

# ETSI TS 129 273 V18.6.0 (2025-03)



**Universal Mobile Telecommunications System (UMTS);  
LTE; 5G;  
Evolved Packet System (EPS);  
3GPP EPS AAA interfaces  
(3GPP TS 29.273 version 18.6.0 Release 18)**

<https://standards.iteh.ai/catalog/standards/etsi/1c6f8a3a-1c8c-46fe-8dcb-e47d1e684ceb/etsi-ts-129-273-v18-6-0-2025-03>



---

Reference

RTS/TSGC-0429273vi60

---

Keywords

5G,LTE,UMTS

***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 the  
[ETSI Search & Browse Standards application.](#)

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 on [ETSI deliver repository](#).

Users should be aware that the present document may be revised or have its status changed,  
 this information is available in the [Milestones listing](#).

If you find errors in the present document, please send your comments to  
 the relevant service listed under [Committee Support Staff](#).

If you find a security vulnerability in the present document, please report it through our  
[Coordinated Vulnerability Disclosure \(CVD\)](#) program.

<https://standards.iteh.ai/catalog/standards/etsi/1c68e3a1e8c46fa8-dcb-e474-684ceb/etsi-ts-129-273-v18-6-0-2025-03>

---

***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 2025.  
 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 IPR online database](#).

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™, LTE™** and **5G™** logo 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 (<https://standards.iteh.ai>)

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 at [3GPP to ETSI numbering cross-referencing](#).

---

## 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.....	11
Introduction .....	12
1    Scope .....	13
2    References .....	13
3    Definitions, symbols and abbreviations .....	15
3.1    Definitions .....	15
3.1.1    General.....	15
3.1.2    Handling of Information Elements .....	16
3.2    Abbreviations .....	16
4    SWa and SWa' Description .....	17
4.1    Functionality.....	17
4.1.1    General.....	17
4.1.2    Procedure Descriptions .....	17
4.1.2.1    SWa Authentication and Authorization procedure.....	17
4.1.2.1.1    General .....	17
4.1.2.1.2    3GPP AAA Server Detailed Behaviour.....	19
4.1.2.1.3    3GPP AAA Proxy Detailed Behaviour.....	20
4.1.2.2    SWa HSS/AAA Initiated Detach .....	20
4.1.2.3    SWa Non-3GPP Access Network Initiated Detach.....	20
4.1.2.4    SWa Re-Authentication and Re-Authorization Procedure.....	21
4.1.2.4.1    General .....	21
4.1.2.4.2    3GPP AAA Server Detailed Behaviour.....	22
4.1.2.4.3    3GPP AAA Proxy Detailed Behaviour.....	23
4.1.2.5    SWa procedures for NSWO in 5GS .....	23
4.2    Protocol Specification .....	23
4.2.1    General.....	23
4.2.2    Commands .....	23
4.2.2.1    Commands for SWa authentication and authorization procedures.....	23
4.2.2.1.1    Diameter-EAP-Request (DER) Command .....	23
4.2.2.1.2    Diameter-EAP-Answer (DEA) Command .....	24
4.2.2.2    Commands for SWa HSS/AAA Initiated Detach.....	24
4.2.2.3    Commands for Untrusted non-3GPP Access network Initiated Session Termination .....	25
4.2.2.4    Commands for SWa Re-Authentication and Re-Authorization Procedures.....	25
4.2.2.4.1    Re-Auth-Request (RAR) Command .....	25
4.2.2.4.2    Re-Auth-Answer (RAA) Command .....	25
4.2.2.4.3    Diameter-EAP-Request (DER) Command .....	25
4.2.2.4.4    Diameter-EAP-Answer (DEA) Command .....	25
4.2.3    Information Elements .....	25
4.2.4    Session Handling .....	25
5    STa Description.....	26
5.1    Functionality.....	26
5.1.1    General.....	26
5.1.2    Procedures Description .....	26
5.1.2.1    STa Access Authentication and Authorization.....	26
5.1.2.1.1    General .....	26
5.1.2.1.2    3GPP AAA Server Detailed Behaviour.....	39
5.1.2.1.3    3GPP AAA Proxy Detailed Behaviour.....	45
5.1.2.1.4    Trusted non-3GPP access network Detailed Behaviour .....	46
5.1.2.2    HSS/AAA Initiated Detach on STa.....	48

