



TECHNICAL SPECIFICATION

**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

DTS/INT-00094-2

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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
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Contents

| | |
|---|----|
| Intellectual Property Rights | 4 |
| Foreword..... | 4 |
| Modal verbs terminology..... | 4 |
| 1 Scope | 5 |
| 2 References | 5 |
| 2.1 Normative references | 5 |
| 2.2 Informative references..... | 5 |
| 3 Definitions and abbreviations..... | 6 |
| 3.1 Definitions | 6 |
| 3.2 Abbreviations | 6 |
| 4 Test Suite Structure (TSS) and Test Purposes (TP) | 6 |
| 4.1 Test Suite Structure | 6 |
| 4.1.1 TP naming convention | 6 |
| 4.1.2 Test strategy..... | 6 |
| 4.1.3 TP structure..... | 6 |
| 4.2 Test Purposes..... | 7 |
| 4.2.1 MME Role | 7 |
| 4.2.1.1 Update Location | 8 |
| 4.2.1.2 Cancel Location | 10 |
| 4.2.1.3 Purge UE..... | 11 |
| 4.2.1.4 Insert Subscriber Data..... | 12 |
| 4.2.1.5 Delete Subscriber Data..... | 18 |
| 4.2.1.6 Authentication Information Retrieval | 19 |
| 4.2.1.7 Reset..... | 21 |
| 4.2.1.8 Notification | 21 |
| 4.2.2 HSS Role | 22 |
| 4.2.2.1 Update Location | 22 |
| 4.2.2.2 Cancel Location | 27 |
| 4.2.2.3 Purge UE..... | 29 |
| 4.2.2.4 Insert Subscriber Data..... | 32 |
| 4.2.2.5 Delete Subscriber Data..... | 35 |
| 4.2.2.6 Authentication Information Retrieval | 36 |
| 4.2.2.7 Reset..... | 42 |
| 4.2.2.8 Notification | 43 |
| History | 44 |

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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**", "**may not**", "**need**", "**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).

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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 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 ETS 300 406 [5].

2 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.

2.1 Normative references

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

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 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 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 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 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 TS 129 272 [1] > <PICS reference> | see table 1 clause 5.2.1.1.2 A.2/3 |
| Summary | <i>Short free text description of the test objective</i> | Verify that the IUT can successfully process all mandatory AVPs in a UL-Request received due to IP-CAN session establishment. |
| Initial condition (optional) | <i>Free text description of the condition that the IUT has reached before the test purpose applies.</i> | 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 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 ... |
| 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. |
| <p>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.</p> <p>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 RFC 3588 [6] and in TS 129 272 [1], clause 7.</p> <p>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:</p> <pre> sends/receives Message 1 containing AVP1 containing AVP3 indicating ... containing AVP2 indicating ... </pre> | | |

4.2 Test Purposes

All PICS items referred to in this clause are as specified in 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

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" shall be 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, shall successfully process 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 shall be 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 shall be 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, shall not indicate its support for any SGSN specific features and shall 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 containing a Supported-Features AVP not containing any SGSN specific features | |
| 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 shall check whether the IMSI is known and if not the IUT shall return Cancel location response with all mandatory AVP's 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 Cancellation-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: | NOTE: In case if new and old MMEs are present also ULR and ULA shall be handled on HSS as a TS component. | |

| 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 shall check whether the IMSI is known and if cancellation 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 Cancellation-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: | NOTE: In case if new and old MMEs are present also ULR and ULA shall be handled on HSS as a TS component. | |

