ETSI TS 103 261-2 V1.2.1 (2015-06)

Core Network and Interoperability Testing (INT);
Diameter Conformance testing for S6a interface;
(3GPP Release 10);
Part 2: Test Suite Structure (TSS) and Test Purposes (TP)

Reference
RTS/INT-00114-2

Keywords
diameter, TSS&TP

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 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Contents

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is 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 (http://ipr.etsi.org).

Pursuant to the ETSI IPR Policy, no investigation, 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.

Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Core Network and Interoperability Testing (INT).

The present document is part 2 of a multi-part deliverable covering the test specifications for the Diameter protocol on the S6a interface, as identified below:

Part 1: "Protocol Implementation Conformance Statement (PICS)";

Part 2: "Test Suite Structure (TSS) and Test Purposes (TP)";

Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

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.

1 Scope

The present document provides the Test Suite Structure (TSS) and Test Purposes (TP) for the test specifications for the Diameter protocol on the S6a interface as specified in ETSI TS 129 272 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4] and ETSI ETS 300 406 [5].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are necessary for the application of the present document.

[1] ETSI TS 129 272 (V10.8.0): "Universal Mobile Telecommunications System (UMTS); LTE; Evolved Packet System (EPS); Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related interfaces based on Diameter protocol (3GPP TS 29.272 version 10.8.0 Release 10)".

[2] ETSI TS 103 261-1: "Core Network and Interoperability Testing (INT); Diameter Conformance testing for S6a interface; (3GPP Release 10); Part 1: Protocol Implementation Conformance Statement (PICS)".

[3] ISO/IEC 9646-1: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".

[4] ISO/IEC 9646-7: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".

[5] ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[6] IETF RFC 3588: "Diameter Base Protocol".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

Not applicable.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ETSI TS 129 272 [1] and the following apply:

Abstract Test Method (ATM): Refer to ISO/IEC 9646-1 [3].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [3].

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [3].

Test Purpose (TP): Refer to ISO/IEC 9646-1 [3].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 129 272 [1] and the following apply:

TP	Test Purpose
TSS	Test Suite Structure

4 Test Suite Structure (TSS) and Test Purposes (TP)

4.1 Test Suite Structure

4.1.1 TP naming convention

TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS.

Table 1: TP identifier naming convention scheme

Identifier: **<TP>_<iut>_<scope>_<nn>**				
<tp>	=	Test Purpose:	fixed to "TP"	
<iut>	=	type of IUT:	MME or HSS	
<scope>	=	group	UL	Update Location
			CL	Cancel Location
			PUE	Purge UE
			ISD	Insert Subscriber Data
			DSD	Delete Subscriber Data
			AIR	Authentication Information Retrieval
			RES	Reset
			NOT	Notification
<nn>	=	sequential number	(01 to 99)	

4.1.2 Test strategy

As the base standard ETSI TS 129 272 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification ETSI TS 103 261-1 [2].

4.1.3 TP structure

Each TP has been written in a manner which is consistent with all other TPs. The intention of this is to make the TPs more readable and checkable. A particular structure has been used which is illustrated in table 2. This table should be read in conjunction with any TP, i.e. please use a TP as an example to facilitate the full comprehension of table 2.

Table 2: Structure of a single TP

TP part	Text	Example
Header	**<Identifier>** **<clause number in base ETSI TS 129 272 [1]>** **<PICS reference>**	see table 1 **clause 5.2.1.1.2** **A.2/3**
Summary	*Short free text description of the test objective*	Verify that the IUT can successfully process all mandatory AVPs in a UL-Request received due to IP-CAN session establishment.
Initial condition (optional)	*Free text description of the condition that the IUT has reached before the test purpose applies.*	The IUT has received AF provisions information about the AF signalling flows between UE and AF.
Start point	Ensure that the IUT in the <state> *see IETF RFC 3588 [6], clause 5.6* *and/or further actions before stimulus* *if the action is sending/receiving* *see below for message structure*	 Open state having sent an AA-Request
Stimulus	<**trigger**>, *see below for message structure* *or* <goal>	on receipt of a Capabilities-Exchange-Request (see note 2) to require PCC supervision, etc.
Reaction	<**action**>. *if the action is sending* *see below for message structure* <next action>, *etc.*	sends, saves, does, etc.
Message structure	<message type> *a)* containing a(n) <avp name> AVP *b)* indicating <coding of the field> and *back to a) or b) (see note 3)*	Capabilities-Exchange-Answer, etc. (see note 2) Vendor-Id, etc.

NOTE 1: Text in italics will not appear in TPs and text between <> is filled in for each TP and may differ from one TP to the next.

NOTE 2: All messages shall be considered as "valid and compatible" unless otherwise specified in the test purpose. This includes the presence of all mandatory AVPs as specified in IETF RFC 3588 [6] and in ETSI TS 129 272 [1], clause 7.

NOTE 3: An AVP can be embedded into another AVP. This is expressed by indentations, e.g. if Message1 contains AVP1 and AVP2 where AVP1 has AVP3 embedded this will be expressed like this:

```
sends/receives Message 1
    containing AVP1
        containing AVP3
            indicating ...
    containing AVP2
        indicating ...
```

4.2 Test Purposes

4.2.0 PICS references

All PICS items referred to in this clause are as specified in ETSI TS 103 261-1 [2] unless indicated otherwise by another numbered reference. PICS items are only meant for test selection, therefore only PICS items with status optional or conditional are explicitly mentioned.

4.2.1 MME Role

4.2.1.0 Test Selection

IUT takes the role of the MME; PICS A.2/1

4.2.1.1 Update Location

Test Selection: IUT supports location management procedures; PICS A.3/1.

TP_MME_UL_01	Standards Reference: 5.2.1.1.1 and 7.2.3	PICS item:
Summary:	Verify that the IUT can indicate request for update location information to inform HSS about the identity of the currently serving user.	
Test purpose:	Ensure that the IUT **to indicate** a request for update location information, **sends a UL-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a RAT-Type AVP containing a ULR-Flags AVP with S6a-indicator bit set containing a Visited-PLMN-ID AVP	
Comments:		

TP_MME_UL_02	Standards Reference: 5.2.1.1.2¶4	PICS item: A.2/1.2
Summary:	Verify that the IUT due to an inter node (SGSN to MME) update sends UL-Request where "Single-Registration-Indication" is set.	
Test purpose:	Ensure that the IUT **to indicate** an inter node update, **sends a UL-Request** containing a ULR-Flags AVP with S6a-indicator bit set with Single-Registration-Indication bit set	
Comments:		

TP_MME_UL_03	Standards Reference: 5.2.1.1.2¶5	PICS item:
Summary:	Verify that the IUT can indicate request for update location information which is sent due to an initial attach.	
Test purpose:	Ensure that the IUT **to indicate** a request for update location information due to an initial attach, **sends a UL-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a RAT-Type AVP containing a ULR-Flags AVP with S6a-indicator bit set with Initial-Attach-Indicator bit set containing a Visited-PLMN-ID AVP	
Comments:		

TP_MME_UL_04	Standards Reference: 5.2.1.1.2¶6	PICS item: A.2/1.1
Summary:	Verify that the IUT, when subscriber data are already available due to previous location update, successfully processes additional request for update location information.	
Test purpose:	Ensure that the IUT **sends a UL-Request and** **on receipt of a UL-Answer** **to indicate** additional request for update location information, **sends a UL-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a RAT-Type AVP containing a ULR-Flags AVP with S6a-indicator bit set with Skip-Subscriber-Data bit set containing a Visited-PLMN-ID AVP	
Comments:		

