

ETSI TS 123 502 V17.7.0 (2023-01)



5G;
Procedures for the 5G System (5GS)
(3GPP TS 23.502 version 17.7.0 Release 17)

[ETSI TS 123 502 V17.7.0 \(2023-01\)](https://standards.iteh.ai/catalog/standards/sist/41a943ec-f9d1-434f-84e7-82a96e1971c6/etsi-ts-123-502-v17-7-0-2023-01)

<https://standards.iteh.ai/catalog/standards/sist/41a943ec-f9d1-434f-84e7-82a96e1971c6/etsi-ts-123-502-v17-7-0-2023-01>



Reference

RTS/TSGS-0223502vh70

Keywords

5G

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Important notice

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:

<https://standards-portal.etsi.org/People/CommitteeSupportStaff.aspx>

If you find a security vulnerability in the present document, please report it through our

Coordinated Vulnerability Disclosure Program:

<https://www.etsi.org/standards/coordinated-vulnerability-disclosure>

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

No representation or warranty is made that this deliverable is technically accurate or sufficient or conforms to any law and/or governmental rule and/or regulation and further, no representation or warranty is made of merchantability or fitness for any particular purpose or against infringement of intellectual property rights.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2023.
All rights reserved.

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

Legal Notice

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities. These shall be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between 3GPP and ETSI identities can be found under <http://webapp.etsi.org/key/queryform.asp>.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Contents

Intellectual Property Rights	2
Legal Notice	2
Modal verbs terminology.....	2
Foreword.....	23
1 Scope	24
2 References	24
3 Definitions, symbols and abbreviations	27
3.1 Definitions	27
3.2 Abbreviations	27
4 System procedures.....	27
4.1 General	27
4.2 Connection, Registration and Mobility Management procedures	27
4.2.1 General.....	27
4.2.2 Registration Management procedures.....	27
4.2.2.1 General	27
4.2.2.2 Registration procedures.....	28
4.2.2.2.1 General	28
4.2.2.2.2 General Registration	30
4.2.2.2.3 Registration with AMF re-allocation.....	48
4.2.2.2.4 Registration with Onboarding SNPN	52
4.2.2.3 Deregistration procedures	53
4.2.2.3.1 General	53
4.2.2.3.2 UE-initiated Deregistration.....	54
4.2.2.3.3 Network-initiated Deregistration.....	55
4.2.3 Service Request procedures	57
4.2.3.1 General	57
4.2.3.2 UE Triggered Service Request.....	57
4.2.3.3 Network Triggered Service Request	70
4.2.4 UE Configuration Update	78
4.2.4.1 General	78
4.2.4.2 UE Configuration Update procedure for access and mobility management related parameters	78
4.2.4.3 UE Configuration Update procedure for transparent UE Policy delivery.....	82
4.2.5 Reachability procedures.....	84
4.2.5.1 General	84
4.2.5.2 UE Reachability Notification Request procedure	84
4.2.5.3 UE Activity Notification procedure	86
4.2.6 AN Release	87
4.2.7 N2 procedures.....	90
4.2.7.1 N2 Configuration	90
4.2.7.2 NGAP UE-TNLA-binding related procedures.....	90
4.2.7.2.1 Creating NGAP UE-TNLA-bindings during Registration and Service Request	90
4.2.7.2.2 Creating NGAP UE-TNLA-bindings during handovers.....	91
4.2.7.2.3 Re-Creating NGAP UE-TNLA-bindings subsequent to NGAP UE-TNLA-binding release	91
4.2.7.2.4 NGAP UE-TNLA-binding update procedure	92
4.2.7.2.5 NGAP UE-TNLA-binding per UE Release procedure	92
4.2.7.3 AMF Failure or Planned Maintenance handling procedure	92
4.2.8 Void	93
4.2.8a UE Capability Match Request procedure.....	93
4.2.9 Network Slice-Specific Authentication and Authorization procedure.....	94
4.2.9.1 General	94
4.2.9.2 Network Slice-Specific Authentication and Authorization	95
4.2.9.3 AAA Server triggered Network Slice-Specific Re-authentication and Re-authorization procedure.....	97
4.2.9.4 AAA Server triggered Slice-Specific Authorization Revocation.....	98
4.2.10 N3 data transfer establishment procedure when Control Plane CIoT 5GS Optimisation is enabled	99

