Enabler Test Specification for SUPL V2.0.2

Candidate Version 2.0.2 – 05 Nov 2014

Open Mobile Alliance

OMA-ETS-SUPL-V2_0_2-20141105-C

Contents

Tables

1. Scope

This document describes in detail available test cases for SUPL V2.0.2, OMA-ERP-SUPL-V2_0_2.

URL:http://www.openmobilealliance.org/

The test cases are split in two categories, conformance and interoperability test cases.

The conformance test cases are aimed to verify the adherence to normative requirements described in the technical specifications.

The interoperability test cases are aimed to verify that implementations of the specifications work satisfactory.

2. References

2.1 Normative References

[3GPP TS 37.571-2] 3GPP TS 37.571-2 "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 2: Protocol conformance". URL:http://www.3gpp.org/ftp/Specs/html-info/37571-2.htm

[3GPP TS 37.571-5] 3GPP TS 37.571-5 "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Universal Terrestrial Radio Access (UTRA) and Evolved UTRA (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification for UE positioning; Part 5: Test scenarios and assistance data" "3GPP TS 37.571-5". URL:http://www.3gpp.org/ftp/Specs/html-info/37571-5.htm

[3GPP TS 51.010-1] 3GPP TS 51.010-1 "3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification."
URL:http://www.3gpp.org/ftp/Specs/html-info/51010-1.htm

[3GPP2 TIA-916] TBD

[ERELD] "Enabler Release Document for SUPL", Version 2.0, Open Mobile Alliance™, OMA-ERELD-SUPL-V2_0, URL:http://www.openmobilealliance.org/

[GAA] 3GPP TS 33.222 v6.1.0 "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Generic Authentication Function; Access to Network Application Functions using Hypertext Transfer Protocol over Transport Layer Security (HTTPS); (Release 6)".
URL:http://www.3gpp.org/ftp/Specs/html-info/33222.htm

[GBA] 3GPP TS 33.220 v6.2.0 "3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Generic Authentication Architecture (GAA); Generic bootstrapping architecture (Release 6) "3GPP TS 33.220 v6.2.0. URL:http://www.3gpp.org/ftp/Specs/html-info/33220.htm

[IOPPROC] "OMA Interoperability Policy and Process", Version 1.8, Open Mobile Alliance™, OMA-ORG-IOP_Process-V1_8, URL:http://www.openmobilealliance.org/

[OMA-ILP] "Internal Location Protocol", Version 2.0, Open Mobile Alliance™, OMA-TS-ILP-Spec-V2.0, URL:http://www.openmobilealliance.org/

[OMA-RLP] "Inter-Location Server Interface Specification", Version 1.0, Open Mobile Alliance™, OMA-TS-RLP-Spec-V1.0, URL:http://www.openmobilealliance.org/

[OMA-ULP] "UserPlane for Location Protocol", Version 2.0, Open Mobile Alliance™, OMA-TS-ULP-Spec-V2.0, URL:http://www.openmobilealliance.org/

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

[RFC2119] "Key words for use in RFCs to Indicate Requirement Levels", S. Bradner, March 1997, URL:http://www.ietf.org/rfc/rfc2119.txt

[RFC2234] "Augmented BNF for Syntax Specifications: ABNF". D. Crocker, Ed., P. Overell. November 1997, URL:http://www.ietf.org/rfc/rfc2234.txt

[TLS] "Transport Layer Security (TLS) Version 1.0", IETF RFC 2246, Jan 1999
URL:http://www.ietf.org/rfc/rfc2446.txt

[TLS-AES] "Advanced Encryption Standard (AES) Ciphersuites for Transport Layer Security (TLS)", IETF RFC 3268, June 2002. URL:http://www.ietf.org/rfc/rfc3268.txt

[WAP PAP] "WAP Push Access Protocol", Open Mobile Alliance™, Apr 2001,
URL:http://www.openmobilealliance.org/tech/affiliates/wap/wap-247-pap-20010429-a.pdf

[WAP POTAP] "WAP Push Over The Air Protocol", Open Mobile Alliance™, Apr 2001
URL:http://www.openmobilealliance.org/tech/affiliates/wap/wap-235-pushota-20010425-a.pdf

[WAP PUSH] "WAP Push Message", Open Mobile Alliance™, Mar 2001,
URL:http://www.openmobilealliance.org/tech/affiliates/wap/wap-251-pushmessage-20010322-a.pdf

[WAP] "Wireless Application Protocol", Version 2.0, Open Mobile Alliance™, Aug 2002, URL:http://www.openmobilealliance.org/tech/affiliates/wap/technical_wap2_0-20020813.zip

2.2 Informative References

[OMADICT] "Dictionary for OMA Specifications", Version 2.7, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_7, URL:http://www.openmobilealliance.org/

3. Terminology and Conventions

3.1 Conventions

The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described in [RFC2119].