5.1.2.2.1	General .....	48
5.1.2.2.2	3GPP AAA Server Detailed Behaviour.....	49
5.1.2.2.3	3GPP AAA Proxy Detailed Behaviour.....	50
5.1.2.3	STa Re-Authorization and Re-Authentication Procedures.....	50
5.1.2.3.1	General .....	50
5.1.2.3.2	3GPP AAA Server Detailed Behaviour.....	59
5.1.2.3.3	3GPP AAA Proxy Detailed Behaviour.....	60
5.1.2.3.4	Trusted Non-3GPP Access Network Detailed Behaviour .....	61
5.1.2.4	Non-3GPP Access Network Initiated Session Termination.....	62
5.1.2.4.1	General .....	62
5.1.2.4.2	3GPP AAA Server Detailed Behaviour.....	62
5.1.2.4.3	3GPP AAA Proxy Detailed Behaviour.....	62
5.1.2.5	ERP Re-Authentication in Non-3GPP Access .....	63
5.1.2.5.1	General .....	63
5.1.2.5.2	ER server located in 3GPP AAA Proxy or 3GPP AAA Server Detailed Behaviour.....	64
5.1.2.5.3	3GPP AAA Proxy Detailed Behaviour.....	64
5.2	Protocol Specification .....	64
5.2.1	General.....	64
5.2.2	Commands .....	65
5.2.2.1	Commands for STa PMIPv6 or GTPv2 or ERP (re-)authentication and authorization procedures .....	65
5.2.2.1.1	Diameter-EAP-Request (DER) Command .....	65
5.2.2.1.2	Diameter-EAP-Answer (DEA) Command .....	65
5.2.2.2	Commands for STa HSS/AAA Initiated Detach for Trusted non-3GPP Access .....	66
5.2.2.2.1	Abort-Session-Request (ASR) Command .....	66
5.2.2.2.2	Abort-Session-Answer (ASA) Command .....	67
5.2.2.2.3	Session-Termination-Request (STR) Command .....	67
5.2.2.2.4	Session-Termination-Answer (STA) Command .....	67
5.2.2.3	Commands for Re-Authentication and Re-Authorization Procedure .....	67
5.2.2.3.1	Re-Auth-Request (RAR) Command.....	67
5.2.2.3.2	Re-Auth-Answer (RAA) Command .....	68
5.2.2.3.3	AA-Request (AAR) Command .....	68
5.2.2.3.4	AA-Answer (AAA) Command.....	68
5.2.2.3.5	Diameter-EAP-Request (DER) Command .....	69
5.2.2.3.6	Diameter-EAP-Answer (DEA) Command .....	69
5.2.2.4	Commands for Trusted non-3GPP Access network Initiated Session Termination .....	69
5.2.2.4.1	Session-Termination-Request (STR) Command .....	69
5.2.2.4.2	Session-Termination-Answer (STA) Command .....	69
5.2.3	Information Elements .....	70
5.2.3.1	General .....	70
5.2.3.2	Mobile-Node-Identifier .....	72
5.2.3.3	MIP6-Feature-Vector .....	73
5.2.3.4	QoS Capability .....	73
5.2.3.5	Service-Selection .....	73
5.2.3.6	RAT-Type .....	73
5.2.3.7	ANID .....	74
5.2.3.8	AMBR .....	74
5.2.3.9	AN-Trusted .....	74
5.2.3.10	Feature-List-ID AVP .....	74
5.2.3.11	Feature-List AVP .....	74
5.2.3.12	MIP-FA-RK .....	74
5.2.3.13	MIP-FA-RK-SPI .....	74
5.2.3.14	Full-Network-Name .....	74
5.2.3.15	Short-Network-Name .....	74
5.2.3.16	Void.....	75
5.2.3.17	Void.....	75
5.2.3.18	WLAN-Identifier .....	75
5.2.3.19	Transport-Access-Type .....	75
5.2.3.20	DER-Flags.....	75
5.2.3.21	DEA-Flags .....	76
5.2.3.22	SSID .....	77
5.2.3.23	HESSID.....	77
5.2.3.24	Access-Network-Info .....	77