4.2.10.1	UE triggered N3 data transfer establishment procedure.....	99
4.2.10.2	SMF triggered N3 data transfer establishment procedure.....	99
4.2.11	Network Slice Admission Control Function (NSACF) procedures	100
4.2.11.1	General	100
4.2.11.2	Number of UEs per network slice availability check and update procedure.....	100
4.2.11.3	Configuration for Early Admission Control (EAC) update procedure.....	103
4.2.11.4	Number of PDU Sessions per network slice availability check and update procedure	104
4.2.11.5	Network Slice Admission Control Support for Roaming.....	106
4.2.11.5.1	Network Slice Admission Control Support for Roaming by VPLMN.....	106
4.2.11.5.2	Network Slice Admission Control Support for Roaming by HPLMN.....	106
4.3	Session Management procedures	106
4.3.1	General.....	106
4.3.2	PDU Session Establishment.....	107
4.3.2.1	General	107
4.3.2.2	UE Requested PDU Session Establishment.....	108
4.3.2.2.1	Non-roaming and Roaming with Local Breakout.....	108
4.3.2.2.2	Home-routed Roaming	121
4.3.2.2.3	SMF selection.....	126
4.3.2.2.4	Multiple PDU Sessions towards the same DNN and S-NSSAI.....	129
4.3.2.3	Secondary authorization/authentication by an DN-AAA Server during the PDU Session establishment.....	130
4.3.2.4	Support of L2TP.....	132
4.3.3	PDU Session Modification	134
4.3.3.1	General	134
4.3.3.2	UE or network requested PDU Session Modification (non-roaming and roaming with local breakout)	134
4.3.3.3	UE or network requested PDU Session Modification (home-routed roaming).....	141
4.3.4	PDU Session Release.....	144
4.3.4.1	General	144
4.3.4.2	UE or network requested PDU Session Release for Non-Roaming and Roaming with Local Breakout.....	144
4.3.4.3	UE or network requested PDU Session Release for Home-routed Roaming	149
4.3.5	Session continuity, service continuity and UP path management.....	152
4.3.5.1	Change of SSC mode 2 PDU Session Anchor with different PDU Sessions	152
4.3.5.2	Change of SSC mode 3 PDU Session Anchor with multiple PDU Sessions	153
4.3.5.3	Change of SSC mode 3 PDU Session Anchor with IPv6 Multi-homed PDU Session.....	155
4.3.5.4	Addition of additional PDU Session Anchor and Branching Point or UL CL.....	158
4.3.5.5	Removal of additional PDU Session Anchor and Branching Point or UL CL.....	159
4.3.5.6	Change of additional PDU Session Anchor for IPv6 multi-homing or UL CL.....	161
4.3.5.7	Simultaneous change of Branching Point or UL CL and additional PSA for a PDU Session.....	162
4.3.5.8	Ethernet PDU Session Anchor Relocation	165
4.3.6	Application Function influence on traffic routing	167
4.3.6.1	General	167
4.3.6.2	Processing AF requests to influence traffic routing for Sessions not identified by an UE address....	169
4.3.6.3	Notification of User Plane Management Events	170
4.3.6.4	Transferring an AF request targeting an individual UE address to the relevant PCF.....	174
4.3.7	CN-initiated selective deactivation of UP connection of an existing PDU Session.....	175
4.4	SMF and UPF interactions	177
4.4.1	N4 session management procedures	177
4.4.1.1	General	177
4.4.1.2	N4 Session Establishment procedure	177
4.4.1.3	N4 Session Modification procedure	178
4.4.1.4	N4 Session Release procedure	179
4.4.2	N4 Reporting Procedures.....	179
4.4.2.1	General	179
4.4.2.2	N4 Session Level Reporting Procedure.....	179
4.4.3	N4 Node Level Procedures	181
4.4.3.1	N4 Association Setup Procedure.....	181
4.4.3.2	N4 Association Update Procedure	182
4.4.3.3	N4 Association Release Procedure	182
4.4.3.4	N4 Report Procedure.....	183
4.4.3.5	N4 PFD management Procedure	183

4.4.4	SMF Pause of Charging procedure	184
4.5	User Profile management procedures.....	185
4.5.1	Subscriber Data Update Notification to AMF	185
4.5.2	Session Management Subscriber Data Update Notification to SMF	186
4.5.3	Purge of subscriber data in AMF	186
4.6	Security procedures	187
4.7	ME Identity check procedure	187
4.8	RAN-CN interactions	187
4.8.1	Connection Inactive and Suspend procedure	187
4.8.1.1	Connection Inactive procedure.....	187
4.8.1.2	Connection Suspend procedure.....	187
4.8.2	Connection Resume procedure	189
4.8.2.1	General	189
4.8.2.2	UE Triggered Connection Resume in RRC Inactive procedure	189
4.8.2.2a	Network Triggered Connection Resume in RRC Inactive procedure	190
4.8.2.3	Connection Resume in CM-IDLE with Suspend procedure	190
4.8.2.4	Connection Resume in CM-IDLE with Suspend and MO EDT procedure.....	192
4.8.3	N2 Notification procedure	194
4.9	Handover procedures.....	195
4.9.1	Handover procedures in 3GPP access.....	195
4.9.1.1	General	195
4.9.1.2	Xn based inter NG-RAN handover	195
4.9.1.2.1	General	195
4.9.1.2.2	Xn based inter NG-RAN handover without User Plane function re-allocation.....	196
4.9.1.2.3	Xn based inter NG-RAN handover with insertion of intermediate UPF	199
4.9.1.2.4	Xn based inter NG-RAN handover with re-allocation of intermediate UPF	201
4.9.1.3	Inter NG-RAN node N2 based handover	202
4.9.1.3.1	General	202
4.9.1.3.2	Preparation phase.....	204
4.9.1.3.3	Execution phase.....	211
4.9.1.3.3a	Execution phase for DAPS handover	215
4.9.1.4	Inter NG-RAN node N2 based handover, Cancel	216
4.9.2	Handover of a PDU Session procedure between 3GPP and untrusted non-3GPP access	216
4.9.2.0	General	216
4.9.2.1	Handover of a PDU Session procedure from untrusted non-3GPP to 3GPP access (non-roaming and roaming with local breakout).....	216
4.9.2.2	Handover of a PDU Session procedure from 3GPP to untrusted non-3GPP access (non-roaming and roaming with local breakout).....	217
4.9.2.3	Handover of a PDU Session procedure from untrusted non-3GPP to 3GPP access (home routed roaming).....	218
4.9.2.3.1	The target AMF is in the PLMN of the N3IWF	218
4.9.2.3.2	The target AMF is not in the PLMN of the N3IWF (i.e. N3IWF in HPLMN).....	219
4.9.2.4	Handover of a PDU Session procedure from 3GPP to untrusted non-3GPP access (home routed roaming).....	220
4.9.2.4.1	The selected N3IWF is in the registered PLMN.....	220
4.9.2.4.2	The UE is roaming and the selected N3IWF is in the home PLMN.....	220
4.9.3	Handover of a PDU Session procedure between 3GPP and trusted non-3GPP access.....	221
4.9.3.0	General	221
4.10	NG-RAN Location reporting procedures	221
4.11	System interworking procedures with EPC.....	223
4.11.0	General.....	223
4.11.0a	Impacts to EPS Procedures	223
4.11.0a.1	General	223
4.11.0a.2	Interaction with PCC.....	223
4.11.0a.3	Mobility Restrictions.....	224
4.11.0a.4	PGW Selection.....	224
4.11.0a.5	PDN Connection Establishment.....	225
4.11.0a.6	Network Configuration	226
4.11.0a.7	Interactions with DN-AAA Server.....	226
4.11.0a.8	5GC NAS capability (re-)enabled and disabled	227
4.11.0a.9	PDN Connection Release.....	227
4.11.1	N26 based Interworking Procedures	227