All sections and appendixes, except “Scope”, are normative, unless they are explicitly indicated to be informative.

The following numbering scheme is used:

xxx-y.z-con-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
’con’	Indicating this test is a conformance test case
number	Leap number for the test case

Or

xxx-y.z-int-number where:

xxx	Name of enabler, e.g. MMS or Browsing
y.z	Version of enabler release, e.g. 1.2 or 1.2.1
’int’	Indicating this test is a interoperability test case
number	Leap number for the test case

3.2 Definitions

I-WLAN	The interworking WLAN refers to the system for interworking between 3GPP/3GPP2 systems and WLAN. The intent of 3GPP/3GPP2–WLAN Interworking is to extend 3GPP/3GPP2 services and functionality to the WLAN access environment. The 3GPP/3GPP2–WLAN Interworking System provides bearer services allowing a 3GPP/3GPP2 subscriber to use a WLAN to access 3GPP/3GPP2 PS based services.
MLS application	An application which requests and consumes the location information
Network Initiated SUPL Services	Network Initiated SUPL Services are services which originate from within the SUPL network as opposed to the SET. For these services, the SUPL Agent resides in the Network.
Non-Proxy Mode	The SPC system will have direct communication with the SET.
Proxy Mode	The SPC system will not have direct communication with the SET. In this environment the SLC system will act as a proxy between the SET and the SPC.
SET Initiated SUPL Services	SET Initiated SUPL Services are services which originate from the SET. For these services, the SUPL Agent resides within the SET.
SUPL Agent	Service access point which accesses the network resources to obtain location information.
SUPL Enabled Terminal (SET)	A device that is capable of communicating with a SUPL network. Examples of this could be a UE in UMTS, a MS in GSM or IS-95, or a PC over an IP-based transport.
SUPL Location Centre (SLC)	Coordinates the operations of SUPL in the network and interacts with the SUPL Enabled Terminal (SET) over User Plane bearer.
SUPL Location Platform (SLP)	Entity responsible for SUPL Service Management and Position Determination. SLP contains the SLC and SPC Functions.
SUPL Positioning Centre (SPC)	Entity in the SUPL network responsible for all messages and procedures required for position calculation and for the delivery of assistance data.

3.3 Abbreviations

ACA	Alternative Client authentication
AFLT	Advanced Forward Link Trilateration
A-GPS	Assisted GPS
BDS	BeiDou Navigation Satellite System

B-TID	Bootstrap Transaction Identifier
CI	Cell Identity (3GPP)
ECID	Enhanced Cell ID
EOTD	Enhanced Observed Time Difference
E-SLP	Emergency SLP
FFS	For Further Study
FQDN	Fully Qualified Domain Name
GANSS	Galileo and Additional Navigation Satellite Systems
GBA	Generic Bootstrap Architecture
GLONASS	GLObal'naya NAvigatsionnaya Sputnikovaya Sistema (Engl.: Global Navigation Satellite System)
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
H-SLP	Home SLP
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
LAC	Location Area Code (3GPP)
LCS	Location Services
LPP	LTE Positioning Protocol
MAC	Message Authentication Code
MCC	Mobile Country Code (3GPP)
MLP	Mobile Location Protocol
MLS	Mobile Location Services
MNC	Mobile Network Code (3GPP)
MSID	Mobile Station Identifier
NMR	Network Measurement Report
OMA	Open Mobile Alliance
OTDOA	Observed Time Difference of Arrival
PAP	WAP Push Access Protocol
PPG	Push Proxy Gateway
PSK	Pre-shared Key
QoP	Quality of Position
QZSS	Quasi-Zenith Satellite System
RLP	Roaming Location Protocol
RRC	Radio Resource Control
RRLP	Radio Resource LCS Protocol
R-SLP	Requesting SLP
SET	SUPL Enabled Terminal
SIM	Subscriber Identity Module
SIP	Session Initiation Protocol
SLC	SUPL Location Centre
SLIA	Standard Location Immediate Answer
SLIR	Standard Location Immediate Request
SLP	SUPL Location Platform

