M.009>).

Preamble:

SM301

	SND CP / GACI		SM		GMM
(1)				GMMSM_UNITDATA_IND	
				<=====	
(2)	SNSM_DEACTIVATE_IND				
	<=====				

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	DEACT_PDP_ACC
	ti	TI_8

}

(2) SNSM_DEACTIVATE_IND

tli	NOT_USED
nsapi_set	NSAPI_SET_2
rel_ind	REL_IND_NO

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved t handling.

4.3.3 SM303: PDP context deactivation, MS initiated, NSAPI released

Description:

(MSC 3.3.3)

(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. SNDSCP sends an SNSM_DEACTIVATE_RES to inform SM that the NSAPI in question has been released <R.SM.PDP_DE_M.M.012>.

(ACI 1)

SM sends an SMREG_PDP_DEACTIVATE_CNF to ACI to confirm that the PDP context has been deactivated <R.SM.PDP_DE_M.M.013>.

Preamble:

SM302

	SNDSCP/GACI	SM	GMM
(1)	SNSM_DEACTIVATE_RES		
	=====>		
(2)	SMREG_PDP_DEACTIVATE_CNF		
	<=====		

Parametrization:

Primitive	Parameter	Value
(2) SNSM_DEACTIVATE_RES	tli	NOT_USED
	nsapi	SMREG_NSAPI_2
(3) SMREG_PDP_DEACTIVATE_CNF	nsapi_set	NSAPI_SET_2

History:

12-Nov-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.3.4 SM304: PDP context deactivation, network initiated

Description:
(MSC 3.3.4)

(SM 1)

SM is in state PDP_ACTIVE <R.SM.PDP_ACT.M.001>. The network sends a DEACTIVATE_PDP_CONTEXT_REQ message to initiate a PDP context deactivation <R.SM.N_DEACT.I.001>, <R.SM.N_DEACT.M.004>, <R.SM.PDP_DE_N.M.004>. The message contains the transaction identifier in use for the PDP context to be deactivated and a cause code that typically indicates one of the following causes: #36 regular PDP context deactivation, #38 network failure or #39 reactivation requested. .

(GMM 1)

SM enters state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. SM answers with a DEACTIVATE_PDP_CONTEXT_ACCEPT message <R.SM.N_DEACT.M.005>, <R.SM.PDP_DE_N.M.005>.

(SND CP 1)

SM sends an SNSM_DEACTIVATE_IND to SND CP to inform the SND CP entity that an NSAPI has been deallocated and cannot be used by the SND CP entity anymore <R.SM.PDP_DE_N.M.006>. All buffered N-PDUs corresponding to this NSAPI are deleted. SND CP will release the affected LLC link if it is not used by any other PDP context using acknowledged mode.

Preamble:

SM210

	SND CP / GACI	SM	GMM
(1)		GMM SM_UNITDATA_IND	
		* <=====*	
(2)		GMM SM_UNITDATA_REQ	
		* =====>*	
(3)	SNSM_DEACTIVATE_IND		
	* <=====*		

Parametrization:

Primitive	Parameter	Value
(1) GMM SM_UNITDATA_IND	sdu { component direction pd ti sm_cause }	SM DOWNLINK DEACT_PDP_REQ TI_8 AIR_SM_CAUSE_NET_FAIL
(2) GMM SM_UNITDATA_REQ	sdu	

```

{
  component
  direction
  pd
  ti
}
SM
UPLINK
DEACT_PDP_ACC
TI_0

```

(3) SNSM_DEACTIVATE_IND

```

tli
nsapi_set
rel_ind
NOT_USED
NSAPI_SET_2
REL_IND_NO

```

History:

7-Dec-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.3.5 SM305: PDP context deactivation, network initiated, NSAPI released

Description:

(MSC 3.3.5)

(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. SMDCP sends an SNSM_DEACTIVATE_RES to inform SM that the NSAPI in question has been released <R.SM.PDP_DE_N.M.010>.

(ACI 1)

SM sends an SMREG_PDP_DEACTIVATE_IND to ACI to confirm that the PDP context has been deactivated <R.SM.PDP_DE_N.M.011>.

Preamble:

SM304

	SMDCP/GACI	SM	GMM
(1)	SNSM_DEACTIVATE_RES		
	=====>		
(2)	SMREG_PDP_DEACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) SNSM_DEACTIVATE_RES	tli	NOT_USED
	nsapi	NSAPI_2

(2) SMREG_PDP_DEACTIVATE_IND

nsapi_set

NSAPI_SET_2

History:

8-Dec-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.3.6 SM306: PDP context deactivation, timer expiring up to four times

Description:

(MSC 3.3.6)

(GMM 1)

SM is in state PDP_INACTIVE_PENDING. Instead of receiving the expected DEACTIVATE_PDP_CONTEXT_ACCEPT message the timer T3390 expires (for a first, second, third or fourth time) <R.SM.DE_ABNO.M.001>. Then the MS resends the DEACTIVATE_PDP_CONTEXT_REQ message <R.SM.DE_ABNO.M.002> and resets and restarts T3390 <R.SM.DE_ABNO.M.003>.

Preamble:

SM301

SNDCP/GACI	SM	GMM
TIMEOUT (8000)		
(1)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(2) GMMSM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK
pd	DEACT_PDP_REQ
ti	TI_0
sm_cause	SM_CAUSE_REGULAR
}	

History:

9-Dec-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.3.7 SM307: PDP context deactivation, timer expiring for the fifth time

Description:

(MSC 3.3.7)

(GMM 1)

SM is in state PDP_INACTIVE_PENDING. Instead of receiving the expected DEACTIVATE_PDP_CONTEXT_ACCEPT message the timer T3390 expires for the fifth time <R.SM.DE_ABNO.M.004>.

(SND CP 1)

Then the MS releases all resources possibly allocated for this invocation <R.SM.DE_ABNO.M.005> and erases the PDP context related data <R.SM.DE_ABNO.M.006>.

Note: the context is deactivated locally because the net does not seem to be available.

Preamble:

SM301

SND CP / GMM	SM	GMM
TIMEOUT (8000)		
(1)	GMM SM_UNITDATA_REQ	
	*=====>	*
TIMEOUT (8000)		
(2)	GMM SM_UNITDATA_REQ	
	*=====>	*
TIMEOUT (8000)		
(3)	GMM SM_UNITDATA_REQ	
	*=====>	*
TIMEOUT (8000)		
(4)	GMM SM_UNITDATA_REQ	
	*=====>	*
TIMEOUT (8000)		
(5) SNSM_DEACTIVATE_IND		
<=====		

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(4) GMM SM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK
pd	DEACT_PDP_REQ
ti	TI_0
sm_cause	SM_CAUSE_REGULAR
}	

(5) GMM SM_UNITDATA_REQ

sdu

			<pre> { component direction pd ti sm_cause } </pre>	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(6) GMMSM_UNITDATA_REQ			<pre> sdu { component direction pd ti sm_cause } </pre>	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(7) GMMSM_UNITDATA_REQ			<pre> sdu { component direction pd ti sm_cause } </pre>	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(8) SNSM_DEACTIVATE_IND			<pre> tlli nsapi_set rel_ind </pre>	NOT_USED NSAPI_SET_2 REL_IND_YES
History:				
	9-Dec-1999	HK	Initial	
	11-Oct-2000	HK	Fill 'NOT_USED' params.	

4.3.8 SM308: PDP context deactivation, network initiated

Description:

(MSC 3.3.8)

(SM 1)

SM is in state PDP_INACTIVE_PENDING after having sent a DEACTIVATE_PDP_CONTEXT_REQ message. Instead of the expected DEACTIVATE_PDP_CONTEXT_ACCEPT a DEACTIVATE_PDP_CONTEXT_REQ is received (collision) <R.SM.DE_ABNO.A.012>.

(GMM 1)

SM replies with the message DECATIVATE_PDP_CONTEXT_ACCEPT <R.SM.DE_ABNO.M.013>. SM stops timer T3390 <R.SM.DE_ABNO.M.014>.

(SND CP 1)

SM sends an SNSM_DEACTIVATE_IND to SND CP to inform the SND CP entity that an NSAPI has been deallocated and cannot be used by the SND CP entity anymore. All buffered N-PDUs corresponding to this NSAPI are deleted.

Preamble:

SM301

SNDP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	
(3) SNSM_DEACTIVATE_IND		
<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_8 SM_CAUSE_REGULAR
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti }	SM UPLINK DEACT_PDP_ACC TI_0
(3) SNSM_DEACTIVATE_IND	tti nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_NO

History:

10-May-2000	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

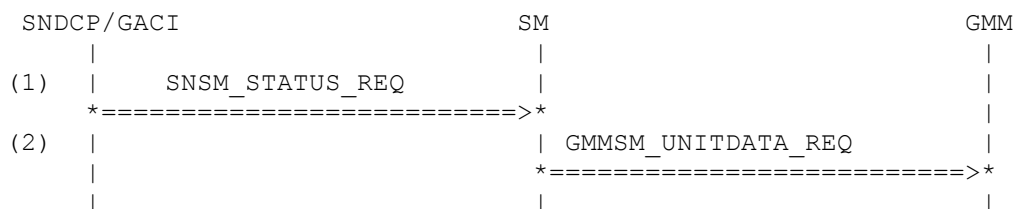
4.3.9 SM309: PDP context deactivation, MS initiated after SNSM_STATUS_REQ in state PDP_ACTIVE

Description:

SNDCP sends an SNSM_STATUS_REQ and SM deactivates all contexts using the affected SAPI.