5.2.3.25	TWAN-Connection-Mode .....	78
5.2.3.26	TWAN-Connectivity-Parameters.....	78
5.2.3.27	Connectivity-Flags .....	79
5.2.3.28	TWAN-PCO.....	79
5.2.3.29	TWAG-CP-Address .....	79
5.2.3.30	TWAG-UP-Address.....	79
5.2.3.31	TWAN-S2a-Failure-Cause.....	79
5.2.3.32	SM-Back-Off-Timer .....	80
5.2.3.33	WLCP-Key.....	80
5.2.3.34	Void.....	80
5.2.3.35	IMEI-Check-In-VPLMN-Result .....	80
5.2.3.36	High-Priority-Access-Info.....	81
5.2.4	Session Handling .....	81
6	SWd and SWd' Description.....	81
6.1	Functionality.....	81
6.1.1	General.....	81
6.1.2	Procedures Description .....	82
6.1.2.1	Trusted non-3GPP Access / Access Gateway related procedures .....	82
6.1.2.1.1	Trusted Non-3GPP Access Authentication and Authorization.....	82
6.1.2.1.2	HSS/AAA Initiated Detach for Trusted non-3GPP Access .....	85
6.1.2.1.3	Access and Service Authorization information update.....	85
6.1.2.1.4	Trusted non-3GPP Access Network Initiated Session Termination .....	86
6.1.2.2	Untrusted non-3GPP Access / ePDG related procedures .....	86
6.1.2.3	PDN GW related procedures.....	87
6.1.2.4	SWd' procedures for NSWo in 5GS .....	87
6.2	Protocol Specification .....	88
6.2.1	General.....	88
6.2.2	Commands .....	88
6.2.2.1	Commands used in connection with the STa interface .....	88
6.2.2.1.1	Commands for STa PMIPv6 or GTPv2 authentication and authorization procedures .....	88
6.2.2.1.2	Commands for STa HSS/AAA Initiated Detach for Trusted non-3GPP Access .....	90
6.2.2.1.3	Commands for STa Access and Service Authorization Update Procedure .....	90
6.2.2.1.4	Commands for Trusted non-3GPP Access network Initiated Session Termination .....	90
6.2.2.2	Commands used in connection with the SWm interface .....	90
6.2.2.3	Commands used in connection with the S6b interface.....	90
6.2.3	Information Elements .....	90
6.2.3.1	General .....	90
7	SWm Description .....	92
7.1	Functionality.....	92
7.1.1	General.....	92
7.1.2	Procedures Description .....	93
7.1.2.1	Authentication and Authorization Procedures .....	93
7.1.2.1.1	General .....	93
7.1.2.1.2	3GPP AAA Server Detailed Behaviour.....	100
7.1.2.1.3	3GPP AAA Proxy Detailed Behaviour.....	103
7.1.2.1.4	ePDG Detailed Behaviour .....	104
7.1.2.2	Authorization Procedures .....	106
7.1.2.2.1	General .....	106
7.1.2.2.2	3GPP AAA Server Detailed Behaviour.....	110
7.1.2.2.3	3GPP AAA Proxy Detailed Behaviour.....	111
7.1.2.2.4	ePDG Detailed Behaviour .....	111
7.1.2.3	ePDG Initiated Session Termination Procedures .....	112
7.1.2.3.1	General .....	112
7.1.2.3.2	3GPP AAA Server Detailed Behavior.....	113
7.1.2.3.3	3GPP AAA Proxy Detailed Behavior.....	113
7.1.2.4	3GPP AAA Server Initiated Session Termination Procedures.....	113
7.1.2.4.1	General .....	113
7.1.2.4.2	3GPP AAA Server Detailed Behaviour.....	114
7.1.2.4.3	3GPP AAA Proxy Detailed Behaviour.....	115
7.1.2.5	Authorization Information Update Procedures .....	115