4.11.1.1	General	227
4.11.1.2	Handover procedures	229
4.11.1.2.1	5GS to EPS handover using N26 interface	229
4.11.1.2.2	EPS to 5GS handover using N26 interface	235
4.11.1.2.3	Handover Cancel	242
4.11.1.3	Idle Mode Mobility procedures	244
4.11.1.3.1	General	244
4.11.1.3.2	5GS to EPS Idle mode mobility using N26 interface	244
4.11.1.3.2A	5GS to EPS Idle mode mobility using N26 interface with data forwarding	248
4.11.1.3.3	EPS to 5GS Mobility Registration Procedure (Idle and Connected State) using N26 interface	248
4.11.1.3.3A	EPS to 5GS Idle mode mobility using N26 interface with data forwarding	254
4.11.1.3.4	EPS to 5GS Mobility Registration Procedure (Idle) using N26 interface with AMF reallocation	255
4.11.1.4	Procedures for EPS bearer ID allocation	256
4.11.1.4.1	EPS bearer ID allocation	256
4.11.1.4.2	EPS bearer ID transfer	259
4.11.1.4.3	EPS bearer ID revocation	260
4.11.1.5	Impacts to EPS Procedures	261
4.11.1.5.1	General	261
4.11.1.5.2	E-UTRAN Initial Attach	261
4.11.1.5.3	Tracking Area Update	262
4.11.1.5.4	Session Management	263
4.11.1.5.5	5GS to EPS handover using N26 interface	265
4.11.1.5.6	UE triggered Service Request	265
4.11.1.5.7	Establishment of S1-U bearer during Data Transport in Control Plane CIoT EPS Optimisation	265
4.11.1.6	EPS interworking information storing Procedure	265
4.11.2	Interworking procedures without N26 interface	265
4.11.2.1	General	265
4.11.2.2	5GS to EPS Mobility	266
4.11.2.3	EPS to 5GS Mobility	268
4.11.2.4	Impacts to EPS Procedures	271
4.11.2.4.1	E-UTRAN Attach	271
4.11.2.4.2	Session Management	273
4.11.2.4.3	Void	273
4.11.3	Handover procedures between EPS and 5GC-N3IWF	273
4.11.3.1	Handover from EPS to 5GC-N3IWF	273
4.11.3.2	Handover from 5GC-N3IWF to EPS	274
4.11.3a	Handover procedures between EPS and 5GC-TNGF	274
4.11.3a.1	Handover from EPS to 5GC-TNGF	274
4.11.3a.2	Handover from 5GC-TNGF to EPS	275
4.11.4	Handover procedures between EPC/ePDG and 5GS	275
4.11.4.1	Handover from EPC/ePDG to 5GS	275
4.11.4.2	Handover from 5GS to EPC/ePDG	276
4.11.4.3	Impacts to EPC/ePDG Procedures	277
4.11.4.3.1	General	277
4.11.4.3.2	ePDG FQDN construction	277
4.11.4.3.3	Initial Attach with GTP on S2b	277
4.11.4.3.3a	Initial Attach for emergency session (GTP on S2b)	277
4.11.4.3.4	Interaction with PCC	278
4.11.4.3.5	UE initiated Connectivity to Additional PDN with GTP on S2b	278
4.11.4.3.6	Use of N10 interface instead of S6b	278
4.11.4.3.7	5GC NAS capability (re-)enabled and disabled	279
4.11.5	Impacts to 5GC Procedures	279
4.11.5.1	General	279
4.11.5.2	Registration procedure	280
4.11.5.3	UE Requested PDU Session Establishment procedure	281
4.11.5.4	UE or Network Requested PDU Session Modification procedure	282
4.11.5.5	Xn based inter NG-RAN handover	283
4.11.5.6	Inter NG-RAN node N2 based handover	283
4.11.5.7	UE or Network Requested PDU Session Release procedure	283
4.11.5.8	Network Configuration	283