Preamble:

SM210



Parametrization:

Primitive	Parameter	Value
(1) SNSM_STATUS_REQ	tti	NOT_USED
	sapi	SAPI_3
	status_cause	LL_RELCS_NORMAL
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	DEACT_PDP_REQ
	ti	TI_0
	sm_cause	
	AIR_SM_CAUSE_LLC_OR_SNDCP	
	}	

History:

13-Oct-2000

HK

Initial

4.3.10 SM310: PDP context deactivation after SNSM_STATUS_REQ, MS initiated, network accepts

Description:

The network accepts a contexts deactivation resulting from an SNSM_STATUS_REQ.

Preamble:

SM309

	SNDSCP/GACI	SM	GMM
(1)			
		GMMSM_UNITDATA_IND	
		<=====	
(2)	SNSM_DEACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti }	SM DOWNLINK DEACT_PDP_ACC TI_8
(2) SNSM_DEACTIVATE_IND	tlli nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_NO

History:

13-Oct-2000	HK	Initial
24-Nov-2000	HK	Improved t handling.

4.3.11 SM311: PDP context deactivation, MS initiated, NSAPI released

Description:

In the course of a context deactivation caused by an SNSM_STATUS_REQ SNDCP now responds and the user is notified with an SMREG_PDP_DEACTIVATE_IND.

Preamble:

SM310

	SNDCP/GACI	SM	GMM
(1)	SNSM_DEACTIVATE_RES		
	=====>		
(2)	SMREG_PDP_DEACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) SNSM_DEACTIVATE_RES	tlli nsapi	NOT_USED SMREG_NSAPI_2
(2) SMREG_PDP_DEACTIVATE_IND	nsapi_set	NSAPI_SET_2

History:

13-Oct-2000	HK	Initial
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4.3.12 SM312: PDP context deactivation after SNSM_STATUS_REQ, timer expiring up to four times

Description:

In the course of a context deactivation due to SNSM_STATUS_REQ the DEACT_PDP_REQ message has been sent to the network but is not answered. The timer T3390 expires and the message is sent again.

Preamble:

SM309

SNDCP/GACI TIMEOUT (8000) (1) 	SM GMMSM_UNITDATA_REQ *=====>* 	GMM
---	---	------------------

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(1) GMMSM_UNITDATA_REQ

```

sdu
{
  component          SM
  direction          UPLINK
  pd                 DEACT_PDP_REQ
  ti                 TI_0
  sm_cause           AIR_SM_CAUSE_LLC_OR_SND
                    }

```

History:

3-Oct-2000	HK	Initial
------------	----	---------

4.3.13 SM313: PDP context deactivation after SNSM_STATUS_REQ, timer expiring for the fifth time

Description:

In the course of a context deactivation caused by an SNSM_STATUS_REQ SNDCP now responds and the user is notified with an SMREG_PDP_DEACTIVATE_IND. After the 5th expiry the context will be deactivated locally.

Preamble:

SM309

SNDCP/GACI TIMEOUT (8000) (1) TIMEOUT (8000) (2) TIMEOUT (8000) (3) TIMEOUT (8000) (4) TIMEOUT (8000) (5) SNSM_DEACTIVATE_IND *<=====* 	SM GMMSM_UNITDATA_REQ *=====>* GMMSM_UNITDATA_REQ *=====>* GMMSM_UNITDATA_REQ *=====>* GMMSM_UNITDATA_REQ *=====>* 	GMM
--	--	---

Parametrization:

Primitive	Parameter	Value
(9) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause AIR_SM_CAUSE_LLC_OR_SND CP }	SM UPLINK DEACT_PDP_REQ TI_0
(10) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause AIR_SM_CAUSE_LLC_OR_SND CP }	SM UPLINK DEACT_PDP_REQ TI_0
(11) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause AIR_SM_CAUSE_LLC_OR_SND CP }	SM UPLINK DEACT_PDP_REQ TI_0
(12) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause AIR_SM_CAUSE_LLC_OR_SND CP }	SM UPLINK DEACT_PDP_REQ TI_0
(13) S NSM_DEACTIVATE_IND	tlli nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_YES

History:

13-Oct-2000

HK

Initial

4.3.14 SM314: PDP context deactivation, locally after GMMSM_RELEASE_IND in state PDP_ACTIVE

Description:

After a GMMSM_RELEASE_IND all contexts are deactivated locally.

Preamble:

SM210

	SNDCP/GACI	SM	GMM
(1)		GMMSM_RELEASE_IND	
		<=====	
(2)	SNSM_DEACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_RELEASE_IND		
(2) SNSM_DEACTIVATE_IND	tli nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_YES

History:

13-Oct-2000

HK

Initial

4.3.15 SM315: SNSM_STATUS_REQ with cause “no peer response”

Description:

SNDCP sends an SNSM_STATUS_REQ with cause “no peer response” and SM does not deactivate all contexts using the affected SAPI since in case of this cause the context will not be deactivated (GSM 4.65, 6.2.1.4).

Preamble:

SM210

SND/CP/GACI	SM	GMM
(1) SNSM_STATUS_REQ		
=====>		
MUTE (3000)		

Parametrization:

Primitive	Parameter	Value
(1) SNSM_STATUS_REQ	tli	NOT_USED
	sapi	SAPI_3
	status_cause	
	SNSM_RELCS_NO_PEER_RES	

History:

04-Jan-2001	HK	Initial
-------------	----	---------

4.3.16 SM316: After SNSM_STATUS_REQ with cause "DM received" only ack contexts deactivated

Description:

In preamble SM223 an unacknowledged and an acknowledged context have been activated. Now in this case an SNSM_STATUS_REQ with cause "DM received" is received. According to GSM 4.65, 6.2.1.4 SM shall then deactivate only the acknowledged contexts.

Preamble:

SM223

SND/CP/GACI	SM	GMM
(1) SNSM_STATUS_REQ		
=====>		
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(1) SNSM_STATUS_REQ	tli	NOT_USED
	sapi	SAPI_3
	status_cause	LL_RELCS_DM_RECEIVED
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	DEACT_PDP_REQ

ti TL_1
sm_cause
AIR_SM_CAUSE_LLC_OR_SNDP
}

History:
08-Jan-2001 HK Initial

4.3.17 SM317: GMM SM_RELEASE_IND in state CO_PDP_INACTIVE

Description:
A GMM SM_RELEASE_IND in state CO_PDP_INACTIVE will be ignored.
.

Preamble:
SM100

SNDP/GACI	SM	GMM
(1)	GMM SM_RELEASE_IND	
MUTE (3000)	* <=====*	

Parametrization:

<u>Primitive</u>	<u>Parameter</u>	<u>Value</u>
(1) GMM SM_RELEASE_IND		

History:
16-Jan-2001 HK Initial

4.3.18 SM318: GMM SM_RELEASE_IND in state CO_PDP_INACTIVE_WAIT_SNDP

Description:
A GMM SM_RELEASE_IND in state CO_PDP_INACTIVE_WAIT_SNDP will be ignored.
.

Preamble:
SM302

SNDP/GACI	SM	GMM
(1)	GMM SM_RELEASE_IND	
MUTE (3000)	* <=====*	

Parametrization:

<u>Primitive</u>	<u>Parameter</u>	<u>Value</u>
------------------	------------------	--------------

(1) GMMSM_RELEASE_IND

History:

16-Jan-2001 HK Initial

4.3.19 SM319: GMMSM_RELEASE_IND in state CO_AWAIT_GMMSM_ESTABLISH_CNF

Description:

A GMMSM_RELEASE_IND in state CO_AWAIT_GMMSM_ESTABLISH_CNF will result in an SMREG_PDP_ACTIVATE_REJ after next expiry of timer T3380.

Preamble:

SM201

	SND CP/GACI	SM	GMM
(1)			
		GMMSM_RELEASE_IND	
		* <=====*	
TIMEOUT (30000)			
(2)	SMREG_PDP_ACTIVATE_REJ		
	* <=====*		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_RELEASE_IND		
(2) SMREG_PDP_ACTIVATE_REJ	smreg_cause	
	SMREG_RC_NETWORK_FAILURE	
	smreg_nsapi	SMREG_NSAPI_2

History:

16-Jan-2001 HK Initial

4.3.20 SM320: GMMSM_RELEASE_IND in state CO_PDP_ACTIVE_PENDING

Description:

A GMMSM_RELEASE_IND in state CO_PDP_ACTIVE_PENDING will result in an SMREG_PDP_ACTIVATE_REJ after next expiry of timer T3380.

Preamble:

SM207

SNDCP/GACI	SM	GMM
(1)	GMMSM_RELEASE_IND	
	<=====	
TIMEOUT (30000)		
(2) SMREG_PDP_ACTIVATE_REJ		
<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_RELEASE_IND		
(2) SMREG_PDP_ACTIVATE_REJ	smreg_cause SMREG_RC_NETWORK_FAILURE smreg_nsapi	SMREG_NSAPI_2

History:

16-Jan-2001 HK Initial

4.3.21 SM321: PDP context deactivation after GMMSM_RELEASE_IND in state CO_PDP_ACTIVE_AWAIT_SNDCP

Description:

After a GMMSM_RELEASE_IND all contexts are deactivated.