TP_MME_UL_05	Standards Reference: 5.2.1.1.2¶7	PICS item: A.2/1.1 and A.3/1.1
Summary:	Verify that the IUT, that has chosen the option to include the SSGN number within ULR request is prepared to receive a single subscription data update message IDR from HSS when the subscription data is modified.	
Test purpose:	Ensure that the IUT **sends a UL-Request** containing a SGSN-Number AVP **on receipt of a UL-Answer and** **on receipt of an ID-Request** **sends an ID-Answer**	
Comments:		

TP_MME_UL_06	Standards Reference: 5.2.1.1.2¶7	PICS item: A.2/1.1 and A.3/1.1
Summary:	Verify that the IUT, that has chosen the option to include the SSGN number within ULR request is prepared to receive a single subscription data update message DSR from HSS when the subscription data is modified.	
Test purpose:	Ensure that the IUT **sends a UL-Request** containing a SGSN-Number AVP **on receipt of a UL-Answer and** **on receipt of an DS-Request** **sends an DS-Answer**	
Comments:		

TP_MME_UL_07	Standards Reference: 5.2.1.1.2¶10	PICS item: NOT A.2/1.1
Summary:	Verify that the standalone IUT, does not indicate its support for any SGSN specific features and does not request explicitly the download of GPRS data.	
Test purpose:	Ensure that the IUT **sends a UL-Request** containing a ULR-Flags AVP with S6a-indicator bit set with GPRS-Subscription-Data-Indicator bit **not** set with Node-Type-Indicator bit **not** set	
Comments:		

4.2.1.2 Cancel Location

Test Selection: IUT supports cancel location procedures; PICS A.3/2.

TP_MME_CL_01	Standards Reference: Table 5.2.1.2.1/2 and 5.2.1.2.2¶2 and 7.2.8	PICS item:
Summary:	Verify that the IUT when receiving Cancel location request checks whether the IMSI is known and if not the IUT shall return Cancel location response with all mandatory AVPs and with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of a CL-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP indicating not known IMSI containing a Cancelation-Type AVP, **sends a CL-Answer** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_CL_02	Standards Reference: Table 5.2.1.2.1/2 and 5.2.1.2.2¶3 and 7.2.8	PICS item:
Summary:	Verify that the IUT when receiving Cancel location request checks whether the IMSI is known and if cancelation type of "Initial attach procedure" is received then the IUT shall return Cancel location response with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of a CL-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI containing a Cancelation-Type AVP indicating INITIAL_ATTACH_PROCEDURE, **sends a CL-Answer** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

4.2.1.3 Purge UE

Test Selection: IUT supports Purge UE procedures; PICS A.3/3.

TP_MME_PUE_01	Standards Reference: Table 5.2.1.3.1/1 and 7.2.13	PICS item:
Summary:	Verify that the IUT can indicate request for purge UE procedure.	
Test purpose:	Ensure that the IUT **to indicate** a request for purge UE procedure, **sends a PU-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP	
Comments:		

TP_MME_PUE_02	Standards Reference: 5.2.1.3.2¶1	PICS item:
Summary:	Verify that the IUT makes use of UE Purge procedure and sets appropriate flag when the subscription profile is deleted from database or after long UE inactivity.	
Test purpose:	Ensure that the IUT **to indicate** a request for purge UE procedure, **sends a PU-Request** containing a PUR-Flags AVP with "UE Purged in MME" bit set	
Comments:		

TP_MME_PUE_03	Standards Reference: 5.2.1.3.2¶3	PICS item: A.2/1.1
Summary:	Verify that the IUT makes use of UE Purge procedure and sets appropriate flags when the subscription profile is deleted from database or after long UE inactivity on all registered accesses.	
Test purpose:	Ensure that the IUT **to indicate** a request for purge UE procedure, **sends a PU-Request** containing a PUR-Flags AVP with "UE Purged in MME" bit set with "UE Purged in SGSN" bit set	
Comments:		

TP_MME_PUE_04	Standards Reference: 5.2.1.3.2¶3	PICS item: A.2/1.1 and A.4/13
Summary:	Verify that in case when HSS indicates support for Partial Purge feature IUT may also indicate a Purge of the UE in only one of the serving nodes in the combined node (either in the MME or in the SGSN).	
Test purpose:	Ensure that the IUT **to indicate** a request for update location information, **sends a UL-Request** **on receipt of a UL-Answer** containing a Supported-Features AVP containing a Vendor-Id AVP containing a Feature-List-ID AVP containing a Feature-List AVP indicating Partial Purge **sends a PU-Request** containing a PUR-Flags AVP either with "UE Purged in MME" bit set or with "UE Purged in SGSN" bit set	
Comments:		

4.2.1.4 Insert Subscriber Data

Test Selection: IUT supports subscriber data handling procedures; PICS A.3/4.

TP_MME_ISD_01	Standards Reference: Table 5.2.2.1.1/2 and 5.2.2.1.2¶4 and 7.2.10	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request checks whether the IMSI is known and returns Insert Subscriber Data response with all mandatory AVPs and with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI containing a Subscription-Data AVP, **sends an ID-Answer** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_ISD_02	Standards Reference: 5.2.2.1.2¶1,2 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request checks whether the IMSI is known and if not the IUT returns Insert Subscriber Data response with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a User-Name AVP indicating not known IMSI, **sends an ID-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_USER_UNKNOWN	
Comments:		

TP_MME_ISD_03	Standards Reference: 5.2.2.1.2¶18	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request with IDR-Flags with "T-ADS Data Request" bit set and when UE is in attached state the IUT returns Insert Subscriber Data response with time stamp of UE's most recent radio contact, and the associated RAT Type, and an indication of whether or not IMS Voice over PS is supported.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a User-Name AVP indicating known IMSI containing an IDR-Flags AVP with T-ADS Data Request bit set, **sends an ID-Answer** containing an IMS-Voice-Over-PS-Sessions-Supported AVP containing a Last-UE-Activity-Time AVP containing a RAT-Type AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_ISD_04	Standards Reference: 5.2.2.1.2¶18	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request with IDR-Flags with "T-ADS Data Request" bit set and when UE is in detached state the IUT returns Insert Subscriber Data response not including any of T_ADS IEs.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a User-Name AVP indicating known IMSI containing an IDR-Flags AVP with T-ADS Data Request bit set, **sends an ID-Answer** **not** containing an IMS-Voice-Over-PS-Sessions-Supported AVP **not** containing a Last-UE-Activity-Time AVP **not** containing a RAT-Type AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_ISD_05	Standards Reference: 5.2.2.1.2¶19	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request with IDR-Flags with "EPS User State Request" bit set the IUT returns Insert Subscriber Data response including the corresponding user information.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a User-Name AVP indicating known IMSI containing an IDR-Flags AVP with EPS User State Request bit set, **sends an ID-Answer** containing an EPS-User-State AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_ISD_06	Standards Reference: 5.2.2.1.2¶19	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request with IDR-Flags with "EPS Location Information Request" bit set the IUT returns Insert Subscriber Data response including the corresponding user information.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a User-Name AVP indicating known IMSI containing an IDR-Flags AVP with EPS Location Information Request bit set, **sends an ID-Answer** containing an EPS-Location-Information AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_ISD_07	Standards Reference: 5.2.2.1.2¶19	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request with IDR-Flags with "EPS User State Request" bit set and with "EPS Location Information Request" bit set the IUT returns Insert Subscriber Data response including the corresponding user information.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a User-Name AVP indicating known IMSI containing an IDR-Flags AVP with EPS User State Request bit set and with EPS Location Information Request bit set, **sends an ID-Answer** containing an EPS-User-State AVP containing an EPS-Location-Information AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_ISD_08	Standards Reference: 5.2.2.1.2¶19	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request with IDR-Flags with "EPS User State Request" bit set and with "EPS Location Information Request" bit set and with "Current Location Request" bit set and UE is in idle mode the IUT returns Insert Subscriber Data response including the most up-to-date corresponding user information.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a User-Name AVP indicating known IMSI containing an IDR-Flags AVP with EPS User State Request bit set and with EPS Location Information Request bit set with Current Location Request bit set, **to indicate** most corresponding up-to-date user information **sends an ID-Answer** containing an EPS-User-State AVP containing an EPS-Location-Information AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_ISD_09	Standards Reference: 5.2.2.1.2¶19 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving an ID-Request with IDR-Flags with only "Current Location Request" bit set the IUT returns Insert Subscriber Data response including corresponding result code.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a User-Name AVP indicating known IMSI containing an IDR-Flags AVP with Current Location Request bit set, **sends an ID-Answer** containing a Result-Code AVP indicating DIAMETER_UNABLE_TO_COMPY	
Comments:		