4.11.5.9	Network Slice Admission Control	283
4.11.6	Interworking for common network exposure.....	284
4.11.6.1	Subscription and Notification of availability or expected level of support of a service API	284
4.11.6.2	Unsubscribing to N11otification of availability or expected level of support of a service API.....	285
4.11.6.3	Configuration of monitoring events for common network exposure	286
4.12	Procedures for Untrusted non-3GPP access	287
4.12.1	General.....	287
4.12.2	Registration via Untrusted non-3GPP Access	287
4.12.2.1	General	287
4.12.2.2	Registration procedure for untrusted non-3GPP access	288
4.12.2.3	Emergency Registration for untrusted non-3GPP Access.....	290
4.12.3	Deregistration procedure for untrusted non-3gpp access.....	291
4.12.4	N2 procedures via Untrusted non-3GPP Access.....	292
4.12.4.1	Service Request procedures via Untrusted non-3GPP Access	292
4.12.4.2	Procedure for the UE context release in the N3IWF	292
4.12.4.3	CN-initiated selective deactivation of UP connection of an existing PDU Session associated with Untrusted non-3GPP Access	294
4.12.5	UE Requested PDU Session Establishment via Untrusted non-3GPP Access.....	294
4.12.6	UE or Network Requested PDU Session Modification via Untrusted non-3GPP access	296
4.12.7	UE or network Requested PDU Session Release via Untrusted non-3GPP access.....	297
4.12.8	Mobility from a non-geographically selected AMF to a geographically selected AMF.....	299
4.12a	Procedures for Trusted non-3GPP access.....	300
4.12a.1	General.....	300
4.12a.2	Registration via Trusted non-3GPP Access	300
4.12a.2.1	General	300
4.12a.2.2	Registration procedure for trusted non-3GPP access	300
4.12a.2.3	Emergency Registration for trusted non-3GPP Access.....	303
4.12a.3	Deregistration procedure for Trusted non-3GPP access	303
4.12a.4	N2 procedures via Trusted non-3GPP Access	303
4.12a.4.1	Service Request procedures via Trusted non-3GPP Access.....	303
4.12a.4.2	Procedure for the UE context release in the TNGF.....	304
4.12a.4.3	CN-initiated selective deactivation of UP connection of an existing PDU Session associated with Trusted non-3GPP Access.....	304
4.12a.5	UE Requested PDU Session Establishment via Trusted non-3GPP Access	304
4.12a.6	UE or network Requested PDU Session Modification via Trusted non-3GPP access.....	305
4.12a.7	UE or network Requested PDU Session Release via Trusted non-3GPP access	305
4.12a.8	Mobility from a non-geographically selected AMF to a geographically selected AMF.....	306
4.12a.9	Support of mobility from source to target TNAP	306
4.12b	Procedures for devices that do not support 5GC NAS over WLAN access	306
4.12b.1	General.....	306
4.12b.2	Initial Registration & PDU Session Establishment.....	306
4.12b.3	Deregistration procedure.....	309
4.12b.4	N2 procedures.....	309
4.12b.4.1	Service Request procedures	309
4.12b.4.2	Procedure for the UE context release in the TWIF	310
4.12b.4.3	CN-initiated selective deactivation of UP connection of an existing PDU Session.....	310
4.13	Specific services	310
4.13.1	General.....	310
4.13.2	Application Triggering	310
4.13.2.1	General	310
4.13.2.2	The procedure of "Application Triggering" Service	311
4.13.3	SMS over NAS procedures.....	313
4.13.3.1	Registration procedures for SMS over NAS	313
4.13.3.2	Deregistration procedures for SMS over NAS	314
4.13.3.3	MO SMS over NAS in CM-IDLE (baseline).....	315
4.13.3.4	Void.....	316
4.13.3.5	MO SMS over NAS in CM-CONNECTED.....	316
4.13.3.6	MT SMS over NAS in CM-IDLE state via 3GPP access.....	317
4.13.3.7	MT SMS over NAS in CM-CONNECTED state via 3GPP access.....	318
4.13.3.8	MT SMS over NAS via non-3GPP access	318
4.13.3.9	Unsuccessful Mobile terminating SMS delivery re-attempt	318
4.13.4	Emergency Services.....	319

4.13.4.1	General	319
4.13.4.2	Emergency Services Fallback	319
4.13.5	Location Services procedures	321
4.13.5.0	General	321
4.13.5.1	5GC-NI-LR Procedure	321
4.13.5.2	5GC-MT-LR Procedure without UDM Query	321
4.13.5.3	5GC-MT-LR Procedure	321
4.13.5.4	UE Assisted and UE Based Positioning Procedure	321
4.13.5.5	Network Assisted Positioning Procedure	321
4.13.5.6	Obtaining Non-UE Associated Network Assistance Data	321
4.13.5.7	Location continuity for Handover of an Emergency session from NG-RAN	321
4.13.6	Support of IMS Voice	321
4.13.6.1	EPS fallback for IMS voice	321
4.13.6.2	Inter RAT Fallback in 5GC for IMS voice	323
4.13.6.3	Transfer of PDU session used for IMS voice from non-3GPP access to 5GS	324
4.13.7	MSISDN-less MO SMS	325
4.13.7.1	General	325
4.13.7.2	The procedure of MSISDN-less MO SMS Service	326
4.13.8	Support of 5G LAN-type service	327
4.13.8.1	Support of 5G VN group management	327
4.13.8.2	Support of 5G VN group communication	327
4.13.8.2.1	General	327
4.13.8.2.2	group-level N4 session management procedures	327
4.14	Support for Dual Connectivity	327
4.14.1	RAN Initiated QoS Flow Mobility	327
4.15	Network Exposure	329
4.15.1	General	329
4.15.2	External Exposure of Network Capabilities	332
4.15.2a	Data Collection from an AF	332
4.15.3	Event Exposure using NEF	332
4.15.3.1	Monitoring Events	332
4.15.3.2	Information flows	338
4.15.3.2.1	AMF service operations information flow	338
4.15.3.2.2	UDM service operations information flow	339
4.15.3.2.3	NEF service operations information flow	341
4.15.3.2.3a	Void	345
4.15.3.2.3b	Specific NEF service operations information flow for loss of connectivity and UE reachability	345
4.15.3.2.4	Exposure with bulk subscription	346
4.15.3.2.5	Information flow for downlink data delivery status with SMF buffering	348
4.15.3.2.6	GMLC service operations information flow	349
4.15.3.2.7	Information flow for Availability after DDN Failure with SMF buffering	349
4.15.3.2.8	Information flow for downlink data delivery status with UPF buffering	351
4.15.3.2.9	Information flow for Availability after DDN Failure with UPF buffering	352
4.15.3.2.10	Number of UEs and PDU Sessions per network slice notification procedure	354
4.15.3.2.11	Network-initiated explicit event notification subscription cancel procedure	356
4.15.3.2.12	Void	357
4.15.3.2.13	Handling AF requests when the UE is identified via UE addressing information	357
4.15.3.3	Void	357
4.15.4	Core Network Internal Event Exposure	357
4.15.4.1	General	357
4.15.4.2	Exposure of Mobility Events from AMF	357
4.15.4.3	Exposure of Communication trends from SMF	359
4.15.4.4	Internal Event Exposure Subscription/Unsubscription via UDM	360
4.15.5	Void	361
4.15.6	External Parameter Provisioning	361
4.15.6.1	General	361
4.15.6.2	NEF service operations information flow	362
4.15.6.3	Expected UE Behaviour parameters	364
4.15.6.3a	Network Configuration parameters	365
4.15.6.3b	5G VN group data	366
4.15.6.3c	5G VN Group membership management parameters	367