Preamble:

SM209

SNDCP/GACI	SM	GMM
(1)	GMMSM_RELEASE_IND	
	<=====	
(2) SNSM_DEACTIVATE_IND		
<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_RELEASE_IND		
(2) SNSM_DEACTIVATE_IND	lli nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_YES

History:

16-Jan-2001 HK Initial

4.3.22 SM322: GMMSM_RELEASE_IND in state CO_PDP_INACTIVE_PENDING

Description:

A GMMSM_RELEASE_IND in state CO_PDP_INACTIVE_PENDING will result in an SNSM_DEACTIVATE_IND after next expiry of timer T3390.

.

Preamble:

SM301

	SNDCP/GACI	SM	GMM
(1)			
		GMMSM_RELEASE_IND	
		<=====	
TIMEOUT (30000)			
(2)	SNSM_DEACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_RELEASE_IND		
(2) SNSM_DEACTIVATE_IND	tlli nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_YES

History:

16-Jan-2001 HK Initial

4.3.23 SM323: GMMSM_RELEASE_IND in state CO_PDP_STATUS_PENDING

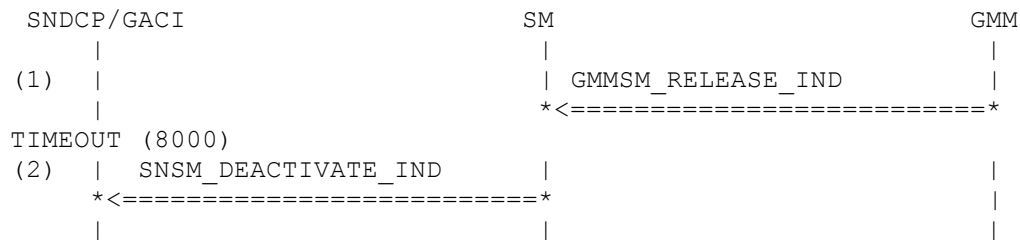
Description:

A GMMSM_RELEASE_IND in state CO_PDP_STATUS_PENDING will result in an SNSM_DEACTIVATE_IND after next expiry of timer T3390.

.

Preamble:

SM309



Parametrization:

Primitive	Parameter	Value
(1) GMMSM_RELEASE_IND		
(2) SNSM_DEACTIVATE_IND		
	tlli	NOT_USED
	nsapi_set	NSAPI_SET_2
	rel_ind	REL_IND_YES

History:

16-Jan-2001	HK	Initial
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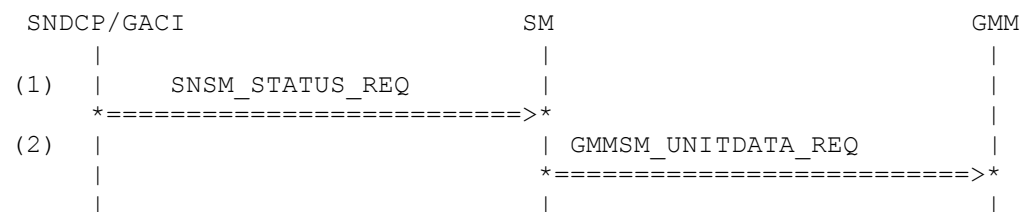
4.3.24 SM324: PDP context deactivation, MS initiated after SNSM_STATUS_REQ in state PDP_ACTIVE_WAIT_SNDCP

Description:

SNDCP sends an SNSM_STATUS_REQ and SM deactivates all contexts using the affected SAPI.

Preamble:

SM209



Parametrization:

Primitive	Parameter	Value
(1) SNSM_STATUS_REQ		
	tlli	NOT_USED
	sapi	SAPI_3
	status_cause	LL_RELCS_NORMAL
(2) GMMSM_UNITDATA_REQ		
	sdu	
	{	
	component	SM

```

direction
pd
ti
sm_cause
AIR_SM_CAUSE_LLC_OR_SND
}

```

History:

30-Jan-2001	HK	Initial
-------------	----	---------

4.3.25 SM325: PDP context deactivation, MS initiated and local

Description:

A context is deactivate locally.

Preamble:

SM210

	SNDCP/GACI	SM	GMM
(1)	SMREG_PDP_DEACTIVATE_REQ		
	=====>		

Parametrization:

Primitive	Parameter	Value
(4) SMREG_PDP_DEACTIVATE_REQ	nsapi_set smreg_local	NSAPI_SET_2 SMREG_LOCAL

History:

07-May-2001	HK	Initial
-------------	----	---------

4.3.26 SM326: PDP context deactivation, MS initiated and local

Description:

A context is deactivate locally.

Preamble:

SM325

	SNDCP/GACI	SM	GMM
(1)	SNSM_DEACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(3) SNSM_DEACTIVATE_IND

tlli	NOT_USED
nsapi_set	NSAPI_SET_2
rel_ind	REL_IND_YES

History:

07-May-1999	HK	Initial
-------------	----	---------

4.3.27 SM327: PDP context deactivation local, MS initiated, NSAPI released

Description:

A context is deactivated locally, SNSM responds.

.

Preamble:

SM326

SNDCP/GACI	SM	GMM
(1) SNSM_DEACTIVATE_RES		
*=====>		
(2) SMREG_PDP_DEACTIVATE_CNF		
<=====		

Parametrization:

Primitive	Parameter	Value
(4) SNSM_DEACTIVATE_RES	tlli	NOT_USED
	nsapi	SMREG_NSAPI_2
(5) SMREG_PDP_DEACTIVATE_CNF	nsapi_set	NSAPI_SET_2

History:

07-May-1999 HK Initial

4.3.28 SM328: PDP context deactivation, MS initiated, NSAPI released after 5th expiry of T3390 and response from SNDCP

Description:

After 5th expiry of T3390 the deactivation of a context has been indicated to SNDCP. Now in this case SNDCP responds.

Preamble:

SM307

	SNDP/GACI	SM	GMM
(1)	SNSM_DEACTIVATE_RES		
	=====>		
(2)	SMREG_PDP_DEACTIVATE_CNF		
	<=====		

Parametrization:

Primitive	Parameter	Value
(6) SNSM_DEACTIVATE_RES	<div> tli nsapi </div>	<div> NOT_USED SMREG_NSAPI_2 </div>
(7) SMREG_PDP_DEACTIVATE_CNF	<div> nsapi_set </div>	<div> NSAPI_SET_2 </div>

History:

30-Oct-2001 HK Initial

4.3.29 SM329: PDP context deactivation, MS initiated and local in intermediate states

Description:

A context is deactivated locally while SM is in intermediate states.

CO_PDP_INACTIVE	no variant
CO_AWAIT_GMMSM_ESTABLISH_CNF	<A>
CO_PDP_ACTIVE_PENDING	
CO_PDP_ACTIVE_AWAIT_SNDP	<C>
CO_PDP_ACTIVE	no variant
CO_PDP_INACTIVE_PENDING	<D>
CO_PDP_INACTIVE_WAIT_SNDP	<E>
CO_PDP_INACTIVE_WAIT_SNDP_MT	<F>
CO_PDP_STATUS_PENDING	<G>

Variants:

<A>...<G>

Preamble:

<A>SM201
SM207
<C>SM209
<D>SM301
<E>SM302
<F>SM304
<G>SM309

SNDP/GACI	SM	GMM
(1) SMREG_PDP_DEACTIVATE_REQ		
=====>		

Parametrization:

Primitive	Parameter	Value
(5) SMREG_PDP_DEACTIVATE_REQ	nsapi_set	NSAPI_SET_2
	smreg_local	SMREG_LOCAL

History:

21-Nov-2001 HK Initial

4.3.30 SM330: PDP context deactivation, MS initiated and local

Description:

A context is deactivate locally while the machine is in intermediate states.

Variants:

<A>...<G>

Preamble:

<A>SM329a
SM329b
<C>SM329c
<D>SM329d
<E>SM329e
<F>SM329f
<G>SM329g

SNDCP/GACI	SM	GMM
(1) SNSM_DEACTIVATE_IND		
<=====		

Parametrization:

Primitive	Parameter	Value
(4) SNSM_DEACTIVATE_IND	tlli nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_YES

History:

21-Nov -1999 HK Initial

4.3.31 SM331: PDP context deactivation, timer expiring for the fifth time after deactivation (3 expiries and 1 DEACT_PDP_ACC) and reactivation

Description:

A context has been activated, deactivated after 3 times expiry of T3390 and reception of 1 DEACT_PDP_ACC message, re-activated (SNDCP has not responded yet). Now in this case the context is deactivated once again, also with 5 times expiring of T3390 and then local deactivation.