SMLC	Serving Mobile Location Centre
SMS	Short Message Service
SMSC	Short Message Service Centre
SPC	SUPL Positioning Centre
SPCF	SUPL Position Calculation Function
SPF	SUPL Privacy Function
SRLIA	Standard Roaming Location Immediate Answer
SRLIR	Standard Roaming Location Immediate Request
TBD	To Be Developed
TLS	Transport Layer Security
UE	User Equipment
ULP	Userplane Location Protocol
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
V-SLP	Visited SLP
V-SPC	Visited SPC
WAP	Wireless Application Protocol
WLAN	Wireless Local Area Network

4. Introduction

The purpose of this document is to provide test cases for SUPL Enabler Release 2.0.2.

The implementation of some features is optional for the Clients and/or the Servers in the SUPL Enabler. The tests associated with these optional features are marked as "(Includes Optional Features)" in the test specification.

4.1 Running Test Cases

Some Test Cases are made up of multiple Tests (e.g. Test 1, Test 2, …….). These Tests are independent of each other and are only grouped together for convenience. These Tests may or may not all be relevant to a particular SET or SLP and applicabilities are given separately for each Test.

These Tests may be referred to by adding “-1”, or “-2” etc. after the Test number, e.g. SUPL-2.0-con-008-1, SUPL-2.0-con-008-2 etc.

Some Test Cases are made up of multiple Cases (e.g. Case 1, Case 2, …….). These Cases are all part of the one Test Case and should all be run as part of the Test Case. In particular, to pass the complete Test Case the SET or SLP must pass every Case.

4.2 Applicability of Client Conformance Test Cases

The Client Conformance test cases in section 5 contain test cases for both mandatory and optional features in a client implementation. In order to assist in the selection of the necessary Client Conformance test cases in the case of a client that has implemented a number of optional features, appendix B lists all the possible optional features in the client in the form of an ICS (Implementation Conformance Statement) table and it provides a mapping from the optional client applicabilities (ICS) to the applicable test cases from section 5. It also provides an IXIT (Implementation eXtra Information for Testing) table to note any extra information necessary to run the test cases.

4.3 Acceptable Position Estimates

Many Test Cases in this document require that a Location Session completes successfully; it is assumed that for a Test Case to complete successfully it will produce an acceptable Position Estimate. In addition some Test Cases in this document specifically require that a Location Session produces an acceptable Position Estimate.

The OMA does not specify any requirements for the accuracy of a Position Estimate in order for it to be judged as being acceptable, therefore finally this must be left to the judgment and experience of those running the tests. However some guidance is given below which may be used if deemed useful.

The figures given below are based on expected accuracies of Position Estimates from various sources in the industry, with an additional allowance for the fact that no requirements are specified by the OMA.

In all cases ideal test conditions are assumed with strong, noise free, signals. For A-GNSS and GNSS testing, these test conditions should be similar to an “outdoor” or “clear view of sky” environment; for other testing, these test conditions should be similar to an urban or city environment. Otherwise, the accuracy figures mentioned below may not hold and under less than ideal conditions they should be relaxed further.

Positioning Method used in Location Session	Acceptable accuracy of Position Estimate
A-GNSS	+/- 100m
Autonomous GNSS	+/- 100m
AFLT	+/- 250m
Cell ID	+/- 5km
Enhanced Cell / sector	+/- 1km
EOTD	+/- 250m
OTDOA	+/-250m

Table 1: Acceptable accuracies of Position Estimates

4.4 A-GNSS Scenarios and Assistance Data

Many Conformance Test Cases in this document require that an A-GNSS Location Session is run. Normally this will take place under laboratory conditions using a simulated GNSS constellation and suitable Assistance Data for that simulation. The OMA does not specify the GNSS constellation or Assistance Data to be used under these circumstances, however suitable scenarios and associated Assistance Data is specified by 3GPP and 3GPP2 for similar testing. The details can be found in the following documents:

- For testing using RRLP: [3GPP TS 51.010-1]
- For testing using RRC protocol: [3GPP TS 37.571-5]
- For testing using TIA-801 protocol: [3GPP2 TIA-916]
- For testing using LPP: [3GPP TS 37.571-5]

4.5 OTDOA Scenario and Assistance Data

Some Conformance Test Cases in this document require that an OTDOA Location Session is run. OMA does not specify the scenario or Assistance Data to be used under these circumstances, however a suitable scenario and associated Assistance Data is specified by 3GPP for similar testing. The details can be found in [3GPP TS 37.571-2].

4.6 ECID using LPP Scenario

Some Conformance Test Cases in this document require that an ECID Location Session is run using LPP. OMA does not specify the scenario to be used under these circumstances; however a suitable scenario is specified by 3GPP for similar testing. The details can be found in [3GPP TS 37.571-2].

5. SUPL Client Conformance Test Cases

This table lists test cases for features in SUPL 2.0.2 that have not changed since SUPL 1.0. Therefore the same test cases have been re-used from [SUPL 1.0 ETS], except that the formatting of the Test Procedure has been modified in accordance with the format used in this document, the Specification References and SCRs have been updated for SUPL 2.0.2 and, clearly, SUPL 2.0.2 protocol (Version numbers etc.) will be used when the Test Cases are run.

SUPL 1.0 Test Case	**Equivalent SUPL 2.0.2 Test Case**
SUPL-1.0-con-000 Test 1 – Compatible Versions – Test 1	To be written
SUPL-1.0-con-001 – Unsupported Version	SUPL-2.0-con-011 – Unsupported Versions – Test 1: High Version not supported
SUPL-1.0-con-002 - Correct Session ID	SUPL-2.0-con-004 - Correct Session ID
SUPL-1.0-con-003 - Invalid SET Session ID.	SUPL-2.0-con-005 - Invalid SET Session ID
SUPL-1.0-con-004 - Missing or invalid SLP Session ID	SUPL-2.0-con-006 - Missing or invalid SLP Session ID
SUPL-1.0-con-010 - WAP Push and, or MT SMS support	SUPL-2.0-con-000 - SUPL INIT delivery – Test 1: OMA Push, Test 2: MT SMS
SUPL-1.0-con-013 - Incorrect WAP Push message content	SUPL-2.0-con-001 - Incorrect OMA Push message content
SUPL-1.0-con-014 - Incorrect MT SMS message content	SUPL-2.0-con-002 - Incorrect MT SMS message content
SUPL-1.0-con-023 - Alternative H-SLP Addresses	SUPL-2.0-con-007 - Alternative H-SLP Addresses
SUPL-1.0-con-024 - Optional Ciphering Suite	SUPL-2.0-con-008 - Optional Ciphering Suites – Test 1 TSL_RSA_WITH_3DES_EDE_CBC_SHA
SUPL-1.0-con-270 - No notification & no verification	SUPL-2.0-con-020 - No notification & no verification
SUPL-1.0-con-271 - Notification only	SUPL-2.0-con-021 - Notification only
SUPL-1.0-con-272 - Notification and verification (Allowed on no answer). User accepts	SUPL-2.0-con-022 - Notification and verification. Case 1 Allowed on no answer. User accepts. (See note)
SUPL-1.0-con-273 - Notification and verification (Allowed on no answer). User rejects	SUPL-2.0-con-022 - Notification and verification. Case 2 - Allowed on no answer. User rejects. (See note)
SUPL-1.0-con-274 - Notification and verification (Allowed on no answer). No response	SUPL-2.0-con-022 - Notification and verification. Case 3 - Allowed on no answer. No response. (See note)
SUPL-1.0-con-275 - Notification and verification (Denied on no answer). User accepts	SUPL-2.0-con-022 - Notification and verification. Case 4 - Denied on no answer. User accepts. (See note)
SUPL-1.0-con-276 - Notification and verification (Denied on no answer). User rejects	SUPL-2.0-con-022 - Notification and verification. Case 5 - Denied on no answer. User rejects. (See note)
SUPL-1.0-con-277 - Notification and verification (Denied on no answer). No response	SUPL-2.0-con-022 - Notification and verification. Case 6 - Denied on no answer. No response. (See note)
SUPL-1.0-con-278 - Privacy override	SUPL-2.0-con-023 - Privacy override (See note)
SUPL-1.0-con-279 - Requestor ID and Client Name	SUPL-2.0-con-024 - Requestor ID and Client Name (See note)
SUPL-1.0-con-030-1 - Common Positioning method	SUPL-2.0-con-030 - Positioning method – Test 1 A-GPS SET assisted
SUPL-1.0-con-030-2 - Common Positioning method	SUPL-2.0-con-030 - Positioning method – Test 2 A-GPS SET based
SUPL-1.0-con-030-3 - Common Positioning method	SUPL-2.0-con-030 - Positioning method – Test 3 Autonomous GPS
SUPL-1.0-con-030-5 - Common Positioning method	Does not exist
SUPL-1.0-con-030-6 - Common Positioning method	SUPL-2.0-con-030 - Positioning method – Test 5 Cell ID
SUPL-1.0-con-031-3 – Preferred or fallback Positioning method	SUPL-2.0-con-030 - Positioning method – Test 11 A-GPS Preferred methods