4.15.6.3d	ECS Address Configuration Information Parameters	367
4.15.6.4	Set a chargeable party at AF session setup.....	368
4.15.6.5	Change the chargeable party during the session.....	369
4.15.6.6	Setting up an AF session with required QoS procedure.....	370
4.15.6.6a	AF session with required QoS update procedure.....	373
4.15.6.7	Service specific parameter provisioning	375
4.15.6.7a	Authorization of service specific parameter provisioning.....	377
4.15.6.8	Set a policy for a future AF session	379
4.15.6.9	Procedures for AF-triggered dynamically changing access and mobility management policies	380
4.15.6.9.1	General	380
4.15.6.9.2	Processing AF requests to influence access and mobility management policies targeting an individual UE	380
4.15.6.9.3	Processing AF requests to influence access and mobility management policies.....	382
4.15.6.10	Application guidance for URSP determination.....	383
4.15.6.11	Void.....	384
4.15.6.12	Parameter Provisioning when the UE is identified via UE addressing information.....	384
4.15.7	Network status reporting.....	384
4.15.8	Event exposure controlled by a DCCF	385
4.15.9	Time Synchronization exposure	385
4.15.9.1	General	385
4.15.9.2	Exposure of UE availability for Time Synchronization service	385
4.15.9.3	Time Synchronization activation, modification and deactivation	388
4.15.9.3.1	General	388
4.15.9.3.2	Time synchronization service activation	391
4.15.9.3.3	Time synchronization service modification.....	393
4.15.9.3.4	Time synchronization service deactivation.....	394
4.15.9.4	Procedures for management of 5G access stratum time distribution	395
4.15.10	AF specific UE ID retrieval	397
4.15.11	FOR CR3583 new clause.....	399
4.16	Procedures and flows for Policy Framework	399
4.16.1	AM Policy Association Establishment	399
4.16.1.1	General	399
4.16.1.2	AM Policy Association Establishment with new Selected PCF.....	399
4.16.1.3	Void.....	400
4.16.2	AM Policy Association Modification	400
4.16.2.0	General	400
4.16.2.1	AM Policy Association Modification initiated by the AMF	400
4.16.2.1.1	AM Policy Association Modification initiated by the AMF without AMF relocation.....	400
4.16.2.1.2	AM Policy Association Modification with old PCF during AMF relocation.....	401
4.16.2.2	AM Policy Association Modification initiated by the PCF.....	403
4.16.3	AM Policy Association Termination	404
4.16.3.1	General	404
4.16.3.2	AMF-initiated AM Policy Association Termination.....	404
4.16.3.3	Void.....	405
4.16.4	SM Policy Association Establishment	405
4.16.5	SM Policy Association Modification.....	406
4.16.5.0	General	406
4.16.5.1	SMF initiated SM Policy Association Modification	407
4.16.5.2	PCF initiated SM Policy Association Modification	408
4.16.6	SM Policy Association Termination	411
4.16.7	Negotiations for future background data transfer	412
4.16.7.1	General	412
4.16.7.2	Procedures for future background data transfer	413
4.16.7.3	Procedure for BDT warning notification.....	415
4.16.8	Procedures on interaction between PCF and CHF	416
4.16.8.1	General	416
4.16.8.2	Initial Spending Limit Retrieval.....	416
4.16.8.3	Intermediate Spending Limit Report Retrieval	417
4.16.8.4	Final Spending Limit Report Retrieval	418
4.16.8.5	Spending Limit Report.....	419
4.16.8.6	CHF report the removal of the subscriber	419
4.16.9	Update of the subscription information in the PCF	420

4.16.10	Void	421
4.16.11	UE Policy Association Establishment	421
4.16.12	UE Policy Association Modification	423
4.16.12.1	UE Policy Association Modification initiated by the AMF	423
4.16.12.1.1	UE Policy Association Modification initiated by the AMF without AMF relocation	423
4.16.12.1.2	UE Policy Association Modification with old PCF during AMF relocation	424
4.16.12.2	UE Policy Association Modification initiated by the PCF	425
4.16.13	UE Policy Association Termination	426
4.16.13.1	AMF-initiated UE Policy Association Termination	426
4.16.13.2	PCF-initiated UE Policy Association Termination	428
4.16.14	Management of access and mobility related policy information depending on the application in use	429
4.16.14.1	General	429
4.16.14.2	Procedures for management of access and mobility related policy information	429
4.16.14.2.1	Management of access and mobility related policy information at start and stop of application traffic	429
4.16.14.2.2	Management of access and mobility related policy information at SM Policy Association establishment and termination with the notification sent by the BSF	432
4.17	Network Function Service Framework Procedure	433
4.17.1	NF service Registration	433
4.17.2	NF service update	433
4.17.3	NF service deregistration	434
4.17.4	NF/NF service discovery by NF service consumer in the same PLMN	434
4.17.4a	NF/NF service discovery by NF service consumer in the same SNPN	435
4.17.5	NF/NF service discovery across PLMNs in the case of discovery made by NF service consumer	436
4.17.5a	NF/NF service discovery between SNPN and Credentials Holder hosting AUSF/UDM or between SNPN and DCS hosting AUSF/UDM	436
4.17.6	SMF Provisioning of available UPFs using the NRF	437
4.17.6.1	General	437
4.17.6.2	SMF provisioning of UPF instances using NRF	438
4.17.7	NF/NF service status subscribe/notify in the same PLMN	439
4.17.8	NF/NF service status subscribe/notify across PLMNs	439
4.17.9	Delegated service discovery when NF service consumer and NF service producer are in same PLMN	441
4.17.10	Delegated service discovery when NF service consumer and NF service producer are in different PLMNs	442
4.17.11	Indirect Communication without delegated discovery Procedure	443
4.17.12	Binding between NF service consumer and NF service producer	443
4.17.12.1	General	443
4.17.12.2	Binding created as part of service response	443
4.17.12.3	Binding created as part of service request	444
4.17.12.4	Binding for subscription requests	445
4.17.13	NRF bootstrapping procedure	447
4.18	Procedures for Management of PFDs	447
4.18.1	General	447
4.18.2	PFD management via NEF (PFDf)	448
4.18.3	PFD management in the SMF	448
4.18.3.1	PFD Retrieval by the SMF	448
4.18.3.2	Management of PFDs in the SMF	449
4.19	Network Data Analytics	450
4.19.1	Void	450
4.19.2	Void	450
4.20	UE Parameters Update via UDM Control Plane Procedure	450
4.20.1	General	450
4.20.2	UE Parameters Update via UDM Control Plane Procedure	451
4.20.3	Void	452
4.21	Secondary RAT Usage Data Reporting Procedure	452
4.22	ATSSS Procedures	453
4.22.1	General	453
4.22.2	UE Requested MA PDU Session Establishment	454
4.22.2.0	Overview	454
4.22.2.1	Non-roaming and Roaming with Local Breakout	454
4.22.2.2	Home-routed Roaming	455
4.22.2.2.1	Home-routed Roaming - UE registered to the same PLMN	455