Preamble:

SM301

	SNDCP/GACI	SM	GMM
TIMEOUT (8000)			
(1)		GMMSM_UNITDATA_REQ	
		=====>	
TIMEOUT (8000)			
(2)		GMMSM_UNITDATA_REQ	
		=====>	
TIMEOUT (8000)			
(3)		GMMSM_UNITDATA_REQ	
		=====>	
(4)		GMMSM_UNITDATA_IND	
		<=====	
(5)	SNSM_DEACTIVATE_IND		
	<=====		
TIMEOUT (1000)			
(6)	SNSM_DEACTIVATE_RES		
	=====>		
(7)	SMREG_PDP_DEACTIVATE_CNF		
	<=====		
(8)	SMREG_PDP_ACTIVATE_REQ		
	=====>		
(9)		GMMSM_ESTABLISH_REQ	
		=====>	
(10)		GMMSM_ESTABLISH_CNF	
		<=====	
(11)		GMMSM_UNITDATA_REQ	
		=====>	
(12)		GMMSM_UNITDATA_IND	
		<=====	
(13)	SNSM_ACTIVATE_IND		
	<=====		
(14)	SMREG_PDP_DEACTIVATE_REQ		
	=====>		
(15)		GMMSM_UNITDATA_REQ	
		=====>	
TIMEOUT (8000)			
(16)		GMMSM_UNITDATA_REQ	
		=====>	
TIMEOUT (8000)			
(17)		GMMSM_UNITDATA_REQ	
		=====>	
TIMEOUT (8000)			
(18)		GMMSM_UNITDATA_REQ	
		=====>	
TIMEOUT (8000)			
(19)		GMMSM_UNITDATA_REQ	
		=====>	
TIMEOUT (8000)			
(20)	SNSM_DEACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(14) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(15) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(16) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(4) GMM SM_UNITDATA_IND	sdu { component direction pd ti sm_cause }	SM DOWNLINK DEACT_PDP_ACC TI_8
(5) NSN SM_DEACTIVATE_IND	tl nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_NO
(6) NSN SM_DEACTIVATE_RES	tl nsapi	NOT_USED SMREG_NSAPI_2
(8) SMREG_PDP_DEACTIVATE_CNF	nsapi_set	NSAPI_SET_2
(10) SMREG_PDP_ACTIVATE_REQ	direc ppp_hc msid dcomp	DIREC_MO SMREG_VAN_NOT_USED MSID_0

SMREG_COMP_NEITHER_DIRECT	
hcomp	
SMREG_COMP_NEITHER_DIRECT	
pdp_type	PDP_TYPE_IP_V_4
smreg_qos	SMREG_QOS_0
smreg_min_qos	SMREG_QOS_0
smreg_nsapi	SMREG_NSAPI_2
smreg_ti	TI_NOT_USED
pdp_address	PDP_ADDRESS_1
smreg_apn	SMREG_APN_TEST
dti_linkid	DTI_LINKID_ABCD
dti_neighbor	DTI_NEIGHBOR_ABCD
dti_direction	SMREG_HOME
sdu	PCO_987654321

(11) GMMSM_ESTABLISH_REQ

(17) GMMSM_ESTABLISH_CNF

(18) GMMSM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK
pd	ACTIVATE_PDP_REQ
ti	TI_0
nsapi	AIR_NSAPI_2
llc_sapi	AIR_LLC_SAPI_3
qos	AIR_QOS_1
address	AIR_ADDRESS_1
apn	AIR_APN_TEST
pco	AIR_PCO_987654321
}	

(19) GMMSM_UNITDATA_IND

sdu	
{	
component	SM
direction	DOWNLINK
pd	ACTIVATE_PDP_ACC
ti	TI_8
llc_sapi	LLC_SAPI_3
qos	AIR_QOS_1
radio_prio	AIR_RADIO_PRIO_1
address	AIR_ADDRESS_1
pco	AIR_PCO_123456789
}	

(20) SNSM_ACTIVATE_IND

tti	NOT_USED
nsapi	NSAPI_2
snsn_qos	SNSM_QOS_0
sapi	SAPI_3
radio_prio	SNSM_RADIO_PRIO_1
ppp_hc	SMREG_VAN_NOT_USED
msid	NOT_USED

	dcomp SMREG_COMP_NEITHER_DIRECT hcomp SMREG_COMP_NEITHER_DIRECT dti_linkid dti_neighbor dti_direction	DTI_LINKID_ABCD DTI_NEIGHBOR_ABCD SNSM_HOME
(21) SMREG_PDP_DEACTIVATE_REQ	nsapi_set smreg_local	NSAPI_SET_2 SMREG_NONLOCAL
(22) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(23) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(24) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(25) GMM SM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK DEACT_PDP_REQ TI_0 SM_CAUSE_REGULAR
(26) GMM SM_UNITDATA_REQ	sdu { component direction	SM UPLINK

		pd	DEACT_PDP_REQ
		ti	TI_0
		sm_cause	SM_CAUSE_REGULAR
		}	
(27) SNSM_DEACTIVATE_IND		lli	NOT_USED
		nsapi_set	NSAPI_SET_2
		rel_ind	REL_IND_YES
History:			
	11-Apr-2002	HK	Initial

4.4 Context modification

4.4.1 SM401: PDP context modification initiated by the network, MS accepts QoS and SAPI

Description:
(MSC 3.5.1)

(SM 1)

SM is in state PDP_ACTIVE <R.SM.PDP_ACT.M.001>. The network sends a MODIFY_PDP_CONTEXT_REQ message to initiate a PDP context modification <R.SM.CONT_MOD.M.005>, <R.SM.CO_MOD.M.004>, <R.SM.RAU_INTE.M.006>.

(GMM 1)

The MS accepts the proposed new QoS and the indicated LLC SAPI <R.SM.CONT_MOD.M.006> (That means the requested new QoS corresponds with the "minimum QoS given by GACI during activation). SM answers with a MODIFY_PDP_CONTEXT_ACCEPT message <R.SM.CONT_MOD.M.006>, <R.SM.CONT_MOD.M.007>, <R.SM.CO_MOD.M.005>, <R.SM.RAU_INTE.M.007>.

(SNDP 1)

SM sends an SNSM_MODIFY_IND to SNDP to trigger change of the QoS profile (see GSM 04.08) for an NSAPI and indication of the SAPI to be used <R.SM.CO_MOD.M.006>, <R.SM.RAU_INTE.M.008>. It is also used by the SM entity in the SGSN to inform the SNDP entity that an NSAPI shall be created, together with the (re-)negotiated QoS profile, the SAPI assigned, and, in the MS, the radio priority level to be used by RLC/MAC.

Preamble:

SM210

SNDP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	
(3) SNSM_MODIFY_IND		
<=====		

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(1) GMMSM_UNITDATA_IND

```
sdu
{
  component          SM
  direction          DOWNLINK
  pd                 MOD_PDP_REQ
  ti                 TI_8
  radio_prio         AIR_RADIO_PRIO_1
  llc_sapi           LLC_SAPI_3
  qos                AIR_QOS_1
}
```

(2) GMMSM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 MOD_PDP_ACC
  ti                 TI_0
}
```

(3) SNSM_MODIFY_IND

```
tti                 NOT_USED
nsapi               NSAPI_2
snsm_qos            SNSM_QOS_0
sapi                SAPI_3
radio_prio          SNSM_RADIO_PRIO_1
send_no             NOT_USED
rec_no              NOT_USED
```

History:

10-May-2000	HK	Initial.
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.4.2 SM402: PDP context modification initiated by the network, MS does not accept QoS and SAPI

Description:
(MSC 3.5.2)

(SM 1)

SM is in state PDP_ACTIVE <R.SM.PDP_ACT.M.001>. The network sends a MODIFY_PDP_CONTEXT_REQ message to initiate a PDP context modification <R.SM.CONT_MOD.M.005>.

(GMM 1)

The MS does not accept the new QoS and the indicated LLC SAPI <R.SM.CONT_MOD.M.008> and initiates the PDP context deactivation procedure by sending a DEACTIVATE_PDP_CONTEXT_REQ message <R.SM.CONT_MOD.M.009>.

Preamble:

SM210

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti radio_prio llc_sapi qos }	SM DOWNLINK MOD_PDP_REQ TI_8 AIR_RADIO_PRIO_1 LLC_SAPI_3 AIR_QOS_UNACCEPTABLE
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti sm_cause AIR_SM_CAUSE_QOS_NOT_ACC }	SM UPLINK DEACT_PDP_REQ TI_0

History:

10-May-2000	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.4.3 SM403: PDP context modification, network initiated, SNDCP finished requested changes

Description:

(MSC 3.5.3)

(SM 1)

SM is in state PDP_INACTIVE <R.SM.PDP_INAC.M.001>. SNDCP sends an SNSM_DEACTIVATE_RES to inform SM that the NSAPI in question has been released <R.SM.CO_MOD.M.010>.

(ACI 1)

SM sends an SMREG_PDP_MODIFY_IND to ACI to confirm that the PDP context has been deactivated <R.SM.CO_MOD.M.011>.

Preamble:

SM401

	SNDCP/GACI	SM	GMM
(1)	SNSM_MODIFY_RES		
	=====>		
(2)	SMREG_PDP_MODIFY_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) SNSM_MODIFY_RES	tli nsapi	NOT_USED NSAPI_2
(2) SMREG_PDP_MODIFY_IND	smreg_qos nsapi_set	SMREG_QOS_0 NSAPI_SET_2

History:

8-Dec-1999	HK	Initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.4.4 SM404: PDP context modification initiated by the network in state PDP_ACTIVE_AWAIT_SNDP, MS accepts QoS and SAPI

Description:

Like case 401, but SM is in state PDP_ACTIVE_AWAIT_SNDP instead PDP_ACTIVE.

Preamble:

SM209

	SNDCP/GACI	SM	GMM
(1)		GMMSM_UNITDATA_IND	
		<=====	
(2)		GMMSM_UNITDATA_REQ	
		=====>	
(3)	SNSM_MODIFY_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(1) GMMSM_UNITDATA_IND

```
sdu
{
  component          SM
  direction          DOWNLINK
  pd                 MOD_PDP_REQ
  ti                 TI_8
  radio_prio         AIR_RADIO_PRIO_1
  llc_sapi           LLC_SAPI_3
  qos                AIR_QOS_1
}
```

(2) GMMSM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 MOD_PDP_ACC
  ti                 TI_0
}
```

(3) SNSM_MODIFY_IND

```
tl
nsapi              NOT_USED
snsm_qos           NSAPI_2
sapi               SNSM_QOS_0
radio_prio         SAPI_3
send_no            SNSM_RADIO_PRIO_1
rec_no             NOT_USED
rec_no             NOT_USED
```

History:

10-Jan-2001

HK

Initial.