TP_MME_ISD_10	Standards Reference: 5.2.2.1.2¶4,5 and 7.2.9	PICS item:
Summary:	Verify that the IUT successfully processes all mandatory and optional AVPs in an ID-Request received due to subscriber data handling procedure where information is related to the user's subscribed APN configurations for EPS.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI containing a Subscription-Data AVP containing an APN-Configuration-Profile AVP containing a Context-Identifier AVP containing an All-APN-Configurations-Included-Indicator AVP containing an APN-Configuration AVP containing a Context-Identifier AVP containing a PDN-Type AVP containing an Service-Selection AVP containing an MIP6-Agent-Info AVP, **sends an ID-Answer** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:	NOTE: PDN GW address has been statically allocated and PDN-GW-Allocation-Type AVP is not present within an APN-Configuration AVP.	

TP_MME_ISD_11	Standards Reference: 5.2.2.1.2¶9 and 7.2.9	PICS item:
Summary:	Verify that the IUT successfully processes all mandatory and optional AVPs in an ID-Request received due to subscriber data handling procedure where information is related to the user profile relevant for GPRS.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI containing a Subscription-Data AVP containing a GPRS-Subscription-Data AVP containing a Complete-Data-List-Included-Indicator AVP containing a PDP-Context AVP containing a Context-Identifier AVP containing a PDP-Type AVP containing a QoS-Subscribed AVP containing a Service-Selection AVP, **sends an ID-Answer** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_ISD_12	**Standards Reference:** **5.2.2.1.2¶12-17 and 7.2.9**	**PICS item:**
Summary:	Verify that the IUT successfully processes all mandatory and optional AVPs in an ID-Request received due to subscriber data handling.	
Test purpose:	Ensure that the IUT **on receipt of an ID-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI containing a Subscription-Data AVP containing an Operator-Determined-Barring AVP containing an Access-Restriction-Data AVP containing an APN-OI-Replacement AVP containing an Regional-Subscription-Zone-Code AVP containing a CSG-Subscription-Data AVP containing a CSG-Id AVP containing a Teleservice-List AVP containing a TS-Code AVP containing a Call-Barring-Info AVP containing an SS-Code AVP containing an SS-Status AVP containing a LCS-Info AVP, **sends an ID-Answer** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

4.2.1.5 Delete Subscriber Data

Test Selection: IUT supports delete subscriber data procedures; PICS A.3/5.

TP_MME_DSD_01	Standards Reference: Table 5.2.2.2.1/2 and 5.2.2.2.2¶5 and 7.2.12	PICS item:
Summary:	Verify that the IUT when receiving a DS-Request shall check whether the IMSI is known and if it is the IUT returns Delete Subscriber Data response with all mandatory AVPs and with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of a DS-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI containing a DSR-Flags AVP, **sends an DS-Answer** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

TP_MME_DSD_02	Standards Reference: 5.2.2.2.2¶2 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving a DS-Request shall check whether the IMSI is known and if not the IUT returns Delete Subscriber Data response with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of a DS-Request** containing a User-Name AVP indicating not known IMSI, **sends a DS-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_USER_UNKNOWN	
Comments:		

TP_MME_DSD_03	Standards Reference: 5.2.2.2.2¶3 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving a DS-Request shall check whether the IMSI is known and if it is and Context-Identifier is associated with the default APN configuration the IUT returns Delete Subscriber Data response with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of a DS-Request** containing a User-Name AVP indicating not known IMSI containing a Context-Identifier AVP indicating default APN configuration containing a DSR-Flags AVP with PDN-subscription-context-Withdrawal bit set, **sends a DS-Answer** containing a Result-Code AVP indicating DIAMETER_UNABLE_TO_COMPLY	
Comments:		

TP_MME_DSD_04	Standards Reference: 5.2.2.2.2¶4 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving a DS-Request checks whether the IMSI is known and in case if Complete-APN-Configuration-Profile-Withdrawal bit is set within DSR-flags then the IUT returns Delete Subscriber Data response with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of a DS-Request** containing a User-Name AVP indicating known IMSI containing a DSR-Flags AVP with Complete-APN-Configuration-Profile-Withdrawal bit set, **sends a DS-Answer** containing a Result-Code AVP indicating DIAMETER_UNABLE_TO_COMPLY	
Comments:		

4.2.1.6 Authentication Information Retrieval

Test Selection: IUT supports Authentication Information Retrieval procedures; PICS A.3/6.

TP_MME_AIR_01	Standards Reference: 5.2.3.1.2¶3,5 and 7.2.5	PICS item:
Summary:	Verify that the IUT can indicate request for Authentication Information Retrieval Procedure triggered by a synchronization failure during E-UTRAN authentication.	
Test purpose:	Ensure that the IUT **to indicate** a request for Authentication Information Retrieval Procedure, **sends an AI-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a Visited-PLMN-ID AVP containing a Requested-EUTRAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **ifpresent** containing a Requested-UTRAN-GERAN-Authentication-Info AVP **not** containing a Re-Synchronization-Info AVP	
Comments:		

TP_MME_AIR_02	Standards Reference: 5.2.3.1.2¶4,5 and 7.2.5	PICS item: A.2/1.1
Summary:	Verify that the IUT can indicate request for Authentication Information Retrieval Procedure triggered by a synchronization failure during UTRAN or GERAN authentication.	
Test purpose:	Ensure that the IUT **to indicate** a request for Authentication Information Retrieval Procedure, **sends an AI-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a Visited-PLMN-ID AVP containing a Requested-UTRAN-GERAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **ifpresent** containing a Requested-EUTRAN-Authentication-Info AVP **not** containing a Re-Synchronization-Info AVP	
Comments:		

TP_MME_AIR_03	Standards Reference: 5.2.3.1.2¶8 and 7.2.5	PICS item: A.2/1.1 and A.3/6.2
Summary:	Verify that the IUT may indicate request for Authentication Information Retrieval Procedure with the Requested-UTRAN-GERAN-Authentication-Info AVP and the Requested-EUTRAN-Authentication-Info then the Immediate-Response-Preferred AVP shall not be present in both.	
Test purpose:	Ensure that the IUT **to indicate** a request for Authentication Information Retrieval Procedure, **sends an AI-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a Visited-PLMN-ID AVP ((containing a Requested-UTRAN-GERAN-Authentication-Info AVP and containing a Requested-EUTRAN-Authentication-Info AVP) containing an Immediate-Response-Preferred AVP **only in one of above AVPs**)	
Comments:		

4.2.1.7 Reset

Test Selection: IUT supports Reset procedures; PICS A.3/7.