4.22.2.2.2	Home-routed Roaming - UE registered to different PLMNs.....	456
4.22.2.3	MA PDU Session establishment with 3GPP access connected to EPC and non-3GPP access connected to 5GC.....	457
4.22.2.3.1	General	457
4.22.2.3.2	PDN Connections and Multi Access PDU Sessions.....	458
4.22.2.3.3	QoS Support	459
4.22.3	UE Requested PDU Session Establishment with Network Modification to MA PDU Session.....	459
4.22.3.1	Overview.....	459
4.22.3.2	Non-roaming or roaming with local breakout.....	460
4.22.3.3	Home-routed, the UE registered to the same VPLMN over both access	460
4.22.3.4	Home-routed, the UE registered to different PLMNs over both access	461
4.22.4	Access Network Performance Measurements.....	462
4.22.5	Reporting of Access Availability.....	462
4.22.6	EPS Interworking.....	462
4.22.6.1	General.....	462
4.22.6.2	Impacts to EPS interworking procedures	462
4.22.6.2.1	5GS to EPS handover using N26 interface	462
4.22.6.2.2	5GS to EPS idle mode mobility using N26 interface	463
4.22.6.2.3	EPS bearer ID allocation	463
4.22.6.2.4	EPS bearer ID revocation	463
4.22.6.2.5	5GS to EPS mobility without N26 interface.....	464
4.22.6.3	Network Modification to MA PDU Session after a UE moving from EPC.....	464
4.22.7	Adding / Re-activating / De-activating User-Plane Resources	465
4.22.8	UE or network requested MA PDU Session Modification	466
4.22.8.1	General.....	466
4.22.8.2	UE or network requested MA PDU Session Modification (non-roaming and roaming with local breakout)	466
4.22.8.3	UE or network requested MA PDU Session Modification (home-routed roaming)	467
4.22.9	Connection, Registration and Mobility Management procedures.....	467
4.22.9.1	Registration procedures.....	467
4.22.9.2	UE Triggered Service Request.....	468
4.22.9.3	N2 based handover.....	469
4.22.9.4	Network Triggered Service Request	469
4.22.10	MA PDU Session Release	469
4.22.10.1	General.....	469
4.22.10.2	UE or network requested MA PDU Session Release (non-roaming and roaming with local breakout)	470
4.22.10.3	UE or network requested MA PDU Session Release (home-routed roaming).....	470
4.23	Support of deployments topologies with specific SMF Service Areas.....	471
4.23.1	General.....	471
4.23.2	I-SMF selection	472
4.23.3	Registration procedure.....	472
4.23.3a	Deregistration procedure.....	473
4.23.4	Service Request procedures	474
4.23.4.1	General	474
4.23.4.2	UE Triggered Service Request without I-SMF change/removal.....	474
4.23.4.3	UE Triggered Service Request with I-SMF insertion/change/removal.....	474
4.23.4.4	Network Triggered Service Request	481
4.23.5	PDU Session Management procedure.....	481
4.23.5.1	PDU Session establishment procedure.....	481
4.23.5.2	PDU Session Release procedure	482
4.23.5.3	PDU Session modification procedure	482
4.23.5.4	SMF triggered I-SMF selection or removal	483
4.23.6	I-SMF Related Procedures with PCF.....	484
4.23.6.1	General	484
4.23.6.2	Policy Update Procedures with I-SMF.....	485
4.23.6.3	Reporting UP path change to the AF.....	485
4.23.7	Inter NG-RAN node N2 based handover	486
4.23.7.1	General.....	486
4.23.7.2	Inter NG-RAN node N2 based handover without I-SMF change/removal	486
4.23.7.2.1	General	486
4.23.7.2.2	Preparation phase.....	486