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 shall make use of UE Purge procedure and set 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 shall make use of UE Purge procedure and set 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 shall check whether the IMSI is known and it shall return Insert Subscriber Data response with all mandatory AVP's 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 shall check whether the IMSI is known and if not the IUT shall return 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 shall return 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 shall return 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 shall return 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 shall return 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 shall return Insert Subscriber Data response including the corresponding user informations. | |
| 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 shall return 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 shall return 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 can successfully process 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 a 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 can successfully process 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: | <p>Ensure that the IUT</p> <p>on receipt of an ID-Request</p> <ul style="list-style-type: none"> containing a Session-ID AVP containing an Auth-Session-State AVP <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> indicating known IMSI containing a Subscription-Data AVP <ul style="list-style-type: none"> containing a GPRS-Subscription-Data AVP <ul style="list-style-type: none"> containing a Complete-Data-List-Included-Indicator AVP containing a PDP-Context AVP <ul style="list-style-type: none"> containing a Context-Identifier AVP containing a PDN-Type AVP containing a QoS-Subscribed AVP containing a Service-Selection AVP, <p>sends an ID-Answer</p> <ul style="list-style-type: none"> containing a Session-ID AVP containing an Auth-Session-State AVP <ul style="list-style-type: none"> indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP <ul style="list-style-type: none"> 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 can successfully process all mandatory and optional AVPs in an ID-Request received due to subscriber data handling. | |
| Test purpose: | <p>Ensure that the IUT</p> <p>on receipt of an ID-Request</p> <ul style="list-style-type: none"> containing a Session-ID AVP containing an Auth-Session-State AVP <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> indicating known IMSI containing a Subscription-Data AVP <ul style="list-style-type: none"> containing a 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 <ul style="list-style-type: none"> containing a CSG-Id AVP containing a Teleservice-List AVP <ul style="list-style-type: none"> containing a TS-Code AVP containing a Call-Barring-Info AVP <ul style="list-style-type: none"> containing an SS-Code AVP containing an SS-Status AVP containing a LCS-Info AVP, <p>sends an ID-Answer</p> <ul style="list-style-type: none"> containing a Session-ID AVP containing an Auth-Session-State AVP <ul style="list-style-type: none"> indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Result-Code AVP <ul style="list-style-type: none"> 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 shall return Delete Subscriber Data response with all mandatory AVP's 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 shall return 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: | | |

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|----------------------|--|-------------------|
| TP_MME_DSD_03 | Standards Reference: 5.2.2.2¶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 shall return 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: | | |

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|----------------------|--|-------------------|
| TP_MME_DSD_04 | Standards Reference: 5.2.2.2¶4 and 7.4.3 | PICS item: |
| Summary: | Verify that the IUT when receiving a DS-Request shall check whether the IMSI is known and in case if Complete-APN-Configuration-Profile-Withdrawal bit is set within DSR-flags then the IUT shall return 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 if present containing a Requested-UTRAN-GERAN-Authentication-Info AVP not containing a Re-Synchronization-Info AVP. | |
| Comments: | | |

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|----------------------|--|-------------------------------------|
| 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 if present containing a Requested-EUTRAN-Authentication-Info AVP not containing a Re-Synchronization-Info AVP. | |
| Comments: | | |

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|----------------------|--|---|
| 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 shall return RS-Answer with all mandatory AVP's 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 shall not support Emergency services and therefore 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

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 can successfully process all mandatory AVPs in a UL-Request.received due to Update Location procedure. | |
| Test purpose: | Ensure that the IUT <ul style="list-style-type: none"> 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: | | |

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|----------------------|---|-------------------|
| 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 can successfully process all mandatory and optional AVPs in a UL-Request received due to Update Location procedure. | |
| Test purpose: | <p>Ensure that the IUT</p> <p>on receipt of a UL-Request</p> <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> containing a Context-Identifier AVP containing Service-Selection AVP containing MIP6-Agent-Info AVP containing Visited-Network-Identifier AVP, <p>sends a UL-Answer</p> <ul style="list-style-type: none"> 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: | | |

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|----------------------|---|-------------------|
| 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 shall check whether subscription data exists for IMSI and if not IUT shall return appropriate Result-Code AVP. | |
| Test purpose: | <p>Ensure that the IUT</p> <p>on receipt of a UL-Request</p> <ul style="list-style-type: none"> containing a User-Name AVP indicating not existing IMSI, <p>sends a UL-Answer</p> <ul style="list-style-type: none"> not containing a Result-Code AVP containing an Experimental-Result AVP <ul style="list-style-type: none"> containing an Experimental-Result-Code AVP indicating DIAMETER_ERROR_USER_UNKNOWN not containing a ULA-Flags AVP not containing a Subscription-Data AVP. | |
| Comments: | | |

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|----------------------|--|-------------------|
| 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 not any APN configuration shall return 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: | | |

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|----------------------|--|------------------------------|
| 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 not any APN configuration shall return 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: | | |

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|----------------------|---|-------------------|
| 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 the UE is using is not allowed shall return 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: | | |

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|----------------------|---|-------------------------------------|
| 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 shall return 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: | | |

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|----------------------|---|-------------------|
| 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 shall send CL Request to the previous old MME. | |
| Test purpose: | Ensure that the IUT 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. | |

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|----------------------|---|-------------------|
| 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 shall send CL Request to the previous old SGSN | |
| Test purpose: | Ensure that the IUT on receipt of a UL-Request from new MME containing a ULR-Flags AVP with Single-Registration-Indication 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. | |

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| 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 shall send CL Request to the previous old SGSN. | |
| Test purpose: | Ensure that the IUT on receipt of a UL-Request from new MME containing a ULR-Flags AVP with Initial-Attach-Indicator 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 shall send CL Request to the previous old SGSN. | |
| Test purpose: | Ensure that the IUT 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, 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 can successfully process all required AVPs in a UL-Answer when the APN-Configuration-Profile AVP is 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 can successfully process all required AVPs in a UL-Answer when the Subscription-Status AVP is 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 Subscription-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.