TP_MME_RES_01	Standards Reference: Table 5.2.4.1.1/2 and 5.2.4.1.2 and 7.2.16	PICS item:
Summary:	Verify that the IUT when receiving a RS-Request returns RS-Answer with all mandatory AVPs and with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an RS-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP, **sends an RS-Answer** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS	
Comments:		

4.2.1.8 Notification

Test Selection: IUT supports Notification procedures; PICS A.3/8.

TP_MME_NOT_01	Standards Reference: Table 5.2.5.1.1/1 and 5.2.5.1.2 and 7.2.17	PICS item:
Summary:	Verify that the IUT that does not support Emergency services can indicate request for Notification Procedure.	
Test purpose:	Ensure that the IUT **to indicate** a request for Notification Procedure, **sends an NO-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP	
Comments:		

4.2.2 HSS Role

4.2.2.0 Test Selection

IUT takes the role of the HSS; PICS A.2.2.

4.2.2.1 Update Location

Test Selection: IUT supports Management Location procedures; PICS A.5/1.

TP_HSS_UL_01	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶26 and 7.2.4	PICS item:
Summary:	Verify that the IUT successfully processes all mandatory AVPs in a UL-Request received due to Update Location procedure.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a RAT-Type AVP containing a ULR-Flags AVP with S6a-indicator bit set containing a Visited-PLMN-ID AVP, **sends a UL-Answer** containing a Session-ID AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a ULA-Flags AVP with Separation-indicator bit set containing a Subscription-Data AVP	
Comments:		

TP_HSS_UL_02	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.2¶8,9 and 5.2.1.1.3¶26 and 7.2.4	PICS item:
Summary:	Verify that the IUT successfully processes all mandatory and optional AVPs in a UL-Request received due to Update Location procedure.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a RAT-Type AVP containing a ULR-Flags AVP with S6a-indicator bit set containing a Visited-PLMN-ID AVP containing a Homogeneous-Support-of-IMS-Voice-Over-PS-Sessions AVP containing an Active-APN AVP containing a Context-Identifier AVP containing Service-Selection AVP containing MIP6-Agent-Info AVP containing Visited-Network-Identifier AVP, **sends a UL-Answer** containing a Session-ID AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a ULA-Flags AVP with Separation-indicator bit set containing a Subscription-Data AVP	
Comments:		

TP_HSS_UL_03	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶1,2 and 7.4.3	PICS item:
Summary:	Verify that the IUT checks whether subscription data exists for IMSI and if not IUT returns appropriate Result-Code AVP.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a User-Name AVP indicating not existing IMSI, **sends a UL-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_USER_UNKNOWN **not** containing a ULA-Flags AVP **not** containing a Subscription-Data AVP	
Comments:		

TP_HSS_UL_04	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶3 and 7.4.3	PICS item:
Summary:	Verify that the IUT in case if subscriber has no APN configuration returns appropriate Result-Code AVP.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request**, **sends a UL-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_UNKNOWN_EPS_SUBSCRIPTION **not** containing a ULA-Flags AVP **not** containing a Subscription-Data AVP	
Comments:		

TP_HSS_UL_05	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶5 and 7.4.3	PICS item: A.5/1.1
Summary:	Verify that the IUT in case if subscriber has no APN configuration returns appropriate Result-Code AVP.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request**, **sends a UL-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_UNKNOWN_EPS_SUBSCRIPTION containing an Error-Diagnostic AVP **not** containing a ULA-Flags AVP **not** containing a Subscription-Data AVP	
Comments:		

TP_HSS_UL_06	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶6 and 7.4.3	PICS item:
Summary:	Verify that the IUT in case if the RAT Type that the UE is using is not allowed returns appropriate Result-Code AVP.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request**, containing a RAT-Type AVP indicating different value then UE using it **sends a UL-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_RAT_NOT_ALLOWED **not** containing a ULA-Flags AVP **not** containing a Subscription-Data AVP	
Comments:		

TP_HSS_UL_07	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶7 and 7.4.3	PICS item: A.5/1.2
Summary:	Verify that the IUT in case if roaming is not allowed in the VPLMN due to ODB returns appropriate Result-Code AVP.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request**, **sends a UL-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_ROAMING_NOT_ALLOWED **not** containing a ULA-Flags AVP **not** containing a Subscription-Data AVP	
Comments:		

TP_HSS_UL_08	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶8	PICS item:
Summary:	Verify that the IUT when UL Request is received over S6a sends CL Request to the previous old MME.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** from previous MME containing a ULR-Flags AVP with S6a bit set **sends a UL-Answer** to previous MME **on receipt of a UL-Request** from new MME, **sends a CL-Request** to previous MME containing a Cancellation-Type AVP indicating MME_UPDATE_PROCEDURE **on receipt of a CL-Answer** from previous MME **sends a UL-Answer** to new MME	
Comments:	NOTE: 2 MME will be involved as test components.	

TP_HSS_UL_09	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶8	PICS item:
Summary:	Verify that the IUT when UL Request is received over S6a sends CL Request to the previous old SGSN.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** from previous SGSN containing a ULR-Flags AVP with S6a bit **not** set **sends a UL-Answer** to previous SGSN **on receipt of a UL-Request** from new MME containing a ULR-Flags AVP with Single-Registration-Indication bit set with S6a bit set, **sends a CL-Request** to previous SGSN containing a Cancellation-Type AVP indicating SGSN_UPDATE_PROCEDURE **on receipt of a CL-Answer** from previous SGSN **sends a UL-Answer** to new MME	
Comments:	NOTE: MME and old SGSN will be involved as test components.	

TP_HSS_UL_10	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶8	PICS item:
Summary:	Verify that the IUT when UL Request is received over S6a sends CL Request to the previous old SGSN.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** from previous SGSN containing a ULR-Flags AVP with S6a bit **not** set **sends a UL-Answer** to previous SGSN **on receipt of a UL-Request** from new MME containing a ULR-Flags AVP with Initial-Attach-Indicator bit set with S6a bit set, **sends a CL-Request** to previous SGSN containing a Cancellation-Type AVP indicating INITIAL_ATTACH_PROCEDURE **on receipt of a CL-Answer** from previous SGSN **sends a UL-Answer** to new MME	
Comments:	NOTE: MME and old SGSN will be involved as test components.	

TP_HSS_UL_11	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶8	PICS item:
Summary:	Verify that the IUT when UL Request is received over S6a sends CL Request to the previous old SGSN.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** from previous SGSN containing a ULR-Flags AVP with S6a bit **not** set **sends a UL-Answer** to previous SGSN **on receipt of a UL-Request** from new MME containing a ULR-Flags AVP with Single-Registration-Indication bit set with Initial-Attach-Indicator bit set with S6a bit set, **sends a CL-Request** to previous SGSN containing a Cancellation-Type AVP indicating INITIAL_ATTACH_PROCEDURE **on receipt of a CL-Answer** from previous SGSN **sends a UL-Answer** to new MME	
Comments:	NOTE: MME and old SGSN will be involved as test components.	