4.4.5 SM405: PDP context modification in state PDP_ACTIVE_AWAIT_SNDP, network initiated, SNDP finished requested changes

Description:

Like case 403 but SM is in state PDP_ACTIVE_AWAIT_SNDP instead PDP_ACTIVE.

Preamble:

SM404

	SNDP/GACI	SM	GMM
(1)	SNSM_MODIFY_RES		
	=====>		
(2)	SMREG_PDP_MODIFY_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) SNSM_MODIFY_RES	tl	NOT_USED
	nsapi	NSAPI_2

(2) SMREG_PDP_MODIFY_IND

smreg_qos
nsapi_set

SMREG_QOS_0
NSAPI_SET_2

History:

10-Jan-2001

HK

Initial

4.5 Handling of unknown, unforeseen and erroneous protocol data

4.5.1 SM501: Message other than SM_STATUS with TI value “111”

Description:

(MSC 3.6.2)

(SM 1)

SM is in any state. It receives a message other than SM_STATUS and having a TI value “111” <R.SM.UN_TI.A.001>.

(GMM 1)

SM shall immediately send an SM_STATUS message with TI value “111”.

Preamble:

SM100

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	*<=====	
(2)	GMMSM_UNITDATA_REQ	
	*=====>	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti radio_prio llc_sapi qos }	SM DOWNLINK MOD_PDP_REQ TI_111 AIR_RADIO_PRIO_1 LLC_SAPI_3 AIR_QOS_UNACCEPTABLE
(2) GMMSM_UNITDATA_REQ	sdu	

```

{
  component
  direction
  pd
  ti
  sm_cause
}
SM
UPLINK
SM_STATUS
TI_111
AIR_SM_CAUSE_TI_INVALID

```

History:

10-May-2000	HK	initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.5.2 SM502: Invalid transaction identifier value

Description:

(MSC 3.6.3)

A session management message except REQUEST_PDP_CONTEXT_ACTIVATION or SM_STATUS is received by the MS specifying a transaction identifier which is not recognized as relating to an active context or to a context that is in the process of activation or deactivation or has been [recently] deactivated <R.SM.UN_TI.M.006>.

(GMM 1)

SM sends an SM_STATUS message with cause #81 "Invalid transaction identifier value" using the received transaction identifier value <R.SM.UN_TI.M.007>.

Preamble:

SM100

SNDCP/GACI	SM	GMM
(1)		
	GMMSM_UNITDATA_IND	
	* <=====*	
(2)	GMMSM_UNITDATA_REQ	
	* =====>*	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	MOD_PDP_REQ
	ti	TI_8
	radio_prio	AIR_RADIO_PRIO_1
	llc_sapi	LLC_SAPI_3
	qos	AIR_QOS_UNACCEPTABLE
	}	
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM

```

direction
pd
ti
sm_cause
}
UPLINK
SM_STATUS
TI_0
AIR_SM_CAUSE_TI_INVALID

```

History:

10-May-2000	HK	initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.5.3 SM503: Unknown message type

Description: (MSC 3.6.5)

(SM 1)

If a mobile station receives an SM message with message type not defined for the PD or not implemented by the receiver<R.SM.UN_MSG_T.M.001>, then

(GMM 1)

it shall return a status message (SM STATUS) with cause # 97 "message type non-existent or not implemented" <R.SM.UN_MSG_T.M.002>.

Note: Here a ACT_AA_PDP_ACC is received. The anonymous access is not implemented.

Preamble:

SM100

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	ACT_AA_PDP_ACC_UNEX
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti sm_cause	SM UPLINK SM_STATUS TI_8

```
AIR_SM_CAUSE_MSG_T_NON_X
}
```

History:

10-May-2000	HK	initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.5.4 SM504: Unforeseen message type, not compatible with protocol state

Description:
(MSC 3.6.6)

(SM 1)

If a mobile station receives an SM message with message type not compatible with the protocol state <R.SM.UN_MSG_T.M.006> and an RR connection exists <R.SM.UN_MSG_T.M.007>, then

(GMM 1)

it shall return a status message (SM STATUS) with cause # 98 " Message type not compatible with protocol state" <R.SM.UN_MSG_T.M.008>. (If no RR connection existed, the message is just ignored.

Note: Here an ACTIVATE_PDP_ACC is sent for a context that is already activated.

Preamble:

SM210

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	* <=====*	
(2)	GMMSM_UNITDATA_REQ	
	* =====>*	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	ACTIVATE_PDP_ACC
	ti	TI_8
	llc_sapi	LLC_SAPI_3
	qos	AIR_QOS_1
	radio_prio	AIR_RADIO_PRIO_1
	address	AIR_ADDRESS_1
	pco	AIR_PCO_123456789
	}	
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK

```

pd
ti
sm_cause
AIR_SM_CAUSE_MSG_T_NOT_COMP
}
SM_STATUS
TI_0

```

History:

10-May-2000	HK	initial
11-Oct-2000	HK	Fill 'NOT_USED' params.
24-Nov-2000	HK	Improved ti handling.

4.5.5 SM505: Non_semantical mandatory element errors, not in list GSM 4.08, 8.5

Description:
(MSC 3.6.7)

(SM 1)

The mobile station receives an SM message with Non-semantical mandatory information element errors and the message is not in the list in [GSM 04.65, 8.5] <R.SM.MAND_ERR.M.005> and an RR connection exists <R.SM.MAND_ERR.M.002>

(GMM 1)

The MS shall return a status message (SM-STATUS) with cause # 96 "invalid mandatory information" <R.SM.MAND_ERR.M.003>. If no RR connection exists the message is just ignored <R.SM.MAND_ERR.M.004>.

Note: in this case a MOD_PDP_REQ with missing IE 'QoS' is received.

Preamble:

SM209

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	* <=====*	
(2)	GMMSM_UNITDATA_REQ	
	* =====>*	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	MOD_PDP_REQ_IE_MISS
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	SM_STATUS
	ti	TI_8
	sm_cause	

```
AIR_SM_CAUSE_MAND_INF_INVALID
}
```

History:

10-May-2000	HK	initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.5.6 SM506: Non_semantical mandatory element errors, DEACT_PDP_REQ

Description:
(MSC 3.6.8)

(SM 1)

The mobile station receives an SM message with Non-semantical mandatory information element errors and the message is DEACTIVATE PDP CONTEXT REQUEST <R.SM.MAND_ERR.M.006>.

(GMM 1)

The MS shall return a DEACTIVATE PDP CONTEXT ACCEPT message. All resources allocated for that context shall be released.

Preamble:

SM209

	SNDCP/GACI	SM	GMM
(1)		GMMSM_UNITDATA_IND	
		<=====	
(2)		GMMSM_UNITDATA_REQ	
		=====>	
(3)	SNSM_DEACTIVATE_IND		
	<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	DEACT_PDP_REQ_IE_MISS
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti }	SM DOWNLINK DEACT_PDP_ACC TI_0
(3) SNSM_DEACTIVATE_IND	tl nsapi_set rel_ind	NOT_USED NSAPI_SET_2 REL_IND_NO

History:

10-May-2000	HK	initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.5.7 SM507: Non_semantical mandatory element errors, REQ_PDP_ACT

Description:
(MSC 3.6.9)

(SM 1)

The mobile station receives an SM message with Non-semantical mandatory information element errors and the message is REQUEST_PDP_CONTEXT_ACTIVATION <R.SM.MAND_ERR.M.008>.

(GMM 1)

The MS shall return a REQUEST_PDP_CONTEXT_ACTIVATION_REJECT message with cause # 96 "Invalid mandatory information".

Preamble:

SM209

SNDCP/GACI	SM	GMM
(1)		
	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	REQ_PDP_ACT_IE_MISS
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	REQ_PDP_ACT_REJ
	ti	TI_8
	sm_cause	
	AIR_SM_CAUSE_MAND_INF_INVALID	
	}	

History:

10-May-2000	HK	initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.5.8 SM508: TI flag set to 1 with

Description:

(SM 1)

When an ACTIVATE AA PDP CONTEXT REQUEST or REQUEST PDP CONTEXT ACTIVATION message is received with a transaction identifier flag set to "1", this message shall be ignored.

Preamble:

SM100

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	* <=====*	
MUTE (3000)		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	REQ_PDP_ACT
	ti	TI_1_000
	address	AIR_ADDRESS_1
	apn	AIR_APN_TEST
	}	

History:

20-May-2000	HK	initial
11-Oct-2000	HK	Fill 'NOT_USED' params.