7.1.2.5.1	General .....	115
7.1.2.5.2	3GPP AAA Server Detailed Behaviour.....	116
7.1.2.5.3	ePDG Detailed Behaviour .....	116
7.2	Protocol Specification .....	116
7.2.1	General.....	116
7.2.2	Commands .....	117
7.2.2.1	Commands for SWm Authentication and Authorization Procedures.....	117
7.2.2.1.1	Diameter-EAP-Request (DER) Command .....	117
7.2.2.1.2	Diameter-EAP-Answer (DEA) Command .....	117
7.2.2.1.3	Diameter-AA-Request (AAR) Command .....	118
7.2.2.1.4	Diameter-AA-Answer (AAA) Command.....	118
7.2.2.2	Commands for ePDG Initiated Session Termination .....	119
7.2.2.2.1	Session-Termination-Request (STR) Command .....	119
7.2.2.2.2	Session-Termination-Answer (STA) Command .....	119
7.2.2.3	Commands for 3GPP AAA Server Initiated Session Termination.....	120
7.2.2.3.1	Abort-Session-Request (ASR) Command .....	120
7.2.2.3.2	Abort-Session-Answer (ASA) Command .....	120
7.2.2.3.3	Session-Termination-Request (STR) Command .....	120
7.2.2.3.4	Session-Termination-Answer (STA) Command .....	120
7.2.2.4	Commands for Authorization Information Update .....	121
7.2.2.4.1	Re-Auth-Request (RAR) Command.....	121
7.2.2.4.2	Re-Auth-Answer (RAA) Command .....	121
7.2.3	Information Elements .....	121
7.2.3.1	General .....	121
7.2.3.2	Feature-List-ID AVP.....	123
7.2.3.3	Feature-List AVP .....	123
7.2.3.4	Emergency-Services.....	123
7.2.3.5	AAR-Flags .....	124
7.2.4	Session Handling .....	124
8	SWx Description .....	124
8.1	Functionality.....	124
8.1.1	General.....	124
8.1.2	Procedures Description .....	124
8.1.2.1	Authentication Procedure.....	124
8.1.2.1.1	General .....	124
8.1.2.1.2	Detailed behaviour.....	127
8.1.2.2	Location Management Procedures .....	128
8.1.2.2.1	General .....	128
8.1.2.2.2	UE/PDN Registration/DeRegistration Notification .....	128
8.1.2.2.3	Network Initiated De-Registration by HSS, Administrative .....	133
8.1.2.3	HSS Initiated Update of User Profile .....	134
8.1.2.3.1	General .....	134
8.1.2.3.2	HSS Detailed behaviour .....	136
8.1.2.3.3	3GPP AAA Server Detailed behaviour .....	136
8.1.2.4	Fault Recovery Procedures .....	137
8.1.2.4.1	HSS Reset Indication.....	137
8.1.2.4.2	HSS Restoration .....	138
8.2	Protocol Specification .....	140
8.2.1	General.....	140
8.2.2	Commands .....	140
8.2.2.1	Authentication Procedure .....	140
8.2.2.2	HSS Initiated Update of User Profile Procedure .....	141
8.2.2.3	Non-3GPP IP Access Registration Procedure.....	142
8.2.2.4	Network Initiated De-Registration by HSS Procedure.....	143
8.2.3	Information Elements .....	144
8.2.3.0	General .....	144
8.2.3.1	Non-3GPP-User-Data .....	146
8.2.3.2	Subscription-ID .....	147
8.2.3.3	Non-3GPP-IP-Access.....	147
8.2.3.4	Non-3GPP-IP-Access-APN .....	147
8.2.3.5	RAT-Type .....	147