TP_HSS_UL_12	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶15,23,24 and 7.3.34 and 7.3.35	PICS item:
Summary:	Verify that the IUT successfully processes a UL-Request and sends a UL-Answer with the APN-Configuration-Profile AVP present in the Subscription-Data AVP.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request**, **sends a UL-Answer** containing a Subscription-Data AVP containing an APN-Configuration-Profile AVP containing a Context-Identifier AVP containing an All-APN-Configurations-Included-Indicator AVP containing an APN-Configuration AVP containing a Context-Identifier AVP containing a PDN-Type AVP containing a Service-Selection AVP containing EPS-Subscribed-QoS Profile AVP containing an AMBR AVP **not** containing a Specific-APN-Info AVP containing an AMBR AVP	
Comments:		

TP_HSS_UL_13	Standards Reference: Table 5.2.1.1.1/2 and 5.2.1.1.3¶21	PICS item:
Summary:	Verify that the IUT successfully processes a UL-Request and sends a UL-Answer with the Subscriber-Status AVP present in the Subscription-Data AVP.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request**, **sends a UL-Answer** containing a Subscription-Data AVP containing a Subscriber-Status AVP indicating OPERATOR_DETERMINED_BARRING (containing an Operator-Determined-Barring AVP or containing an HPLMN-ODB AVP)	
Comments:		

4.2.2.2 Cancel Location

Test Selection: IUT supports Cancel Location procedures; PICS A.5/2.

NOTE: ULR should be sent from MME before Cancel procedure is required.

TP_HSS_CL_01	Standards Reference: 5.2.1.2.1¶1(1st dashed line) and Table 5.2.1.2.1/1 and 5.2.1.2.3¶2 and 7.2.7	PICS item: A.5/2
Summary:	Verify that the IUT successfully initiates all mandatory AVPs in a CL-Request due to Cancel Location procedure to inform MME about subscriber's subscription withdrawal.	
Test purpose:	Ensure that the IUT **to indicate** a request for cancel location procedure to inform MME about subscriber's subscription withdrawal, **sends a CL-Request** to previous MME containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a Cancelation-Type AVP indicating SUBSCRIPTION_WITHDRAWAL	
Comments:		

TP_HSS_CL_02	Standards Reference: 5.2.1.2.1¶1(2nd dashed line) and Table 5.2.1.2.1/1 and 5.2.1.2.3¶2 and 7.2.7	PICS item: A.5/2
Summary:	Verify that the IUT successfully initiates all mandatory AVPs in a CL-Request due to Cancel Location procedure to inform MME about an ongoing update procedure.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** from previous MME containing a ULR-Flags AVP with S6a bit set **sends a UL-Answer** to previous MME **on receipt of a UL-Request** from new MME **sends a CL-Request** to previous MME containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a Cancelation-Type AVP indicating MME_UPDATE_PROCEDURE **on receipt of a CL-Answer** from previous MME **sends a UL-Answer** to new MME	
Comments:	NOTE: 2 MME could be involved as test components.	

TP_HSS_CL_03	**Standards Reference:** **5.2.1.2.1¶1(3rd dashed line) and Table 5.2.1.2.1/1 and 5.2.1.2.3¶2 and 7.2.7**	**PICS item:** **A.5/2**
Summary:	Verify that the IUT successfully initiates all mandatory AVPs in a CL-Request due to Cancel Location procedure to inform MME about an initial attach procedure.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** from previous MME containing a ULR-Flags AVP with S6a bit set **sends a UL-Answer** to previous MME **on receipt of a UL-Request** from new MME containing a ULR-Flags AVP with Initial-Attach-Indicator bit set with S6a bit set, **sends a CL-Request** to previous MME containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a Cancelation-Type AVP indicating INITIAL_ATTACH_PROCEDURE **on receipt of a CL-Answer** from previous MME **sends a UL-Answer** to new MME	
Comments:	NOTE: 2 MME could be involved as test components.	

TP_HSS_CL_04	**Standards Reference:** **5.2.1.2.1¶1 and Table 5.2.1.2.1/1 and 5.2.1.2.3¶2 and 7.2.7**	**PICS item:** **A.5/2**
Summary:	Verify that the IUT successfully initiates all mandatory AVPs in a CL-Request due to Cancel Location procedure and IUT sends CLR to combined MME/SGSN during initial attach procedure.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** from previous MME/SGSN containing a ULR-Flags AVP with S6a bit set with Node-Type-Indicator bit set **sends a UL-Answer** to previous MME/SGSN **on receipt of a UL-Request** from new MME containing a ULR-Flags AVP with Initial-Attach-Indicator bit set with S6a bit set, **sends a CL-Request** to previous MME/SGSN containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP containing a Cancelation-Type AVP indicating INITIAL_ATTACH_PROCEDURE containing a CLR-Flags AVP with S6a-indicator bit set **on receipt of a CL-Answer** from previous MME/SGSN **sends a UL-Answer** to new MME	
Comments:	NOTE: Combined MME/SGSN and new MME involved as test components.	

4.2.2.3 Purge UE

Test Selection: IUT supports Purge UE procedures; PICS A.5/3.

TP_HSS_PUE_01	Standards Reference: Table 5.2.1.3.1/2 and 7.2.14	PICS item:
Summary:	Verify that the IUT successfully processes all mandatory and optional AVPs in a PU-Request received due to purge UE procedure.	
Test purpose:	Ensure that the IUT **on receipt of a PU-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP, **sends a PU-Answer** containing a Session-ID AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP	
Comments:		

TP_HSS_PUE_02	Standards Reference: 5.2.1.3.3¶1,2 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving PU-Request checks whether the IMSI is known and if not the IUT returns PU-Answer with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of a PU-Request** containing a User-Name AVP indicating not known IMSI, **sends a PU-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_USER_UNKNOWN	
Comments:		

TP_HSS_PUE_03	Standards Reference: 5.2.1.3.3¶1,3 first dash line	PICS item: A.2/1.1 and A.5/3.1
Summary:	Verify that the IUT when receiving PU-Request checks if the IMSI is known and received identity matches the stored MME-identity and stored SGSN-identity and when the Partial Purge is supported IUT sets PUA flags according to the serving node where the purge was done(MME).	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request**, containing a ULR-Flags AVP with Node-Type-indicator bit set **sends a UL-Answer** containing a Supported-Features AVP containing a Vendor-Id AVP containing a Feature-List-ID AVP containing a Feature-List AVP indicating Partial Purge **on receipt of a PU-Request** containing an Origin-Host AVP indicating stored MME identity and stored SGSN identity containing a User-Name AVP indicating known IMSI containing a PUR-Flags AVP with "UE Purged in MME" bit set **sends a PU-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing a PUA-Flags AVP with "freeze M-TMSI" bit set	
Comments:	NOTE: UE Purged in MME.	

TP_HSS_PUE_04	Standards Reference: 5.2.1.3.3¶1,3 first dash line	PICS item: A.2/1.1 and A.5/3.1
Summary:	Verify that the IUT when receiving PU-Request checks if the IMSI is known and received identity matches the stored MME-identity and stored SGSN-identity and when the Partial Purge is supported IUT sets PUA flags according to the serving node where the purge was done (SGSN).	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request**, containing a ULR-Flags AVP with Node-Type-indicator bit set **sends a UL-Answer** containing a Supported-Features AVP containing a Vendor-Id AVP containing a Feature-List-ID AVP containing a Feature-List AVP indicating Partial Purge **on receipt of a PU-Request** containing an Origin-Host AVP indicating stored MME identity and stored SGSN identity containing a User-Name AVP indicating known IMSI containing a PUR-Flags AVP with "UE Purged in SGSN" bit set, **sends a PU-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing a PUA-Flags AVP with "freeze P-TMSI" bit set	
Comments:		