SUPL-1.0-con-033-1 - No Position. Test 1: Basic functionality	SUPL-2.0-con-031 - No Position
SUPL-1.0-con-062 - Unexpected data value.	To be written
SUPL-1.0-con-063 - Unexpected message	To be written
SUPL-1.0-con-066 - Timeout UT2 - non Cell ID	SUPL-2.0-con-070 - Timeout UT2 – Test 1
SUPL-1.0-con-067 - Timeout UT2 - Cell ID.	SUPL-2.0-con-070 - Timeout UT2 – Test 3
SUPL-1.0-con-068 - Timeout UT3	SUPL-2.0-con-071 - Timeout UT3 – Test 1
SUPL-1.0-con-100 – Compatible Versions – Test 1	To be written
SUPL-1.0-con-102 - Correct Session ID.	SUPL-2.0-con-100 - Correct Session ID.
SUPL-1.0-con-103 - Invalid SET Session ID.	SUPL-2.0-con-101 - Invalid SET Session ID.
SUPL-1.0-con-104 - Invalid SLP Session ID.	SUPL-2.0-con-102 – Invalid SLP Session ID.
SUPL-1.0-con-130-1 - Common Positioning method (non Cell ID methods)	SUPL-2.0-con-110 - Positioning method – Test 1 A-GPS SET assisted
SUPL-1.0-con-130-2 - Common Positioning method (non Cell ID methods	SUPL-2.0-con-110 - Positioning method – Test 2 A-GPS SET based
SUPL-1.0-con-130-3 - Common Positioning method (non Cell ID methods	SUPL-2.0-con-110 - Positioning method – Test 3 Autonomous GPS
SUPL-1.0-con-131-1 - Common Positioning method (Cell ID methods)	Does not exist
SUPL-1.0-con-131-2 - Common Positioning method (Cell ID methods	SUPL-2.0-con-110 - Positioning method – Test 5 Cell ID
SUPL-1.0-con-381 - Previous position stored in SLP meets QoP	To be written
SUPL-1.0-con-165 - Timeout UT1	SUPL-2.0-con-140 - Timeout UT1
SUPL-1.0-con-166 - Timeout UT2 - non Cell ID	SUPL-2.0-con-141 - Timeout UT2
SUPL-1.0-con-168 - Timeout UT3	SUPL-2.0-con-142 - Timeout UT3

Note: The Pass-Criteria has been modified slightly for consistency

5.1 Client Conformance: Network Initiated

The Test Cases in this section are applicable for SETs that support any Network Initiated call flows. This particular applicability is not specified in the individual test cases. For definitive applicabilities of test cases see Appendix B.