4.23.7.2.3	Execution phase.....	486
4.23.7.2.4	Handover Cancel	486
4.23.7.3	Inter NG-RAN node N2 based handover with I-SMF insertion/change/removal	487
4.23.7.3.1	General	487
4.23.7.3.2	Preparation phase.....	488
4.23.7.3.3	Execution phase.....	494
4.23.7.3.4	Handover Cancel	498
4.23.8	AN Release procedure involving I-SMF	500
4.23.9	Branching Point or UL CL controlled by I-SMF	500
4.23.9.0	Overview	500
4.23.9.1	Addition of PDU Session Anchor and Branching Point or UL CL controlled by I-SMF	501
4.23.9.2	Removal of PDU Session Anchor and Branching Point or UL CL controlled by I-SMF	504
4.23.9.3	Change of PDU Session Anchor for IPv6 multi-homing or UL CL controlled by I-SMF	505
4.23.9.4	Simultaneous change of Branching Point or UL CL and additional PSA controlled by I-SMF	507
4.23.9.5	Simultaneous change of Branching Points or UL CLs controlled by different I-SMFs	509
4.23.9a	Void.....	512
4.23.10	CN-initiated selective deactivation of UP connection of an existing PDU Session involving I-SMF	512
4.23.11	Xn based handover.....	512
4.23.11.1	General	512
4.23.11.2	Xn based handover with insertion of intermediate SMF.....	512
4.23.11.3	Xn based handover with re-allocation of intermediate SMF.....	514
4.23.11.4	Xn based handover with removal of intermediate SMF.....	516
4.23.11.5	Xn based handover without change of intermediate SMF	518
4.23.12	N26 based Interworking Procedures with I-SMF	518
4.23.12.1	General.....	518
4.23.12.2	5GS to EPS Idle mode mobility using N26 interface with I-SMF removal	518
4.23.12.2A	5GS to EPS Idle mode mobility using N26 interface with Data forwarding and I-SMF removal	518
4.23.12.3	EPS to 5GS mobility registration procedure (Idle and Connected State) using N26 interface with I-SMF insertion	518
4.23.12.3A	EPS to 5GS Idle mode mobility using N26 interface with Data forwarding and I-SMF insertion	519
4.23.12.4	Procedures for EPS bearer ID allocation.....	519
4.23.12.5	EPS to 5GS mobility registration procedure (Idle) using N26 interface with AMF reallocation and I-SMF insertion	519
4.23.12.6	5GS to EPS handover using N26 interface with I-SMF removal.....	519
4.23.12.7	EPS to 5GS handover using N26 interface with I-SMF insertion.....	519
4.23.12.7.1	Preparation phase.....	519
4.23.12.7.2	Execution phase.....	520
4.23.12.8	Impact to 5GC procedures	520
4.23.12.8.1	General	520
4.23.12.8.2	UE Triggered Service Request with I-SMF insertion/change/removal	520
4.23.12.8.3	PDU Session establishment procedure	520
4.23.12.8.4	PDU Session modification procedure.....	520
4.23.12.8.5	Inter NG-RAN node N2 based handover with I-SMF insertion/change/removal.....	520
4.23.12.8.6	Xn based handover with insertion of I-SMF	521
4.23.13	Non N26 based Interworking Procedures with I-SMF.....	521
4.23.13.1	General.....	521
4.23.13.2	Mobility procedure without N26 interface from EPS to 5GS	521
4.23.13.3	Mobility procedure without N26 interface from EPC/ePDG to 5GS	521
4.23.13.4	Mobility procedure without N26 interface from 5GS to EPS	521
4.23.13.5	Mobility procedure without N26 interface from 5GS to EPC/ePDG	521
4.23.14	Pause of charging.....	522
4.23.15	PDU Session mobility between 3GPP and non-3GPP access.....	522
4.23.16	Handover of a PDU Session procedure between 3GPP and untrusted non-3GPP access	522
4.23.16.1	Handover of a PDU Session procedure from untrusted non-3GPP to 3GPP access (non-roaming and roaming with local breakout).....	522
4.23.16.2	Handover of a PDU Session procedure from 3GPP to untrusted non-3GPP access (non-roaming and roaming with local breakout).....	522
4.23.16.3	Handover of a PDU Session procedure from untrusted non-3GPP to 3GPP access (home routed roaming).....	523
4.23.16.3.1	The target AMF is in the PLMN of the N3IWF	523
4.23.16a	Handover of a PDU Session procedure between 3GPP and trusted non-3GPP access.....	523
4.23.16a.1	General.....	523

4.23.17	Additional considerations for Home-routed roaming	523
4.24	Procedures for UPF Anchored Data Transport in Control Plane CIoT 5GS Optimisation.....	524
4.24.1	UPF anchored Mobile Originated Data Transport in Control Plane CIoT 5GS Optimisation.....	524
4.24.2	UPF anchored Mobile Terminated Data Transport in Control Plane CIoT 5GS Optimisation.....	527
4.25	Procedures for NEF based Non-IP Data Delivery	531
4.25.1	General.....	531
4.25.2	SMF-NEF Connection Establishment.....	531
4.25.3	NIDD Configuration	532
4.25.4	NEF Anchored Mobile Originated Data Transport.....	534
4.25.5	NEF Anchored Mobile Terminated Data Transport	536
4.25.6	NIDD Authorization Update.....	539
4.25.7	SMF Initiated SMF-NEF Connection Release procedure.....	540
4.25.8	NEF Initiated SMF-NEF Connection Release procedure	540
4.25.9	NEF Anchored Group NIDD via NEF anchored unicast MT data	542
4.26	Network Function/NF Service Context Transfer Procedures	542
4.26.1	General.....	542
4.26.2	NF/NF Service Context Transfer Push Procedure	543
4.26.3	NF/NF Service Context Transfer Pull procedure.....	543
4.26.4	Context Transfer due to decommissioning	544
4.26.5	SMF Service Context Transfer procedures.....	544
4.26.5.1	General	544
4.26.5.2	I-SMF Context Transfer procedure	544
4.26.5.3	SMF Context Transfer procedure, LBO or no Roaming, no I-SMF	544
4.27	Procedures for Enhanced Coverage Restriction Control via NEF.....	547
4.27.1	General.....	547
5	Network Function Service procedures	548
5.1	Network Function Service framework procedures	548
5.1.1	Network Function Service Discovery	548
5.2	Network Function services	548
5.2.1	General.....	548
5.2.2	AMF Services	548
5.2.2.1	General	548
5.2.2.2	Namf_Communication service.....	549
5.2.2.2.1	General	549
5.2.2.2.2	Namf_Communication_UEContextTransfer service operation.....	550
5.2.2.2.3	Namf_Communication_RegistrationStatusUpdate service operation.....	555
5.2.2.2.4	Namf_Communication_N1MessageNotify service operation.....	555
5.2.2.2.5	Namf_Communication_N1N2MessageSubscribe service operation.....	556
5.2.2.2.6	Namf_Communication_N1N2MessageUnSubscribe service operation.....	556
5.2.2.2.7	Namf_Communication_N1N2MessageTransfer service operation.....	556
5.2.2.2.7A	Namf_Communication_N1N2TransferFailureNotification service operation.....	557
5.2.2.2.8	Namf_Communication_N2InfoSubscribe service operation.....	557
5.2.2.2.9	Namf_Communication_N2InfoUnsubscribe service operation.....	558
5.2.2.2.10	Namf_Communication_N2InfoNotify service operation	558
5.2.2.2.11	Namf_Communication_CreateUEContext service operation.....	558
5.2.2.2.12	Namf_Communication_ReleaseUEContext service operation.....	559
5.2.2.2.13	Namf_Communication_EBIAssignment service operation.....	559
5.2.2.2.14	Namf_Communication_AMFStatusChangeSubscribe service operation.....	559
5.2.2.2.15	Namf_Communication_AMFStatusChangeUnSubscribe service operation	559
5.2.2.2.16	Namf_Communication_AMFStatusChangeNotify service operation	560
5.2.2.2.17	Namf_Communication_NonUeN2MessageTransfer service operation	560
5.2.2.2.18	Namf_Communication_NonUeN2InfoSubscribe service operation.....	560
5.2.2.2.19	Namf_Communication_NonUeN2InfoUnSubscribe service operation.....	561
5.2.2.2.20	Namf_Communication_NonUeN2InfoNotify service operation.....	561
5.2.2.2.21	Namf_Communication_RelocateUEContext service operation	561
5.2.2.2.22	Namf_Communication_CancelRelocateUEContext service operation	561
5.2.2.3	Namf_EventExposure service	562
5.2.2.3.1	General	562
5.2.2.3.2	Namf_EventExposure_Subscribe service operation.....	563
5.2.2.3.3	Namf_EventExposure_UnSubscribe service operation.....	564
5.2.2.3.4	Namf_EventExposure_Notify service operation	564