TP_HSS_PUE_05	Standards Reference: 5.2.1.3.3¶1,3 second dash line	PICS item: A.2/1.1 and Not A.5/3.1
Summary:	Verify that the IUT when receiving PU-Request checks if the IMSI is known and received identity matches the stored MME-identity and stored SGSN-identity and when the Partial Purge is not supported IUT sets PUA flags "freeze M-TMSI" and "freeze P-TMSI".	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with Node-Type-indicator bit set **sends a UL-Answer** not containing a Supported-Features AVP containing a Feature-List AVP indicating Partial Purge **on receipt of a PU-Request** containing an Origin-Host AVP indicating stored MME identity and stored SGSN identity containing a User-Name AVP indicating known IMSI containing a PUR-Flags AVP with "UE Purged in MME" bit set and with "UE Purged in SGSN" bit set, **sends a PU-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing a PUA-Flags AVP with "freeze M-TMSI" bit set and with "freeze P-TMSI" bit set	
Comments:		

TP_HSS_PUE_06	Standards Reference: 5.2.1.3.3¶4	PICS item: A.2/1.1
Summary:	Verify that the IUT when receiving PU-Request checks if the IMSI is known and received identity matches the stored MME-identity but not the stored SGSN-identity IUT sets PUA flag "freeze M-TMSI" and clears PUA flag "freeze P-TMSI".	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with Node-Type-indicator bit set **sends a UL-Answer** **on receipt of a PU-Request** containing an Origin-Host AVP indicating stored MME-identity and not stored SGSN-identity containing a User-Name AVP indicating known IMSI containing a PUR-Flags AVP with "UE Purged in MME" bit set **sends a PU-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing a PUA-Flags AVP with "freeze M-TMSI" bit set and with "freeze P-TMSI" bit **not** set	
Comments:		

TP_HSS_PUE_07	Standards Reference: 5.2.1.3.3¶5	PICS item:
Summary:	Verify that the IUT when receiving PU-Request checks if the IMSI is known and received identity matches the stored SGSN-identity but not the stored MME-identity IUT sets PUA flag "freeze P-TMSI" and clears PUA flag "freeze M-TMSI".	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with Node-Type-indicator bit set **sends a UL-Answer** **on receipt of a PU-Request** containing an Origin-Host AVP indicating stored SGSN-identity and not stored MME-identity containing a User-Name AVP indicating known IMSI containing a PUR-Flags AVP with "UE Purged in SGSN" bit set **sends a PU-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing a PUA-Flags AVP with "freeze P-TMSI" bit set and with "freeze M-TMSI" bit **not** set	
Comments:		

TP_HSS_PUE_08	Standards Reference: 5.2.1.3.3¶5	PICS item: A.2/1.1
Summary:	Verify that the IUT when receiving PU-Request checks if the IMSI is known and received identity not matches the stored MME-identity and not matches the stored SGSN-identity IUT clears PUA flags "freeze P-TMSI" and "freeze M-TMSI".	
Test purpose:	Ensure that the IUT **on receipt of a PU-Request** containing an Origin-Host AVP indicating not stored SGSN-identity and not stored MME-identity containing a User-Name AVP indicating known IMSI **sends a PU-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing a PUA-Flags AVP with "freeze P-TMSI" bit **not** set and with "freeze M-TMSI" bit **not** set	
Comments:		

4.2.2.4 Insert Subscriber Data

Test Selection: IUT supports subscriber data handling procedures; PICS A.5/4.

TP_HSS_ISD_01	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶2 and 7.2.9	PICS item:
Summary:	Verify that the IUT can successfully initiate an ID-Request including all mandatory AVPs and Subscriber-Status AVP within Subscription-Data AVP to remove all Operator Determined Barring Categories.	
Test purpose:	Ensure that the IUT **to indicate** a request to remove all Operator Determined Barring Categories **sends an ID-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP containing a Subscription-Data AVP containing a Subscriber-Status AVP indicating SERVICE_GRANTED	
Comments:		

TP_HSS_ISD_02	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶2 and 7.2.9	PICS item:
Summary:	Verify that the IUT can successfully initiate an ID-Request including Access-Restriction-Data AVP within Subscription-Data AVP if the current value for Operator Determined Barring in MME needs to be changed.	
Test purpose:	Ensure that the IUT **to indicate** a request to change the current value for Operator Determined Barring **sends an ID-Request** containing a Subscription-Data AVP containing a Subscriber-Status AVP indicating OPERATOR_DETERMINED_BARRING (containing an Operator-Determined-Barring AVP or containing an HPLMN-ODB AVP)	
Comments:		

TP_HSS_ISD_03	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶3 and 7.2.9	PICS item:
Summary:	Verify that the IUT can successfully initiate an ID-Request including Access-Restriction-Data AVP within Subscription-Data AVP to modify stored information in MME.	
Test purpose:	Ensure that the IUT **to indicate** a request to modify stored information in MME about Access-Restriction-Data **sends an ID-Request** containing a Subscription-Data AVP containing an Access-Restriction-Data AVP	
Comments:		

TP_HSS_ISD_04	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶4 and 7.2.9	PICS item:
Summary:	Verify that the IUT can successfully initiate an ID-Request including APN-OI-Replacement AVP within Subscription-Data AVP if the UE level APN-OIReplacement has been added or modified.	
Test purpose:	Ensure that the IUT **to indicate** a request when the UE level APN-OIReplacement has been added or modified **sends an ID-Request** containing a Subscription-Data AVP containing an APN-OI-Replacement AVP	
Comments:		

TP_HSS_ISD_05	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶5,6 and 7.2.9 and 7.3.34 and 7.3.35	PICS item:
Summary:	Verify that the IUT can successfully initiate an ID-Request including APN-Configuration-Profile AVP within Subscription-Data AVP if the default APN has changed.	
Test purpose:	Ensure that the IUT **to indicate** a request when the UE level APN-OIReplacement has been added or modified **sends an ID-Request** containing a Subscription-Data AVP containing an APN-Configuration-Profile AVP containing a Context-Identifier AVP containing an All-APN-Configurations-Included-Indicator AVP containing an APN-Configuration AVP containing a Context-Identifier AVP containing a PDN-Type AVP containing a Service-Selection AVP containing an EPS-Subscribed-QoS Profile AVP containing an AMBR AVP **not** containing a Specific-APN-Info AVP	
Comments:		

TP_HSS_ISD_06	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶7 and 7.2.9	PICS item:
Summary:	Verify that the IUT can successfully initiate an ID-Request including a GPRS-Subscription-Data AVP within Subscription-Data AVP if the GPRS-Subscription-Data-Indicator information was previously received as set in the ULR-Flags during update location procedure.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with S6a-indicator bit set with GPRS-Subscription-Data-Indicator bit set with Node-Type-indicator bit set **sends a UL-Answer** **sends an ID-Request** containing a Subscription-Data AVP containing a GPRS-Subscription-Data AVP containing a Complete-Data-List-Included-Indicator AVP containing a PDP-Context AVP containing a Context-Identifier AVP containing a PDP-Type AVP containing a QoS-Subscribed AVP containing a Service-Selection AVP	
Comments:	NOTE: TS as combined MME/SGSN component.	

TP_HSS_ISD_07	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶13 and 7.2.9	PICS item:
Summary:	Verify that the IUT can successfully initiate an ID-Request including empty Subscription-Data AVP for the only purpose to request the MME about the UE reachability status notification.	
Test purpose:	Ensure that the IUT **to indicate** a request for the only purpose to request the MME about the UE reachability status notification **sends an ID-Request** containing an **empty** Subscription-Data AVP	
Comments:	NOTE: Could be that at least some not related AVP should be present within Subscriber Data AVP and correction within TP if needed, will be done due to validation results.	