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| TP_HSS_CL_01 | Standards Reference: 5.2.1.2.1¶1(1 st 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 can successfully initiate 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 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: | NOTE: 2 MME could be involved as test components. | |

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| TP_HSS_CL_02 | Standards Reference: 5.2.1.2.1¶1(2 nd 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 can successfully initiate 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 to indicate a request for cancel location procedure to inform MME about an ongoing update procedure, sends 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-Realm AVP containing a User-Name AVP containing a Cancelation-Type AVP indicating MME_UPDATE_PROCEDURE. | |
| Comments: | NOTE: 2 MME could be involved as test components. | |

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| TP_HSS_CL_03 | Standards Reference: 5.2.1.2.1¶1(3 rd 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 can successfully initiate 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 to indicate a request for cancel location procedure to inform MME about an initial attach procedure, sends 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-Realm AVP containing a User-Name AVP containing a Cancellation-Type AVP indicating INITIAL_ATTACH_PROCEDURE. | |
| Comments: | NOTE: 2 MME could be involved as test components. | |

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| 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 can successfully initiate 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 to indicate a request for cancel location procedure which has to be sent to combined MME/SGSN during initial attach procedure, sends 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-Realm AVP containing a User-Name AVP containing a Cancellation-Type AVP indicating INITIAL_ATTACH_PROCEDURE containing a CLR-Flags AVP with S6a-indicator bit set. | |
| Comments: | NOTE: One combined MME/SGSN 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 can successfully process all mandatory and optional AVPs in a PU-Request received due to purge UE procedure. | |
| Test purpose: | Ensure that the IUT <ul style="list-style-type: none"> 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 shall check whether the IMSI is known and if not the IUT shall return PU-Answer with appropriate result code. | |
| Test purpose: | Ensure that the IUT <ul style="list-style-type: none"> 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.5/3.1 |
|----------------------|---|-----------------------|
| Summary: | Verify that the IUT when receiving PU-Request shall check 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 shall set 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, 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.5/3.1 |
|----------------------|--|-----------------------|
| Summary: | Verify that the IUT when receiving PU-Request shall check 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 shall set 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, 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.5/3.1 |
|----------------------|---|-----------------------|
| Summary: | Verify that the IUT when receiving PU-Request shall check 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 shall set PUA flags "freeze M-TMSI" and "freeze P-TMSI". | |
| Test purpose: | Ensure that the IUT 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: |
|----------------------|---|------------|
| Summary: | Verify that the IUT when receiving PU-Request shall check if the IMSI is known and received identity matches the stored MME-identity but not the stored SGSN-identity IUT shall set PUA flag "freeze M-TMSI" and clear PUA flag "freeze P-TMSI". | |
| Test purpose: | Ensure that the IUT 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 shall check if the IMSI is known and received identity matches the stored SGSN-identity but not the stored MME-identity IUT shall set PUA flag "freeze P-TMSI" and clear PUA flag "freeze M-TMSI". | |
| Test purpose: | Ensure that the IUT 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: | | |

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|----------------------|---|-------------------|
| TP_HSS_PUE_08 | Standards Reference: 5.2.1.3.3¶5 | PICS item: |
| Summary: | Verify that the IUT when receiving PU-Request shall check if the IMSI is known and received identity not matches the stored MME-identity and not matches the stored SGSN-identity IUT shall clear 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.

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|----------------------|---|-------------------|
| 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 AVP's 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: | | |

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|----------------------|--|-------------------|
| 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: | | |

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|----------------------|--|-------------------|
| 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: | | |

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|----------------------|--|-------------------|
| 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: | | |

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|----------------------|--|-------------------|
| 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 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 PDN-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 receives message from a service related entity requesting EPS User State or EPS Location Information than IUT successfully initiate 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. | |

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| 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 receives message from an AS requesting the current access network's support status of IMS Voice over PS Session than IUT successfully initiate 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.