4.5.9 SM509: ACTIVATE_PDP_ACC with invalid SAPI number

Description:

An ACTIVATE_PDP_ACC message with a SAPI number not equal to 3, 5, 9, 11 arrives. According to GSM 4.08, 8.5 an SM_STATUS_REQ is sent.

Preamble:

SM207

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(3) GMMSM_UNITDATA_IND	sdu { component direction pd ti llc_sapi qos radio_prio address pco }	SM DOWNLINK ACTIVATE_PDP_ACC TI_8 AIR_LLC_SAPI_17 AIR_QOS_1 AIR_RADIO_PRIO_1 AIR_ADDRESS_1 AIR_PCO_123456789
(1) GMMSM_UNITDATA_REQ	sdu { component direction pd ti sm_cause }	SM UPLINK SM_STATUS TI_0 AIR_SM_CAUSE_MAND_INF_INVALID

History:

04-Jan-2001	HK	initial
15-Mar-2002	HK	Now SM_STATUS is sent instead of DEACT_PDP_REQ.

4.5.10 SM510: MOD_PDP_REQ with invalid SAPI number

Description:

A MOD_PDP_REQ message with a SAPI number not equal to 3, 5, 9, 11 arrives. According to GSM 4.08, 8.5 an SM_STATUS_REQ is sent.

Preamble:

SM210

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	*<=====	*
(2)	GMMSM_UNITDATA_REQ	
	*=====>	*

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti radio_prio llc_sapi qos }	SM DOWNLINK MOD_PDP_REQ TI_8 AIR_RADIO_PRIO_1 AIR_LLC_SAPI_17 AIR_QOS_1
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti sm_cause AIR_SM_CAUSE_MAND_INF_INVALID }	SM UPLINK SM_STATUS TI_0

History:

04-Jan-2001	HK	initial
15-Mar-2002	HK	Now SM_STATUS is sent instead of DEACT_PDP_REQ.

4.5.11 SM511: Message not compatible with protocol state, ACTIVATE_PDP_ACC

Description:

An ACTIVATE_PDP_ACC message is received in a state where it is not expected. An SM_STATUS is sent. Pending timers are stopped.

<A>:	CO_ACTIVE_AWAIT_SNDCP
:	CO_PDP_ACTIVE
<C>:	CO_PDP_INACTIVE_PENDING
<D>:	CO_PDP_STATUS_PENDING
<E>:	CO_PDP_STATUS_WAIT_SNDCP

Variants:

<A>...<E>

Preamble:

<A>SM209
SM210
<C>SM301
<D>SM309
<E>SM310

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>*	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti llc_sapi qos radio_prio address pco }	SM DOWNLINK ACTIVATE_PDP_ACC TI_8 LLC_SAPI_3 AIR_QOS_1 AIR_RADIO_PRIO_1 AIR_ADDRESS_1 AIR_PCO_123456789
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti sm_cause AIR_SM_CAUSE_MSG_T_NOT_COMP }	SM UPLINK SM_STATUS TI_0

History:

31-Jan-2001 HK initial

4.5.12 SM512: Message not compatible with protocol state, ACTIVATE_PDP_REJ

Description:

An ACTIVATE_PDP_ACC message is received in a state where it is not expected. An SM_STATUS is sent. Pending timers are stopped.

<A>: CO_ACTIVE_AWAIT_SNDP
: CO_PDP_ACTIVE
<C>: CO_PDP_INACTIVE_PENDING
<D>: CO_PDP_STATUS_PENDING
<E>: CO_PDP_STATUS_WAIT_SNDP

Variants:

<A>...<E>

Preamble:

<A>SM209
SM210
<C>SM301
<D>SM309
<E>SM310

SNDP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
(2)	GMMSM_UNITDATA_REQ	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu { component direction pd ti sm_cause AIR_SM_CAUSE_GGSN_ACT_REJ pco }	SM DOWNLINK ACTIVATE_PDP_REJ TI_8 AIR_PCO_123456789
(2) GMMSM_UNITDATA_REQ	sdu { component direction pd ti	SM UPLINK SM_STATUS TI_0

```
sm_cause
AIR_SM_CAUSE_MSG_T_NOT_COMP
}
```

History: 31-Jan-2001 HK initial

4.5.13 SM513: Message not compatible with protocol state, DEACT_PDP_ACC

Description:

An ACTIVATE_PDP_ACC message is received in a state where it is not expected. An SM_STATUS is sent. Pending timers are stopped.

<A>: CO_ACTIVE_AWAIT_SNDP
 : CO_PDP_ACTIVE
 <C>: CO_PDP_ACTIVE_PENDING
 <D>: CO_PDP_STATUS_WAIT_SNDP

Variants:

<A>...<D>

Preamble:

<A>SM209
 SM210
 <C>SM207
 <D>SM310

SNDP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>*	

Parametrization:

Primitive	Parameter	Value
(7) GMMSM_UNITDATA_IND	sdu { component direction pd ti }	SM DOWNLINK DEACT_PDP_ACC TI_8
(8) GMMSM_UNITDATA_REQ	sdu { component direction pd	SM UPLINK SM_STATUS

```

ti
sm_cause
AIR_SM_CAUSE_MSG_T_NOT_COMP
}

```

History: 31-Jan-2001 HK initial

4.5.14 SM514: Message not compatible with protocol state, MOD_PDP_REQ

Description:

An ACTIVATE_PDP_ACC message is received in a state where it is not expected. An SM_STATUS is sent. Pending timers are stopped.

<A>: CO_PDP_INACTIVE_PENDING
 : CO_PDP_STATUS_PENDING
 <C>: CO_PDP_STATUS_WAIT_SNDP
 <D>: CO_PDP_ACTIVE_PENDING

Variants:

<A>...<D>

Preamble:

<A>SM301
 SM309
 <C>SM310
 <D>SM207

SNDP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>*	

Parametrization:

Primitive	Parameter	Value
(3) GMMSM_UNITDATA_IND	sdu { component direction pd ti radio_prio llc_sapi qos }	SM DOWNLINK MOD_PDP_REQ TI_8 AIR_RADIO_PRIO_1 AIR_LLC_SAPI_3 AIR_QOS_1
(1) GMMSM_UNITDATA_REQ	sdu	

```
{
  component      SM
  direction      UPLINK
  pd             SM_STATUS
  ti             TI_0
  sm_cause       AIR_SM_CAUSE_MSG_T_NOT_COMP
}
```

History:

31-Jan-2001	HK	initial
15-Mar-2002	HK	Change sapi in acct message from 17

4.5.15 SM515: MOD_PDP_REQ for non existing context

Description:

A MOD_PDP_REQ message for a non existing context is received.

.

Preamble:

SM313

	SNDCP/GACI	SM	GMM
(1)	SNSM_DEACTIVATE_RES		
	=====>		
(2)		GMMSM_UNITDATA_IND	
		<=====	
(3)		GMMSM_UNITDATA_REQ	
		=====>	

Parametrization:

Primitive	Parameter	Value
(4) SNSM_DEACTIVATE_RES	tti	NOT_USED
	nsapi	SMREG_NSAPI_2
(5) GMMSM_UNITDATA_IND	sdu	
	{ component SM direction DOWNLINK pd MOD_PDP_REQ ti TI_8 radio_prio AIR_RADIO_PRIO_1 llc_sapi AIR_LLC_SAPI_17 qos AIR_QOS_1 }	
(6) GMMSM_UNITDATA_REQ	sdu	

```

{
  component      SM
  direction      UPLINK
  pd             SM_STATUS
  ti             TI_0
  sm_cause       AIR_SM_CAUSE_TI_INVALID
}

```

History:

Date	Author	Version
18-Jul-2001	HK	initial

4.5.16 SM516: Invalid ti, ACTIVATE_PDP_ACC

Description:

An ACTIVATE_PDP_ACC message is received for an unused ti. An SM_STATUS is sent. Pending timers are stopped.

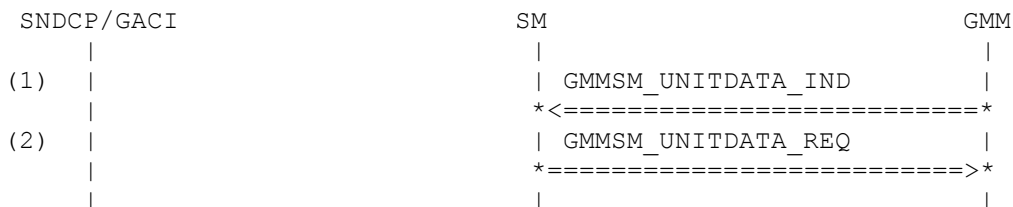
<A>: CO_PDP_INACTIVE_WAIT_SNDP
 : CO_PDP_INACTIVE_WAIT_SNDP_MT
 <C>: CO_AWAIT_GMMMSM_ESTABLISH_CNF

Variants:

<A>...<C>

Preamble:

<A>SM302
 SM304
 <C>SM201



Parametrization:

Primitive	Parameter	Value
(3) GMMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	ACTIVATE_PDP_ACC
	ti	TI_8
	llc_sapi	LLC_SAPI_3
	qos	AIR_QOS_1
	radio_prio	AIR_RADIO_PRIO_1
	address	AIR_ADDRESS_1
	pco	AIR_PCO_123456789
	}	