TP_HSS_ISD_08	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶14 and 7.2.9	PICS item:
Summary:	Verify that the IUT in case when it receives message from a service related entity requesting EPS User State or EPS Location Information than IUT successfully initiates an ID-Request including empty Subscription-Data AVP for the only purpose to request the MME User State or Location Information.	
Test purpose:	Ensure that the IUT **to indicate** a request for the only purpose to request the MME about the User State or Location Information **sends an ID-Request** containing an **empty** Subscription-Data AVP containing an IDR-Flags AVP with EPS User State Request bit set **or** with EPS Location Information Request bit set	
Comments:	NOTE: Could be that at least some not related AVP should be present within Subscriber Data AVP and correction within TP if needed, will be done due to validation results.	

TP_HSS_ISD_09	Standards Reference: Table 5.2.2.1.1/1 and 5.2.2.1.3¶15 and 7.2.9	PICS item:
Summary:	Verify that the IUT in case when it receives message from an AS requesting the current access network's support status of IMS Voice over PS Session than IUT successfully initiates an ID-Request including empty Subscription-Data AVP for the only purpose to retrieve IMS Voice over PS Session Supported indication from MME.	
Test purpose:	Ensure that the IUT **to indicate** a request for the only purpose to retrieve IMS Voice over PS Session Supported indication from MME. **sends an ID-Request** containing an **empty** Subscription-Data AVP containing an IDR-Flags AVP with T-ADS Data Request bit set	
Comments:	NOTE: Could be that at least some not related AVP should be present within Subscriber Data AVP and correction within TP if needed, will be done due to validation results.	

4.2.2.5 Delete Subscriber Data

Test Selection: IUT supports delete subscriber data procedures; PICS A.5/5.

TP_HSS_DSD_01	Standards Reference: Table 5.2.2.2.1/1 and 5.2.2.2.3¶1 and 7.2.11	PICS item:
Summary:	Verify that the IUT can successfully initiate a DS-Request including all mandatory AVPs to remove deleted subscription data from the MME.	
Test purpose:	Ensure that the IUT **to indicate** a request to remove deleted subscription data from the MME **sends a DS-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP containing a User-Name AVP containing a DSR-Flags AVP	
Comments:		

TP_HSS_DSD_02	Standards Reference: Table 5.2.2.2.1/1 and 5.2.2.2.3¶2	PICS item:
Summary:	Verify that the IUT can successfully initiate a DS-Request to remove deleted GPRS subscription data at the combined MME/SGSN.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with S6a-indicator bit set with Node-Type-indicator bit set **sends a UL-Answer** **to indicate** a request to remove deleted GPRS subscription data **sends a DS-Request** containing a DSR-Flags AVP with PDP-Context-Withdrawal bit set containing a Context-Identifier AVP	
Comments:	NOTE 1: TS as combined MME/SGSN component. NOTE 2: Continuation of TP_HSS_ISD_06.	

TP_HSS_DSD_03	Standards Reference: 5.2.2.2.3¶3 and 7.3.25/Bit1	PICS item:
Summary:	Verify that the IUT can successfully initiate a DS-Request with DSR-Flags AVP where Complete-APN-Configuration-Profile-Withdrawal shall not be set.	
Test purpose:	Ensure that the IUT **to indicate** a request to remove any subscription data from the MME **sends a DS-Request** containing a DSR-Flags AVP with Complete-APN-Configuration-Profile-Withdrawal bit **not** set	
Comments:		

4.2.2.6 Authentication Information Retrieval

Test Selection: IUT supports Authentication Information Retrieval procedures; PICS A.5/6.

TP_HSS_AIR_01	Standards Reference: 5.2.3.1.3¶1,13 and 7.2.6	PICS item:
Summary:	Verify that the IUT successfully processes all mandatory AVPs in an AI-Request received due to Authentication Information Retrieval Procedure.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI containing a Visited-PLMN-ID AVP containing a Requested-EUTRAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **sends an AI-Answer** containing a Session-ID AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP	
Comments:		

TP_HSS_AIR_02	Standards Reference: 5.2.3.1.3¶1,13 and 7.2.6	PICS item:
Summary:	Verify that the IUT successfully processes all mandatory AVPs in an AI-Request received due to Authentication Information Retrieval Procedure.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with S6a-indicator bit set with Node-Type-indicator bit set **sends a UL-Answer** **on receipt of an AI-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI containing a Visited-PLMN-ID AVP containing a Requested-UTRAN-GERAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **sends an AI-Answer** containing a Session-ID AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP	
Comments:	NOTE: TS as combined MME/SGSN component.	

TP_HSS_AIR_03	Standards Reference: 5.2.3.1.3¶1,2 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether there is not any type of subscription for the IMSI and then the IUT returns AI-Answer with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating not known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **sends an AI-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_USER_UNKNOWN	
Comments:		

TP_HSS_AIR_04	Standards Reference: 5.2.3.1.3¶3 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether subscriber has neither EPS subscription nor GPRS subscription data and then the IUT returns AI-Answer with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating IMSI without EPS nor GPRS subscription data **sends an AI-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_UNKNOWN_EPS_SUBSCRIPTION	
Comments:		

TP_HSS_AIR_05	Standards Reference: 5.2.3.1.3¶3,4 and 7.4.3 and 7.3.128	PICS item: A.5/6.1
Summary:	Verify that the IUT when receiving AI-Request checks whether subscriber has neither EPS subscription nor GPRS subscription data and then the IUT returns AI-Answer with appropriate result code and Error-Diagnostic AVP.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating IMSI without EPS nor GPRS subscription data **sends an AI-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_UNKNOWN_EPS_SUBSCRIPTION containing an Error-Diagnostic AVP indicating GPRS_DATA_SUBSCRIBED or indicating NO_GPRS_DATA_SUBSCRIBED	
Comments:		

TP_HSS_AIR_06	Standards Reference: 5.2.3.1.3¶1,6 and 7.3.18	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when EUTRAN-Authentication-Info is requested the IUT returns AI-Answer with KASME-AVP within E-UTRAN-Vector.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP containing an E-UTRAN-Vector AVP containing RAND AVP containing XRES AVP containing AUTN AVP containing KASME AVP	
Comments:		

TP_HSS_AIR_07	Standards Reference: 5.2.3.1.3¶1,7	PICS item:
Summary:	Verify that the IUT when receiving AI-Request and in case if the AuC is unable to calculate any corresponding AVs due to unallowed attachment for UE the IUT returns AI-Answer with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_AUTHORIZATION_REJECTED **not** containing an Authentication-Info AVP	
Comments:	NOTE: The AuC is unable to calculate any corresponding AVs.	

TP_HSS_AIR_08	Standards Reference: 5.2.3.1.3¶1,7	PICS item:
Summary:	Verify that the IUT when receiving AI-Request and in case if no corresponding pre-computed AV is available and the AuC is unable to calculate any corresponding AVs due to unknown failures, such as the internal database error, the IUT returns AI-Answer with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **sends an AI-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_AUTHENTICATION_DATA_UNAVAILABLE	
Comments:	NOTE: No corresponding pre-computed AV is available and the AuC is unable to calculate any corresponding AVs due to unknown failures, such as the internal database error.	

TP_HSS_AIR_09	Standards Reference: 5.2.3.1.3¶1,9,13	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when EUTRAN-Authentication-Info is requested the IUT returns AI-Answer with E-UTRAN authentication vectors.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Number-Of-Requested-Vectors AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP containing an E-UTRAN-Vector AVP	
Comments:		

TP_HSS_AIR_10	Standards Reference: 5.2.3.1.3¶1,9,13	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when UTRAN-GERAN-Authentication-Info is requested the IUT returns AI-Answer with UTRAN or GERAN authentication vectors to combined MME/SGSN.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with S6a-indicator bit set with Node-Type-indicator bit set **sends a UL-Answer** **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-UTRAN-GERAN-Authentication-Info AVP containing a Number-Of-Requested-Vectors AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP containing an UTRAN-Vector AVP or containing a GERAN-Vector AVP	
Comments:	NOTE: TS as combined MME/SGSN component.	