5.2.2.4	Namf_MT service	565
5.2.2.4.1	General	565
5.2.2.4.2	Namf_MT_EnableUERachability service operation	565
5.2.2.4.3	Namf_MT_ProvideDomainSelectionInfo	565
5.2.2.4.4	Namf_MT_EnableGroupReachability service operation	565
5.2.2.4.5	Namf_MT_UERachabilityInfoNotify.....	566
5.2.2.5	Namf_Location service	566
5.2.2.5.1	General	566
5.2.2.5.2	Namf_Location_ProvidePositioningInfo service operation.....	566
5.2.2.5.3	Namf_Location_EventNotify service operation.....	567
5.2.2.5.4	Namf_Location_ProvideLocationInfo service operation	567
5.2.2.5.5	Namf_Location_CancelLocation service operation	567
5.2.3	UDM Services	567
5.2.3.1	General	567
5.2.3.2	Nudm_UECM (UECM) service.....	568
5.2.3.2.1	Nudm_UECM_Registration service operation.....	568
5.2.3.2.2	Nudm_UECM_DeregistrationNotification service operation	569
5.2.3.2.3	Nudm_UECM_Deregistration service operation.....	570
5.2.3.2.4	Nudm_UECM_Get service operation.....	570
5.2.3.2.5	Nudm_UECM_Update service operation.....	570
5.2.3.2.6	Nudm_UECM_PCscfRestoration service operation.....	571
5.2.3.2.7	Nudm_UECM_SendRoutingInfoForSM service operation.....	571
5.2.3.3	Nudm_SubscriberDataManagement (SDM) Service	571
5.2.3.3.1	General	571
5.2.3.3.2	Nudm_SDM_Get service operation	580
5.2.3.3.3	Nudm_SDM_Notification service operation.....	580
5.2.3.3.4	Nudm_SDM_Subscribe service operation	581
5.2.3.3.5	Nudm_SDM_Unsubscribe service operation	581
5.2.3.3.6	Nudm_SDM_Info service operation.....	581
5.2.3.3.7	Void.....	582
5.2.3.3.8	Nudm_SDM_ModifySubscription service operation	582
5.2.3.4	Nudm_UEAuthentication Service.....	582
5.2.3.4.1	General	582
5.2.3.4.2	Nudm_UEAuthentication_Get service operation	582
5.2.3.4.3	Nudm_UEAuthentication_ResultConfirmation service operation	582
5.2.3.5	Nudm_EventExposure service	582
5.2.3.5.1	General	582
5.2.3.5.2	Nudm_EventExposure_Subscribe service operation.....	582
5.2.3.5.3	Nudm_EventExposure_Unsubscribe service operation.....	583
5.2.3.5.4	Nudm_EventExposure_Notify service operation	583
5.2.3.5.5	Nudm_EventExposure_ModifySubscription service operation.....	583
5.2.3.6	Nudm_ParameterProvision service	583
5.2.3.6.1	General	583
5.2.3.6.2	Nudm_ParameterProvision_Update service operation.....	584
5.2.3.6.3	Nudm_ParameterProvision_Create service operation	585
5.2.3.6.4	Nudm_ParameterProvision_Delete service operation	585
5.2.3.6.5	Nudm_ParameterProvision_Get service operation.....	585
5.2.3.7	Nudm_NIDDAuthorisation service.....	585
5.2.3.7.1	General	585
5.2.3.7.2	Nudm_NIDDAuthorisation_Get service operation	586
5.2.3.7.3	Nudm_NIDDAuthorisation_UpdateNotify service operation	586
5.2.3.7.4	Void.....	586
5.2.3.7.5	Void.....	586
5.2.3.8	Nudm_ServiceSpecificAuthorisation service.....	586
5.2.3.8.1	General	586
5.2.3.8.2	Nudm_ServiceSpecificAuthorisation_Create service operation.....	586
5.2.3.8.3	Nudm_ServiceSpecificAuthorisation_UpdateNotify service operation	586
5.2.3.8.4	Nudm_ServiceSpecificAuthorisation_Remove service operation.....	587
5.2.3.9	Nudm_ReportSMDeliveryStatus service	587
5.2.3.9.1	General	587
5.2.3.9.2	Nudm_ReportSMDeliveryStatus_Request service operation.....	587
5.2.4	5G-EIR Services	587