5.1.1 Common Part of ULP Message, Basic Functionality and Cross Version Compatibility

5.1.1.1 SUPL-2.0-con-000 - SUPL INIT delivery [Includes optional features]

Test Case Id	SUPL-2.0-con-000
Test Object	Client
Test Case Description	To test SET correctly supports SUPL INIT delivery using OMA Push and, if supported, MT SMS and, or SIP Push
Specification Reference	ULP TS 8
SCR Reference	ULP-PIN-C-004-M, ULP-PIN-C-005-M, ULP-PIN-C-006-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 2: ics_MT_SMS Test 3: ics_SIP_Push Test 4: ics_UDP Note that it is assumed that the SET supports GSM/WCDMA/TD-SCDMA/LTE and therefore support of OMA Push is mandatory and support of other methods is optional.
Test Procedure	Test 1: OMA Push Test 2: MT SMS [Includes optional features] Test 3: SIP Push [Includes optional features] Test 4: UDP [Includes optional features] 1. Start a NI Location Session 2. Send SUPL INIT using: □ Test 1: OMA Push Access Protocol with: o Case 1: ▪ content type set to 0X03020312 ▪ x-application-id-field set to 0X90 o Case 2: ▪ content type set to application/vnd.omaloc-supl-init ▪ x-application-id-field set to x-oma-aplication:ulp.ua. □ Test 2: MT SMS □ Test 3: SIP Push □ Test 4: UDP 3. Ensure the Location Session completes successfully.
Pass-Criteria	Test 1, Case 1, Case 2, Test 2, Test 3 and Test 4: 1. At step 3 in each case and in each test the Location Session shall complete successfully.

5.1.1.2 SUPL-2.0-con-001 - Incorrect OMA Push message content

Test Case Id	SUPL-2.0-con-001
Test Object	Client
Test Case Description	To test SET correctly rejects incorrect OMA Push message content
Specification Reference	ULP TS 8
SCR Reference	ULP-PIN-C-004-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Note that it is assumed that the SET supports GSM/WCDMA/TD-SCDMA/LTE and therefore support of OMA Push is mandatory
Test Procedure	1. Start a NI Location Session 2. Send SUPL INIT using: OMA Push Access Protocol with: o Case 1: ▪ content type set to some other value than 0X03020312 ▪ x-application-id-field set to 0X90 o Case 2: ▪ content type set to 0X03020312 ▪ x-application-id-field set to some other value than 0X90 o Case 3: ▪ content type set to some other value than application/vnd.omaloc-supl-init ▪ x-application-id-field set to x-oma-aplication:ulp.ua. o Case 4: ▪ content type set to application/vnd.omaloc-supl-init ▪ x-application-id-field set to some other value than ulp.ua. 3. The SET does not respond.
Pass-Criteria	1. At step 3 in each case the SET shall not respond

5.1.1.3 SUPL-2.0-con-002 - Incorrect MT SMS message content [Includes optional features].

Test Case Id	SUPL-2.0-con-002
Test Object	Client
Test Case Description	To test SET correctly rejects incorrect MT SMS message content
Specification Reference	ULP TS 8
SCR Reference	ULP-PIN-C-005-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_MT_SMS Note that it is assumed that the SET supports GSM/WCDMA/TD-SCDMA/LTE and therefore support of MT SMS is optional.

Test Procedure	1. Start a NI Location Session 2. Send SUPL INIT using: MT SMS with: ▪ The port number set to some other value than oma-ulp 7275/ udp OMA User Plane Location Protocol 3. The SET does not respond.
Pass-Criteria	1. At step 3 the SET shall not respond

5.1.1.4 SUPL-2.0-con-003 - Incorrect SIP Push message content [Includes optional features].

Test Case Id	SUPL-2.0-con-003
Test Object	Client
Test Case Description	To test SET correctly rejects incorrect SIP Push message content
Specification Reference	ULP TS 8
SCR Reference	ULP-PIN-C-006-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_SIP_Push
Test Procedure	1. Start a NI Location Session 2. Send SUPL INIT using: SIP Push with: o Case 1: ▪ Application Resource Identifier in Accept-Contact header set to some other value than ulp.ua o Case 2: ▪ Content-Type header set to some other value than application/vnd.omaloc-supl-init 3. The SET does not respond.
Pass-Criteria	1. At step 3 in both cases the SET shall not respond

5.1.1.5 SUPL-2.0-con-004 - Correct Session ID

Test Case Id	SUPL-2.0-con-004
Test Object	Client
Test Case Description	To test SET correctly actions Session ID
Specification Reference	ULP TS 9, 10
SCR Reference	
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:

Test Procedure	1. Case 1, Case 2 and Case 3: Start a NI Location Session
	2. Send SUPL INIT with:
	- SLP Session ID set to a valid value with:
	  - SLP ID using the Parameter type:
	  - Case 1: IPAddress, IPv4
	  - Case 2: IPAddress, IPv6
	  - Case 3: FQDN
	3. The SET sends SUPL POS INIT with:
	- Correct full Session ID
	4. The Location Session completes successfully

Pass-Criteria	1. At step 3 in each case the SET shall respond with SUPL POS INIT with: - Correct full Session ID

5.1.1.6 SUPL-2.0-con-005 - Invalid SET Session ID

Test Case Id	SUPL-2.0-con-005
Test Object	Client
Test Case Description	To test SET correctly rejects an invalid SET Session ID
Specification Reference	ULP TS 9, 10
SCR Reference	
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:

Test Procedure	1. Case 1: Start a NI Location Session
	2. Send SUPL INIT with:
	- Session ID with:
	  - A plausible SET Session ID
	3. The SET sends SUPL END with:
	- The invalid Session ID in the SUPL END Common Part
	- Status Code set to invalidSessionID
	4. Between Cases, in order to return to a “known state” for the next Case, the Conformance Test Tool ends the Location Session and releases the secure IP connection.
	5. Case 2 and Case 3: Start a NI Location Session
	6. Send SUPL INIT with:
	- Positioning Method set to:
	  - Any method supported by the SET that requires a SUPL POS session (e.g. A-GPS SET Assisted)

	7. The SET sends SUPL POS INIT 8. Send SUPL POS with: □ Case 2: In SET Session ID set: o Session ID to an invalid value (i.e. set Session ID to a different value from that received from the SET) □ Case 3: In SET Session ID set: o SET ID to an invalid value (i.e. set SET ID to a different value or a different parameter type from that received from the SET) 9. The SET responds with SUPL END with: □ The invalid Session ID in the SUPL END Common Part □ Status Code set to invalidSessionID. Note that between Cases, in order to return to a "known state" for the next Case, the Conformance Test Tool ends the Location Session and releases the secure IP connection.
Pass-Criteria	1. At step 3, and at step 9 in both cases, the SET shall respond with SUPL END with: □ The invalid Session ID in the SUPL END Common Part □ Status Code set to invalidSessionID.

5.1.1.7 SUPL-2.0-con-006 - Missing or invalid SLP Session ID

Test Case Id	SUPL-2.0-con-006
Test Object	Client
Test Case Description	To test SET correctly rejects a missing or invalid SLP Session ID
Specification Reference	ULP TS 9, 10
SCR Reference	
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:
Test Procedure	1. Case 1: Start a NI Location Session 2. Send SUPL INIT with: □ Session ID with: o No SLP Session ID 3. The SET sends SUPL END with: □ The invalid Session ID (i.e. an empty Session ID) in the SUPL END Common Part □ Status Code set to invalidSessionID 4. Between Cases, in order to return to a "known state" for the next Case, the Conformance Test Tool ends the Location Session and releases the secure IP connection. 5. Case 2 and Case 3: Start a NI Location Session 6. Send SUPL INIT with: □ Positioning Method set to:

	o Any method supported by the SET that requires a SUPL POS session (e.g. A-GPS SET Assisted) 7. The SET sends SUPL POS INIT 8. Send SUPL POS with: □ Case 2: In SLP Session ID set: o Session ID to an invalid value (i.e. set Session ID to a different value from that used in the SUPL INIT message) □ Case 3: In SLP Session ID set: o SLP ID to an invalid value (i.e. set SET ID to a different value or a different parameter type from that used in the SUPL INIT message) 9. The SET responds with SUPL END with: □ The invalid Session ID in the SUPL END Common Part □ Status Code set to invalidSessionID. 10. The SET may send another SUPL END with the original session ID and the status code systemFailure to indicate the original session has timed out. Note that between Cases, in order to return to a "known state" for the next Case, the Conformance Test Tool ends the Location Session and releases the secure IP connection.
Pass-Criteria	1. At step 3, and at step 9 in both cases, the SET shall respond with SUPL END with: □ The invalid Session ID in the SUPL END Common Part □ Status Code set to invalidSessionID.