TP_HSS_AIR_11	Standards Reference: 5.2.3.1.3¶1,10,13	PICS item: A.5/6.2
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when Immediate-Response-Preferred parameter is requested the IUT returns AI-Answer with less returned vectors than requested.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing an Immediate-Response-Preferred AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP containing an E-UTRAN-Vector AVP	
Comments:		

TP_HSS_AIR_12	Standards Reference: 5.2.3.1.3¶1,10,13	PICS item: A.5/6.2
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when Immediate-Response-Preferred parameter is requested and Number-Of-Requested-Vectors AVP is present the IUT returns AI-Answer with less returned vectors than requested.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Number-Of-Requested-Vectors AVP containing an Immediate-Response-Preferred AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP containing an E-UTRAN-Vector AVP	
Comments:		

TP_HSS_AIR_13	Standards Reference: 5.2.3.1.3¶1,10,13	PICS item: A.5/6.2
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when UTRAN-GERAN-Authentication-Info and EUTRAN-Authentication-Info is requested and EUTRAN-Authentication-Info include the Immediate Response Preferred parameter the IUT returns AI-Answer with KASME including E-UTRAN authentication vectors to combined MME/SGSN.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with S6a-indicator bit set with Node-Type-indicator bit set **sends a UL-Answer** **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing an Immediate-Response-Preferred AVP containing a Requested-UTRAN-GERAN-Authentication-Info AVP containing a Number-Of-Requested-Vectors AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP containing an E-UTRAN-Vector AVP containing a KASME AVP	
Comments:	NOTE 1: TS as combined MME/SGSN component. NOTE 2: Immediate-Response-Preferred AVP within Requested-EUTRAN-Authentication-Info AVP.	

TP_HSS_AIR_14	Standards Reference: 5.2.3.1.3¶1,10,13	PICS item: A.5/6.2
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when UTRAN-GERAN-Authentication-Info and EUTRAN-Authentication-Info is requested and UTRAN-GERAN-Authentication-Info include the Immediate Response Preferred parameter the IUT returns AI-Answer with GERAN or UTRAN authentication vectors to combined MME/SGSN.	
Test purpose:	Ensure that the IUT **on receipt of a UL-Request** containing a ULR-Flags AVP with S6a-indicator bit set with Node-Type-indicator bit set **sends a UL-Answer** **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Number-Of-Requested-Vectors AVP containing a Requested-UTRAN-GERAN-Authentication-Info AVP containing an Immediate-Response-Preferred AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP containing a UTRAN-Vector AVP or containing a GERAN-Vector AVP	
Comments:	NOTE 1: TS as combined MME/SGSN component. NOTE 2: Immediate-Response-Preferred AVP within Requested-UTRAN-GERAN-Authentication-Info AVP.	

TP_HSS_AIR_15	Standards Reference: 5.2.3.1.3¶1,11	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when EUTRAN-Authentication-Info is requested and the Re-Synchronization-Info AVP is present the IUT returns AI-Answer including authentication vectors to MME.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP containing an E-UTRAN-Vector AVP	
Comments:		

TP_HSS_AIR_16	Standards Reference: 5.2.3.1.3¶1,11	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when UTRAN-GERAN-Authentication-Info and EUTRAN-Authentication-Info is requested and both of them include the Re-Synchronization-Info AVP the IUT returns AI-Answer with appropriate result code and any authentication vectors shall not be present.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP containing a Requested-UTRAN-GERAN-Authentication-Info AVP containing a Re-Synchronization-Info AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_UNABLE_TO_COMPLY **not** containing an Authentication-Info AVP	
Comments:		

TP_HSS_AIR_17	Standards Reference: 5.2.3.1.3¶1,12	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when more than one EPS or UTRAN or GERAN Vector is to be included within one Authorization-Info AVP the IUT returns AI-Answer with appropriate result code and the Item-Number AVP shall be present within each Vector.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-EUTRAN-Authentication-Info AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP. containing an E-UTRAN-Vector AVP containing an Item-Number AVP for each Vector	
Comments:	NOTE: More than one EPS Vector to be included in one Authentication-Info AVP.	

TP_HSS_AIR_18	Standards Reference: 5.2.3.1.3¶1,12	PICS item:
Summary:	Verify that the IUT when receiving AI-Request checks whether there is subscription for the IMSI and in case when more than one EPS or UTRAN or GERAN Vector is to be included within one Authorization-Info AVP the IUT returns AI-Answer with appropriate result code and the Item-Number AVP shall be present within each Vector.	
Test purpose:	Ensure that the IUT **on receipt of an AI-Request** containing a User-Name AVP indicating known IMSI containing a Requested-UTRAN-GERAN-Authentication-Info AVP **sends an AI-Answer** containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Authentication-Info AVP. (containing a UTRAN-Vector AVP or containing a GERAN-Vector AVP) containing an Item-Number AVP for each Vector	
Comments:	NOTE: More than one UTRAN or GERAN Vector to be included in one Authentication-Info AVP.	

4.2.2.7 Reset

Test Selection: IUT supports Reset procedures; PICS A.5/7.

TP_HSS_RES_01	Standards Reference: Table 5.2.4.1.1/1 and 5.2.4.1.3 and 7.2.15	PICS item:
Summary:	Verify that the IUT can successfully initiate an RS-Request including all mandatory AVPs to indicate to all relevant MMEs and combined MME/SGSNs that IUT has restarted.	
Test purpose:	Ensure that the IUT **to indicate** to the MME that IUT has restarted **sends an RS-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Host AVP containing a Destination-Realm AVP	
Comments:		

4.2.2.8 Notification

Test Selection: IUT supports Notification procedures; PICS A.5/8.

TP_HSS_NOT_01	Standards Reference: Table 5.2.5.1.1/2 and 5.2.5.1.3¶4 and 7.2.18	PICS item:
Summary:	Verify that the IUT successfully processes all mandatory AVPs in an NO-Request received due to Notification Procedure.	
Test purpose:	Ensure that the IUT **on receipt of an NO-Request** containing a Session-ID AVP containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP indicating known IMSI **sends an NO-Answer** containing a Session-ID AVP containing a Result-Code AVP indicating DIAMETER_SUCCESS containing an Auth-Session-State AVP indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP	
Comments:		

TP_HSS_NOT_02	Standards Reference: 5.2.5.1.3¶1,2 and 7.4.3	PICS item:
Summary:	Verify that the IUT when receiving an NO-Request checks whether the IMSI is known and if not then the IUT returns NO-Answer with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an NO-Request** containing a User-Name AVP indicating not known IMSI **sends an NO-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_USER_UNKNOWN	
Comments:		

TP_HSS_NOT_03	**Standards Reference: 5.2.5.1.3¶1,3 and 7.4.3**	**PICS item:**
Summary:	Verify that the IUT when receiving an NO-Request checks whether the IMSI is known and source MME originating is not currently registered within IUT for that UE then the IUT returns NO-Answer with appropriate result code.	
Test purpose:	Ensure that the IUT **on receipt of an NO-Request** containing a User-Name AVP indicating known IMSI **sends an NO-Answer** **not** containing a Result-Code AVP containing an Experimental-Result AVP containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_UNKNOWN_SERVING_NODE	
Comments:		

History

Document history		
V1.1.1	July 2014	Publication
V1.2.1	June 2015	Publication