8.2.3.6	Session-Timeout.....	147
8.2.3.7	APN-Configuration.....	148
8.2.3.8	ANID.....	148
8.2.3.9	SIP-Auth-Data-Item.....	148
8.2.3.10	Confidentiality-Key.....	148
8.2.3.11	Integrity-Key.....	148
8.2.3.12	Server-Assignment-Type AVP .....	148
8.2.3.13	Trace-Info.....	149
8.2.3.14	Trace-Data.....	149
8.2.3.15	Feature-List-ID AVP.....	149
8.2.3.16	Feature-List AVP .....	149
8.2.3.17	PPR-Flags .....	152
8.2.3.18	TWAN-Default-APN-Context-Id.....	152
8.2.3.19	TWAN-Access-Info .....	152
8.2.3.20	Access-Authorization-Flags .....	153
8.2.3.21	AAA-Failure-Indication.....	153
8.2.3.22	OC-Supported-Features.....	153
8.2.3.23	OC-OLR.....	153
8.2.3.24	3GPP-AAA-Server-Name .....	154
8.2.3.25	DRMP .....	154
8.2.3.26	Load .....	154
8.2.3.27	ERP-Authorization.....	154
8.2.3.28	MIP6-Feature-Vector .....	154
8.2.4	Session Handling .....	154
8.3	User identity to HSS resolution.....	155
9	S6b Description .....	155
9.1	Functionality.....	155
9.1.1	General.....	155
9.1.2	Procedures Description .....	156
9.1.2.1	Authentication and Authorization Procedures when using DSMIPv6 .....	156
9.1.2.1.1	General .....	156
9.1.2.1.2	PDN GW Detailed Behaviour .....	160
9.1.2.1.3	3GPP AAA Server Detailed Behaviour.....	161
9.1.2.1.4	3GPP AAA Proxy Detailed Behaviour.....	162
9.1.2.2	Authorization Procedures when using PMIPv6 or GTPv2.....	162
9.1.2.2.1	General .....	162
9.1.2.2.2	PDN GW Detailed Behaviour .....	166
9.1.2.2.3	3GPP AAA Server Detailed Behaviour.....	167
9.1.2.2.4	3GPP AAA Proxy Detailed Behaviour.....	168
9.1.2.3	PDN GW Initiated Session Termination Procedures .....	168
9.1.2.3.1	General .....	168
9.1.2.3.2	PDN GW Detailed Behaviour .....	169
9.1.2.3.3	3GPP AAA Server Detailed Behaviour.....	169
9.1.2.3.4	3GPP AAA Proxy Detailed Behaviour.....	169
9.1.2.4	3GPP AAA Initiated Session Termination Procedures .....	170
9.1.2.4.1	General .....	170
9.1.2.4.2	PDN GW Detailed Behaviour .....	170
9.1.2.4.3	3GPP AAA Server Detailed Behaviour.....	171
9.1.2.4.4	3GPP AAA Proxy Detailed Behaviour.....	171
9.1.2.5	Service Authorization Information Update Procedures.....	172
9.1.2.5.1	General .....	172
9.1.2.5.2	Detailed Behaviour.....	176
9.1.2.6	Authorization Procedures when using MIPv4 FACoA .....	177
9.1.2.6.1	General .....	177
9.1.2.6.2	PDN GW Detailed Behaviour .....	179
9.1.2.6.3	3GPP AAA Server Detailed Behaviour.....	180
9.1.2.6.4	3GPP AAA Proxy Detailed Behaviour.....	181
9.2	Protocol Specification .....	181
9.2.1	General.....	181
9.2.2	Commands .....	181
9.2.2.1	Commands for S6b DSMIPv6 Authorization Procedures .....	181