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| 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 AVP's 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: | | |

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|----------------------|--|-------------------|
| 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 to indicate a request to remove deleted GPRS subscription data at the combined MME/SGSN 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. | |

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|----------------------|---|-------------------|
| 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.

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| TP_HSS_AIR_01 | Standards Reference: 5.2.3.1.3¶1,13 and 7.2.6 | PICS item: |
| Summary: | Verify that the IUT can successfully process 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: A.2/1.1 |
|----------------------|--|-----------------------|
| Summary: | Verify that the IUT can successfully process all mandatory AVPs in an AI-Request received due to Authentication Information Retrieval Procedure. | |
| Test purpose: | Ensure that the IUT <ul style="list-style-type: none"> on receipt of an AI-Request containing a Session-ID AVP containing an Auth-Session-State AVP <ul style="list-style-type: none"> indicating NO_STATE_MAINTAINED containing an Origin-Host AVP containing an Origin-Realm AVP containing a Destination-Realm AVP containing a User-Name AVP <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> indicating DIAMETER_SUCCESS containing an Auth-Session-State AVP <ul style="list-style-type: none"> 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 shall check whether there is not any type of subscription for the IMSI and then the IUT shall return AI-Answer with appropriate result code. | |
| Test purpose: | Ensure that the IUT <ul style="list-style-type: none"> on receipt of an AI-Request containing a User-Name AVP <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 shall check whether subscriber has neither EPS subscription nor GPRS subscription data and then the IUT shall return AI-Answer with appropriate result code. | |
| Test purpose: | Ensure that the IUT <ul style="list-style-type: none"> on receipt of an AI-Request containing a User-Name AVP <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> indicating DIAMETER_ERROR_UNKNOWN_EPS_SUBSCRIPTION. | |
| Comments: | | |

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| 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 shall check whether subscriber has neither EPS subscription nor GPRS subscription data and then the IUT shall return 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: | | |

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| 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 shall check whether there is subscription for the IMSI and in case when EUTRAN-Authentication-Info is requested the IUT shall return 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 E-UTRAN-Vector AVP containing RAND AVP containing XRES AVP containing AUTN AVP containing KASME AVP. | |
| Comments: | | |

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| 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 shall return 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 shall return 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 shall check whether there is subscription for the IMSI and in case when EUTRAN-Authentication-Info is requested the IUT shall return 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: A.2/1.1 |
|----------------------|--|-----------------------|
| Summary: | Verify that the IUT when receiving AI-Request shall check whether there is subscription for the IMSI and in case when UTRAN-GERAN-Authentication-Info is requested the IUT shall return AI-Answer with UTRAN or GERAN authentication vectors to combined MME/SGSN. | |
| 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 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. | |

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| 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 shall check whether there is subscription for the IMSI and in case when Immediate-Response-Preferred parameter is requested the IUT shall return 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 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: | | |

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| 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 shall check 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 shall return 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: | | |

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| TP_HSS_AIR_13 | Standards Reference: 5.2.3.1.3¶1,10,13 | PICS item: A.2/1.1 and A.5/6.2 |
| Summary: | Verify that the IUT when receiving AI-Request shall check whether there is subscription for the IMSI and in case when UTRAN-GERAN-Authentication-Info and EUTRAN-Authentication-Info is requested and one of them include the Immediate Response Preferred parameter the IUT shall return AI-Answer with KASME including E-UTRAN authentication vectors to combined MME/SGSN. | |
| 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 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.2/1.1 and A.5/6.2 |
|----------------------|--|-----------------------------------|
| Summary: | Verify that the IUT when receiving AI-Request shall check whether there is subscription for the IMSI and in case when UTRAN-GERAN-Authentication-Info and EUTRAN-Authentication-Info is requested and one of them include the Immediate Response Preferred parameter the IUT shall return AI-Answer with KASME including E-UTRAN authentication vectors to combined MME/SGSN. | |
| 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 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 an E-UTRAN-Vector AVP or containing a KASME 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 shall check 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 shall return 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 shall check 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 shall return 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 shall check 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 shall return 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 shall check 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 shall return 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 1: TS as combined MME/SGSN component. NOTE 2: 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 AVP's 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 can successfully process 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 shall check whether the IMSI is known and if not then the IUT shall return NO-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 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_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 shall check whether the IMSI is known and source MME originating is not currently registered within IUT for that UE then the IUT shall return NO-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 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_SERVING_NODE. | |
| Comments: | | |

History

| Document history | | |
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