(4) GMMSM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 SM_STATUS
  ti                 TI_0
  sm_cause           AIR_SM_CAUSE_TI_INVAL
}
```

History:

Date	Author	Initial
20-Jul-2001	HK	initial

4.5.17 SM517: Invalid ti, ACTIVATE_PDP_REJ

Description:

An ACTIVATE_PDP_REJ message is received in a state where it is not expected. An SM_STATUS is sent. Pending timers are stopped.

Label	Value
<A>:	CO_PDP_INACTIVE_WAIT_SNDP
:	CO_PDP_INACTIVE_WAIT_SNDP_MT
<C>:	CO_AWAIT_GMMSM_ESTABLISH_CNF

Variants:

<A>...<C>

Preamble:

Label	Value
<A>	SM302
	SM304
<C>	SM201

Sequence	SNDCP/GACI	SM	GMM
(1)			
		GMMSM_UNITDATA_IND	
		<=====	
(2)		GMMSM_UNITDATA_REQ	
		=====>*	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(3) GMMSM_UNITDATA_IND

```
sdu
{
  component          SM
  direction          DOWNLINK
  pd                 ACTIVATE_PDP_REJ
  ti                 TI_8
  sm_cause           AIR_SM_CAUSE_GGSN_ACT_REJ
}
```

```

                                pco                                AIR_PCO_123456789
                                }

(4) GMM SM_UNITDATA_REQ

                                sdu
                                {
                                component                                SM
                                direction                                UPLINK
                                pd                                    SM_STATUS
                                ti                                    TI_0
                                sm_cause                            AIR_SM_CAUSE_TI_INVAL
                                }

```

History:

31-Jan-2001	HK	initial
-------------	----	---------

4.5.18 SM518: Invalid ti, DEACT_PDP_ACC

Description:

An ACTIVATE_PDP_ACC message is received in a state where it is not expected. An SM_STATUS is sent. Pending timers are stopped.

<A>: CO_PDP_INACTIVE_WAIT_SND CP
 : CO_PDP_INACTIVE_WAIT_SND CP_MT
 <C>: CO_AWAIT_GMM SM_ESTABLISH_CN F

Variants:

<A>...<C>

Preamble:

<A>SM302
 SM304
 <C>SM201

SND CP / GAC I	SM	GMM
(1)		
	GMM SM_UNITDATA_IND	
	* <=====*	
(2)	GMM SM_UNITDATA_REQ	
	===== >	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

```

(9) GMM SM_UNITDATA_IND

                                sdu
                                {
                                component                                SM
                                direction                                DOWNLINK
                                pd                                    DEACT_PDP_ACC
                                ti                                    TI_8
                                }

```

(10) GMMSM_UNITDATA_REQ

```
sdu
{
  component          SM
  direction          UPLINK
  pd                 SM_STATUS
  ti                 TI_0
  sm_cause           AIR_SM_CAUSE_TI_INVAL
}
```

History:

Date	Author	Initial
31-Jan-2001	HK	initial

4.5.19 SM519: Message not compatible with protocol state, MOD_PDP_REQ

Description:

A MOD_PDP_REQ message is received in a state where it is not expected. An SM_STATUS is sent. Pending timers are stopped.

<A>:	CO_PDP_INACTIVE_WAIT_SNDP
:	CO_PDP_INACTIVE_WAIT_SNDP_MT
<C>:	CO_AWAIT_GMMSM_ESTABLISH_CNF

Variants:

<A>...<C>

Preamble:

<A>	SM302
	SM304
<C>	SM201

SNDP/GACI	SM	GMM
(1)		
	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
-----------	-----------	-------

(7) GMMSM_UNITDATA_IND

```
sdu
{
  component          SM
  direction          DOWNLINK
  pd                 MOD_PDP_REQ
  ti                 TI_8
  radio_prio         AIR_RADIO_PRIO_1
  llc_sapi           AIR_LLC_SAPI_3
}
```

	qos	AIR_QOS_1
	}	
(2) GMMSM_UNITDATA_REQ	sdu	
	{	
	component	SM
	direction	UPLINK
	pd	SM_STATUS
	ti	TI_0
	sm_cause	AIR_SM_CAUSE_TI_INVALID
	}	

History:

31-Jan-2001	HK	initial
-------------	----	---------

4.6 Routing Area update

4.6.1 SM601: Receiving GMMSM_SEQUENCE_IND

Description:

In the course of a Routing Area Update SM receives a GMMSM_SEQUENCE_IND and passes it in form of SNSM_SEQUENCE_IND to SNDCP.

Preamble:

SM210

SNDCP/GACI	SM	GMM
(1)		
	GMMSM_SEQUENCE_IND	
	<=====	
(2) SNSM_SEQUENCE_IND		
<=====		

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_SEQUENCE_IND	npdu_list	NPDU_LIST_OLD
(2) SNSM_SEQUENCE_IND	tl	NOT_USED
	nsapi	NSAPI_7
	rec_no	REC_NO_AA

History:

26-Oct-2000 HK Initial

4.6.2 SM602: Receiving SNSM_SEQUENCE_RES

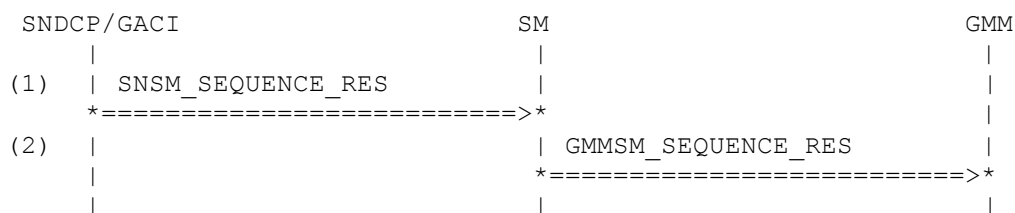
Description:

In the course of a Routing Area Update SM receives an SNSM_SEQUENCE_RES and passes it in form of GMMSM_SEQUENCE_RES to GMM.

.

Preamble:

SM601



Parametrization:

Primitive	Parameter	Value
(1) SNSM_SEQUENCE_RES	tl	NOT_USED
	nsapi	NSAPI_7
	rec_no	REC_NO_AA
(2) GMMSM_SEQUENCE_RES	npdu_list	NPDU_LIST_OLD

History:

26-Oct-2000 HK Initial

4.6.3 SM603: Receiving GMMSM_SEQUENCE_IND with unused nsapi

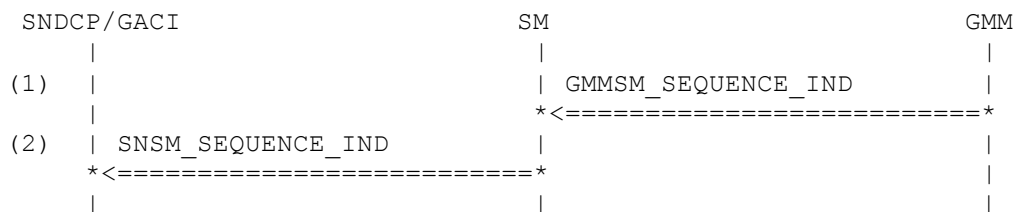
Description:

In the course of a Routing Area Update SM receives a GMMSM_SEQUENCE_IND and passes it in form of SNSM_SEQUENCE_IND to SNDSCP. The nsapi given is not used.

.

Preamble:

SM100



Parametrization:

Primitive	Parameter	Value
(3) GMMSM_SEQUENCE_IND	npdu_list	NPDU_LIST_OLD
(4) SNSM_SEQUENCE_IND	tlli nsapi rec_no	NOT_USED NSAPI_7 REC_NO_AA

History:

26-Mar-2002 HK Initial

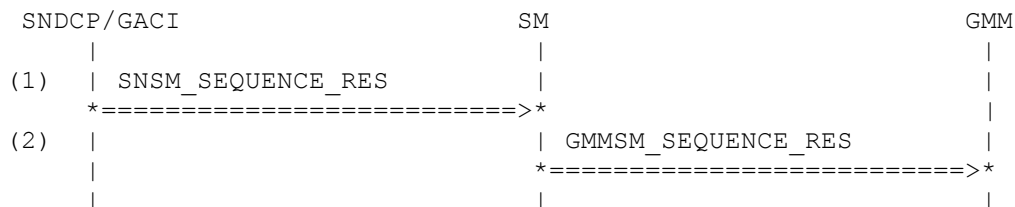
4.6.4 SM604: Receiving SNSM_SEQUENCE_RES

Description:

In the course of a Routing Area Update SM receives an SNSM_SEQUENCE_RES and passes it in form of GMMSM_SEQUENCE_RES to GMM. The affected nsapi is not used.

Preamble:

SM603



Parametrization:

Primitive	Parameter	Value
(3) SNSM_SEQUENCE_RES	tlli nsapi rec_no	NOT_USED NSAPI_7 REC_NO_AA
(4) GMMSM_SEQUENCE_RES	npdu_list	NPDU_LIST_OLD

History:

26-Mar-2002 HK Initial

4.6.5 SM605: Receiving GMMSM_SEQUENCE_IND with empty npdu number list

Description:

In the course of a Routing Area Update SM receives a GMMSM_SEQUENCE_IND. The list of npdu numbers is empty. A GMMSM_SEQUENCE_RES is sent immediately.

Preamble:

SM100

SNDCP/GACI	SM	GMM
(1)	GMMSM_SEQUENCE_IND	
	<=====	
(2)	GMMSM_SEQUENCE_RES	
	=====>	

Parametrization:

Primitive	Parameter	Value
(5) GMMSM_SEQUENCE_IND	npdu_list	NPDU_LIST_EMPTY
(6) GMMSM_SEQUENCE_RES	npdu_list	NPDU_LIST_EMPTY

History:

04-Apr-2002 HK Initial

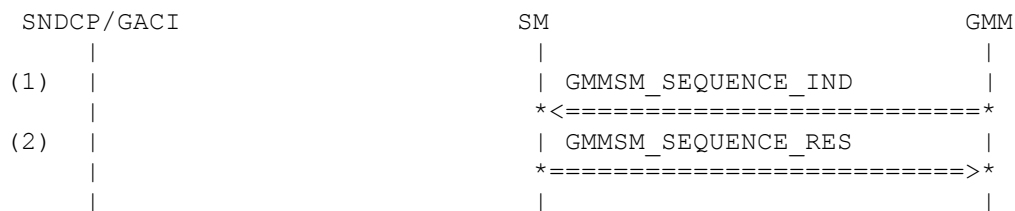
4.6.6 SM606: Receiving GMMSM_SEQUENCE_IND, npdu number list for invalid nsapi value

Description:

In the course of a Routing Area Update SM receives a GMMSM_SEQUENCE_IND. The affected nsapi for the list of npdu numbers is an invalid value (valid nsapis values go from 0 to 15). A GMMSM_SEQUENCE_RES is sent immediately.

Preamble:

SM100



Parametrization:

Primitive	Parameter	Value
(7) GMM SM _ SEQUENCE _ IND	npdu_list	NPDU_LIST_INVALID
(8) GMM SM _ SEQUENCE _ RES	npdu_list	NPDU_LIST_EMPTY

History:

04-Apr-2002 HK Initial

4.7 Config Primitives

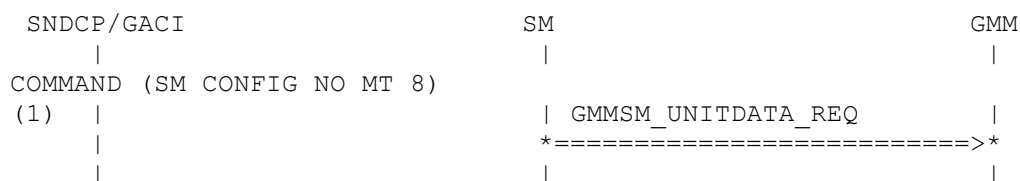
4.7.1 SM701: Config prim NO MT

Description:

The Config prim NO MT results in an air message ACTIVATE_PDP_REJ with cause INSUF_RES.

Preamble:

SM207



Parametrization:

Primitive	Parameter	Value
(1) GMM SM _ UNITDATA _ REQ	sdu { component direction pd ti	SM UPLINK REQ_PDP_ACT_REJ TI_8