9.2.2.1.1	Diameter-EAP-Request (DER) Command .....	181
9.2.2.1.2	Diameter-EAP-Answer (DEA) Command .....	182
9.2.2.2	Commands for S6b PMIPv6, GTPv2 or DSMIPv6 Authorization Procedures .....	182
9.2.2.2.1	AA-Request (AAR) Command .....	182
9.2.2.2.2	AA-Answer (AAA) Command .....	183
9.2.2.3	Commands for PDN GW Initiated Session Termination .....	184
9.2.2.3.1	Session-Termination-Request (STR) Command .....	184
9.2.2.3.2	Session-Termination-Answer (STA) Command .....	184
9.2.2.4	Commands for 3GPP AAA Server Initiated Session Termination .....	184
9.2.2.4.1	Abort-Session-Request (ASR) Command .....	184
9.2.2.4.2	Abort-Session-Answer (ASA) Command .....	185
9.2.2.4.3	Session-Termination-Request (STR) Command .....	185
9.2.2.4.4	Session-Termination-Answer (STA) Command .....	185
9.2.2.5	Commands for S6b MIPv4 FACoA Authorization Procedures .....	185
9.2.2.5.1	AA-Request (AAR) Command .....	185
9.2.2.5.2	AA-Answer (AAA) Command .....	186
9.2.2.6	Commands for S6b Service Authorization Information Update Procedures .....	186
9.2.2.6.1	Re-Auth-Request (RAR) Command .....	186
9.2.2.6.2	Re-Auth-Answer (RAA) Command .....	187
9.2.3	Information Elements .....	187
9.2.3.0	General .....	187
9.2.3.1	S6b DSMIPv6 procedures .....	187
9.2.3.1.1	General .....	187
9.2.3.1.2	Visited-Network-Identifier .....	188
9.2.3.1.3	Void .....	188
9.2.3.1.4	Void .....	188
9.2.3.1.5	RAR-Flags .....	188
9.2.3.2	S6b PMIPv6 or GTPv2 procedures .....	189
9.2.3.2.1	General .....	189
9.2.3.2.2	MIP6-Agent-Info .....	189
9.2.3.2.3	MIP6-Feature-Vector .....	189
9.2.3.2.4	QoS-Capability .....	190
9.2.3.2.5	QoS-Resources .....	190
9.2.3.2.6	Origination-Time-Stamp .....	190
9.2.3.2.7	Maximum-Wait-Time .....	190
9.2.3.3	S6b Re-used Diameter AVPs .....	190
9.2.3.4	Feature-List-ID AVP .....	190
9.2.3.5	Feature-List AVP .....	190
9.2.3.6	S6b MIPv4 FACoA procedures .....	191
9.2.3.6.1	General .....	191
9.2.3.6.2	MIP6-Agent-Info .....	191
9.2.3.6.3	MIP6-Feature-Vector .....	192
9.2.3.6.4	QoS-Capability .....	192
9.2.3.6.5	QoS-Resources .....	192
9.2.3.6.6	MIP-MN-HA-SPI .....	192
9.2.3.6.7	MIP-Session-Key .....	192
9.2.3.7	DER-S6b-Flags .....	192
9.2.4	Session Handling .....	192
10	Result-Code and Experimental-Result Values .....	193
10.1	General .....	193
10.2	Success .....	193
10.3	Permanent Failures .....	193
10.3.1	General .....	193
10.3.2	DIAMETER_ERROR_USER_UNKNOWN (5001) .....	193
10.3.3	DIAMETER_ERROR_IDENTITY_NOT_REGISTERED (5003) .....	193
10.3.4	DIAMETER_ERROR_ROAMING_NOT_ALLOWED (5004) .....	193
10.3.5	DIAMETER_ERROR_IDENTITY_ALREADY_REGISTERED (5005) .....	193
10.3.6	DIAMETER_ERROR_USER_NO_NON_3GPP_SUBSCRIPTION (5450) .....	193
10.3.7	DIAMETER_ERROR_USER_NO_APN_SUBSCRIPTION (5451) .....	193
10.3.8	DIAMETER_ERROR_RAT_TYPE_NOT_ALLOWED (5452) .....	194
10.3.9	DIAMETER_ERROR_LATE_OVERLAPPING_REQUEST (5453) .....	194

10.3.10	DIAMETER_ERROR_TIMED_OUT_REQUEST (5454) .....	194
10.3.11	DIAMETER_ERROR_ILLEGAL_EQUIPMENT (5554) .....	194
10.3.12	DIAMETER_ERROR_TRUSTED_NON_3GPP_ACCESS_NOT_ALLOWED (5455) .....	194
10.3.13	DIAMETER_ERROR_UNTRUSTED_NON_3GPP_ACCESS_NOT_ALLOWED (5456) .....	194
10.4	Transient Failures .....	194
10.4.1	General.....	194
11	3GPP AAA Server/Proxy – EIR .....	194
11.1	Functionality.....	194
11.1.1	General.....	194
11.1.2	Procedures Description .....	195
11.1.2.1	ME Identity Check.....	195
11.1.2.1.1	General .....	195
11.1.2.1.2	3GPP AAA Server Detailed Behaviour.....	195
11.1.2.1.3	3GPP AAA Proxy Detailed Behaviour.....	196
11.1.2.1.4	EIR Detailed Behaviour.....	196
11.2	Protocol Specification .....	196
11.2.1	General.....	196
11.2.2	Commands .....	196
11.2.2.1	ME Identity Check.....	196
11.2.2.1.1	ME-Identity-Check-Request (ECR) Command.....	196
11.2.2.1.2	ME-Identity-Check-Answer (ECA) Command .....	196
11.2.3	Information Elements .....	196
11.2.3.1	General.....	196
11.2.4	Session Handling .....	197
<b>Annex A (informative):</b>	<b>Trusted WLAN authentication and authorization procedure .....</b>	<b>198</b>
A.1	General .....	198
A.2	Call Flow for SCM and EPC-routed access .....	198
A.2.1	Successful call flow .....	198
A.2.2	Unsuccessful call flow.....	200
A.2.3	Call flow with IMEI check in VPLMN .....	202
A.3	Call Flow for MCM for EPC-routed access and/or NSWO .....	203
A.3.1	Successful call flow.....	203
A.3.2	Call flow with IMEI check in VPLMN .....	204
A.4	Call Flow for TSCM and EPC-routed access .....	206
<b>Annex B (normative):</b>	<b>Diameter overload control mechanism .....</b>	<b>208</b>
B.1	General .....	208
B.2	SWx interface.....	208
B.2.1	General .....	208
B.2.2	HSS behaviour.....	208
B.2.3	3GPP AAA server behaviour .....	208
B.3	STa interface .....	208
B.3.1	General .....	208
B.3.2	3GPP AAA server behaviour .....	209
B.3.3	Trusted non 3GPP access network behaviour .....	209
B.4	S6b interface.....	209
B.4.1	General .....	209
B.4.2	3GPP AAA server behaviour .....	209
B.4.3	PDN-GW behaviour .....	209
B.5	SWa Interface .....	210
B.5.1	General .....	210
B.5.2	3GPP AAA server behaviour .....	210
B.5.3	untrusted non-3GPP access network behaviour .....	210
B.6	SWm Interface.....	210

B.6.1	General .....	210
B.6.2	3GPP AAA server behaviour .....	210
B.6.3	ePDG behaviour .....	210
<b>Annex C (Informative):</b>	<b>Diameter overload control node behaviour.....</b>	<b>212</b>
C.1	Introduction .....	212
C.2	Message prioritization over SWx .....	212
C.3	Message prioritisation over STa, SWm and SWa .....	213
C.4	Message prioritization over S6b.....	213
<b>Annex D (normative):</b>	<b>Diameter message priority mechanism.....</b>	<b>215</b>
D.1	General .....	215
D.2	SWa, STa, SWd, SWm, SWx, S6b interfaces .....	215
<b>Annex E (informative):</b>	<b>Untrusted WLAN authentication and authorization procedure .....</b>	<b>216</b>
E.1	General .....	216
E.2	Successful call flow.....	216
E.3	Call flow with IMEI check in VPLMN.....	217
<b>Annex F (normative):</b>	<b>Diameter load control mechanism.....</b>	<b>219</b>
F.1	General .....	219
F.2	SWx interface.....	219
F.2.1	General .....	219
F.2.2	HSS behaviour.....	219
F.2.3	3GPP AAA server behaviour .....	219
F.3	STa interface .....	219
F.3.1	General .....	219
F.3.2	3GPP AAA server behaviour .....	219
F.3.3	Trusted non 3GPP access network behaviour .....	220
F.4	S6b interface.....	220
F.4.1	General .....	220
F.4.2	3GPP AAA server behaviour .....	220
F.4.3	PDN-GW behaviour .....	220
F.5	SWa Interface.....	220
F.5.1	General .....	220
F.5.2	3GPP AAA server behaviour .....	220
F.5.3	untrusted non-3GPP access network behaviour .....	221
F.6	SWm Interface.....	221
F.6.1	General .....	221
F.6.2	3GPP AAA server behaviour .....	221
F.6.3	ePDG behaviour .....	221
<b>Annex G (informative):</b>	<b>Change history .....</b>	<b>222</b>
History .....	227	

## Foreword

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

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

In the present document, modal verbs have the following meanings:

**shall** indicates a mandatory requirement to do something

**shall not** indicates an interdiction (prohibition) to do something

The constructions "shall" and "shall not" are confined to the context of normative provisions, and do not appear in Technical Reports.