```
sm_cause
AIR_SM_CAUSE_INSUF_RES
}
```

History:

10-May-2001	HK	Initial
-------------	----	---------

4.8 Collision of MT and MO activation

4.8.1 SM801: Collision of MT and MO activation, all MO activations use dynamic address allocation

Description:

An MT activation collides with an MO activation. The MO activation uses dynamic address allocation. The collision is ignored and the MT activation handled like normal.

Variants:

<A>...

Preamble:

<A>SM233
SM234

SNDCCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2) SMREG_PDP_ACTIVATE_IND		
	<=====	

Parametrization:

Primitive	Parameter	Value
(3) GMMSM_UNITDATA_IND	sdu { component direction pd ti address apn }	SM DOWNLINK REQ_PDP_ACT TI_0 AIR_ADDRESS_1 AIR_APN_WELL_FORMED
(4) SMREG_PDP_ACTIVATE_IND	smreg_qos smreg_ti smreg_apn SMREG_APN_WELL_FORMED	NOT_USED TI_8

pdp_type	PDP_TYPE_IP_V_4
pdp_address	PDP_ADDRESS_1

History:

17-May-2001	HK	Initial
-------------	----	---------

4.8.2 SM802: Collision of MT and MO activation, 1 MO activations uses dynamic address allocation, 1 has not requested APN (i.e. not comparable)

Description: An MT activation collides with two MO activations. The 1st MO activation uses dynamic address allocation. The 2nd has not requested the APN, i.e. is not comparable. The REQ_PDP_ACT is rejected.

Variants:
<A>...

Preamble:
<A>SM235
SM236

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
(2)	GMMSM_UNITDATA_REQ	

Parametrization:

Primitive	Parameter	Value
(5) GMMSM_UNITDATA_IND	sdu { component direction pd ti address apn }	SM DOWNLINK REQ_PDP_ACT TI_0 AIR_ADDRESS_1 AIR_APN_WELL_FORMED
(6) GMMSM_UNITDATA_REQ	sdu { component direction pd ti sm_cause	SM UPLINK REQ_PDP_ACT_REJ TI_8

```
AIR_SM_CAUSE_INSUF_RES
}
```

History:

17-May-2001 HK Initial

4.8.3 SM803: Collision of MT and MO activation, 1 MO activations uses dynamic address allocation, 1 is comparable and equal to MT activation

Description:

An MT activation collides with two MO activations. The 1st MO activation uses dynamic address allocation. The 2nd is comparable with the MT activation and uses same type, address, APN. The REQ_PDP_ACT is ignored.

Variants:

<A>...

Preamble:

<A>SM237

SM238

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
MUTE (3000)		

Parametrization:

Primitive	Parameter	Value
(7) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	REQ_PDP_ACT
	ti	TI_0
	address	AIR_ADDRESS_1
	apn	AIR_APN_WELL_FORMED
	}	

History:

17-May-2001 HK Initial

4.8.4 SM804: Collision of MT and MO activation, 1 MO activations uses dynamic address allocation, 1 is comparable and different from MT activation

Description:

An MT activation collides with two MO activations. The 1st MO activation uses dynamic address allocation. The 2nd is comparable with the MT activation and uses different address or APN. The REQ_PDP_ACT is accepted and computed. Different type is also checked, but leads to rejection in the current implementation!) Different address in <A>, , different APN in <C>, <D>.

Variants:

<A>...<D>

Preamble:

<A>SM237
SM238
<C>SM237
<D>SM238

SNDCP/GACI	SM	GMM
(1)	GMMSM_UNITDATA_IND	
	<=====	
(2)	SMREG_PDP_ACTIVATE_IND	
	<=====	

Parametrization:

Primitive	Parameter	Value
(8) GMMSM_UNITDATA_IND	sdu { component direction pd ti address address address address apn apn apn apn }	SM DOWNLINK REQ_PDP_ACT TI_0 AIR_ADDRESS_2 AIR_ADDRESS_2 AIR_ADDRESS_1 AIR_ADDRESS_1 AIR_APN_WELL_FORMED AIR_APN_WELL_FORMED AIR_APN_TEST AIR_APN_TEST
(9) SMREG_PDP_ACTIVATE_IND	smreg_qos smreg_ti smreg_apn SMREG_APN_WELL_FORMED	NOT_USED TI_8
<A>		

	smreg_apn	
	SMREG_APN_WELL_FORMED	
<C>	smreg_apn	SMREG_APN_TEST
<D>	smreg_apn	SMREG_APN_TEST
	pdp_type	PDP_TYPE_IP_V_4
<A>	pdp_address	PDP_ADDRESS_2
	pdp_address	PDP_ADDRESS_2
<C>	pdp_address	PDP_ADDRESS_1
<D>	pdp_address	PDP_ADDRESS_1

History:

17-May-2001 HK Initial

History:

17-May-2001 HK Initial

4.8.5 SM805: Collison of MO and MT context activation, pdp type is not IP 4

Description:

During two MO activations with an IP version 4 addresses an MT activation with IP version 6 comes in. The activation is rejected because IP 6 is not supported yet.

Preamble:

SM237

SNDCP/GACI	SM	GMM
(1)		
	GMMSM_UNITDATA_IND	
	<=====	
(2)	GMMSM_UNITDATA_REQ	
	=====>	

Parametrization:

Primitive	Parameter	Value
(1) GMMSM_UNITDATA_IND	sdu	
	{	
	component	SM
	direction	DOWNLINK
	pd	REQ_PDP_ACT
	ti	TI_0
	address	AIR_ADDRESS_IP6
	apn	AIR_APN_TEST
	}	

(2) GMM SM_UNITDATA_REQ

sdu	
{	
component	SM
direction	UPLINK
pd	REQ_PDP_ACT_REJ
ti	TI_8
sm_cause	AIR_SM_CAUSE_UNK_PDP
}	

History:

20-May-2001

HK

Initial

Appendices

A. Acronyms

DS-WCDMA	Direct Sequence/Spread Wideband Code Division Multiple Access
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B. Glossary

International Mobile Telecommunication 2000 (IMT-2000/ITU-2000)	Formerly referred to as FPLMTS (Future Public Land-Mobile Telephone System), this is the ITU's specification/family of standards for 3G. This initiative provides a global infrastructure through both satellite and terrestrial systems, for fixed and mobile phone users. The family of standards is a framework comprising a mix/blend of systems providing global roaming. <URL: http://www.imt-2000.org/ >
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