The constructions "must" and "must not" are not used as substitutes for "shall" and "shall not". Their use is avoided insofar as possible, and they are not used in a normative context except in a direct citation from an external, referenced, non-3GPP document, or so as to maintain continuity of style when extending or modifying the provisions of such a referenced document.

**should** indicates a recommendation to do something

**should not** indicates a recommendation not to do something

**may** indicates permission to do something

**need not** indicates permission not to do something

The construction "may not" is ambiguous and is not used in normative elements. The unambiguous constructions "might not" or "shall not" are used instead, depending upon the meaning intended.

**can** indicates that something is possible

**cannot** indicates that something is impossible

The constructions "can" and "cannot" are not substitutes for "may" and "need not".

**will** indicates that something is certain or expected to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**will not** indicates that something is certain or expected not to happen as a result of action taken by an agency the behaviour of which is outside the scope of the present document

**might** indicates a likelihood that something will happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

**might not** indicates a likelihood that something will not happen as a result of action taken by some agency the behaviour of which is outside the scope of the present document

In addition:

**is** (or any other verb in the indicative mood) indicates a statement of fact

**is not** (or any other negative verb in the indicative mood) indicates a statement of fact

The constructions "is" and "is not" do not indicate requirements.

---

## Introduction

The present specification details the stage 3 work related to all 3GPP AAA reference points used by the different non-3GPP accesses included in EPS. It also details the stage 3 work related to the SWa reference point used for Non-seamless WLAN offload (NSWO) in 5GS.

# iTeh Standards (<https://standards.iteh.ai>) Document Preview

[ETSI TS 129 273 V18.6.0 \(2025-03\)](#)

<https://standards.iteh.ai/catalog/standards/etsi/1c6f8a3a-1c8c-46fe-8dcb-e47d1e684ceb/etsi-ts-129-273-v18-6-0-2025-03>

## 1 Scope

The present document defines the stage-3 protocol description for several reference points for the non-3GPP access in EPS:

- The SWa reference point between an un-trusted non-3GPP IP access and the 3GPP AAA Server/Proxy.
- The STa reference point between a trusted non-3GPP IP access and the 3GPP AAA Server/Proxy.
- The SWd reference point between the 3GPP AAA Proxy and 3GPP AAA Server.
- The SWx reference point between the 3GPP AAA Server and the HSS.
- The S6b reference point between the 3GPP AAA Server/Proxy and the PDN GW.
- The SWm reference point between the 3GPP AAA Server/Proxy and the ePDG.
- The reference point between the 3GPP AAA Server/Proxy and the EIR.

The present document also defines the stage 3 protocol description for the following reference points defined for Non-seamless WLAN offload in 5GS:

- the SWa' reference point between a non-3GPP WLAN access, possibly via a 3GPP AAA Proxy, and the NSWO NF; and
- the SWd' reference point between the 3GPP AAA Proxy, possibly via an intermediate 3GPP AAA Proxy, and the NSWO NF.

## iTeh Standards

## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.  
[ETSI TS 129 273 V18.6.0 \(2025-03\)](https://standards.iteh.ai/catalog/standards/etsi/1c6f8a3a-1c8c-46fe-8dcb-e47d1e684ceb/etsi-ts-129-273-v18-6-0-2025-03)
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] IETF RFC 5779: "Diameter Proxy Mobile IPv6: Mobility Access Gateway and Local Mobility Anchor Interaction with Diameter Server".
- [3] 3GPP TS 23.402: "Architecture enhancements for non-3GPP accesses".
- [4] IETF RFC 4005: "Diameter Network Access Server Application"
- [5] IETF RFC 4072: "Diameter Extensible Authentication Protocol (EAP) Application"
- [6] IETF RFC 5447 "Diameter Mobile IPv6: Support for Network Access Server to Diameter Server Interaction".
- [7] Void.
- [8] IETF RFC 3748: "Extensible Authentication Protocol (EAP)".
- [9] IETF RFC 5777: "Traffic Classification and Quality of Service (QoS) Attributes for Diameter".
- [10] Void