5.1.1.8 SUPL-2.0-con-009 - Basic SUPL INIT protection [Includes optional features]

Test Case Id	SUPL-2.0-con-009
Test Object	Client
Test Case Description	To test SET correctly supports Basic SUPL INIT protection
Specification Reference	ULP TS 6, 9
SCR Reference	ULP-PRO-C-004-O, ULP-PRO-C-037-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_PSK_TLS
Test Procedure	Run all Cases. Case 1: Correct support. Case 2: Correct discard procedure – incorrect Protection Level Case 3: Correct discard procedure – incorrect Key Identity Case 4: Correct discard procedure – incorrect Basic Replay Counter Case 1: 1. Clear any SUPL_INIT_ROOT_KEY from the Conformance Test Tool

	2. Start a normal NI Location Session 3. In SUPL INIT set: □ Positioning Method to Enhanced Cell / sector □ Protection Level set: ▪ Level to Null Protection 4. The SET connects to the H-SLP. At the TLS level it indicates support for PSK-TLS with GBA 5. The SET sends SUPL POS INIT over a secure connection using PSK-TLS 6. Send SUPL END 7. Release the secure IP connection 8. Start a normal NI Location Session 9. In SUPL INIT set: □ Positioning Method to Enhanced Cell / sector □ Protection Level set: ▪ Level to Basic Protection ▪ Basic Protection Parameters to suitable values 10. The SET connects to the H-SLP over a secure connection using PSK-TLS with GBA 11. The SET sends SUPL POS INIT 12. Send SUPL END 13. Release the secure IP connection Case 2, Case 3, Case 4. 14. Run Case 1 15. Start a normal NI Location Session 16. In SUPL INIT set: □ Positioning Method to Enhanced Cell / sector □ Case 2: Protection Level set: ▪ Level to Null Protection ▪ Basic Protection Parameters to suitable values □ Case 3, Case 4: Protection Level set: ▪ Level to Basic Protection ▪ Case 3: Basic Protection Parameters: • Key Identifier set to an incorrect value (not equal to the current B-TID) • Basic Replay Counter and Basic MAC set to suitable values ▪ Case 4: Basic Protection Parameters: • Key Identifier and Basic MAC set to suitable values • Basic Replay Counter set to a value of 0 (the value that has already been used in step 10) 17. The SET does not respond (SUPL INIT is discarded) 18. Repeat step 15 through step 17 for the remaining Cases
Pass-Criteria	All Cases:

	1. At step 11 the SET shall send SUPL POS INIT 2. At step 12 the session shall end successfully Case 2, Case 3, Case 4: 3. At step 17 the SET shall not respond

5.1.1.9 SUPL-2.0-con-010 - Compatible Versions

Test Case Id	SUPL-2.0-con-010
Test Object	Client
Test Case Description	To test SET correctly accepts compatible Version numbers in SUPL messages
Specification Reference	ULP TS 7,9,10
SCR Reference	ULP-PRO-C-007-O, ULP-PRO-C-008-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 2: ics_NetworkInitiated AND ixit_SUPLV2.X > 0 Test 4: ics_support_SUPLV1.0

Test Procedure	Test 1: Support for higher versions of SUPL 2.X.X
	Test 2: Support for lower versions of SUPL 2.X.X.
	Test 3: Correct support with SLP supporting SUPL V3.0 and V2.0
	Test 4: Correct support with SLP supporting SUPL V1.0 only. SUPL V1.0 supported by SET [Includes optional features]
	
	Test 1: Support for higher versions of SUPL 2.X.X
	1. Start a NI Location Session
	2. In the Common Part of all messages set:
	- Version to:
	  - Maj set to 2
	  - Min set to a higher number than that supported by the SET
	  - Serv ind set to a higher number than that supported by the SET
	3. In SUPL INIT:
	- Do not use Minimum Major version
	4. The SET sends SUPL POS INIT (proxy mode) or SUPL AUTH REQ (non-proxy mode) with:
	- In the Common Part, Version set to:
	  - Maj set to 2
	  - Min set to 0 or correct version supported by the SET
	  - Serv ind set to 2 or correct version supported by the SET
	5. The Location Session completes successfully.

	Test 2: Support for lower versions of SUPL 2.X.X. Only applicable if there exists SUPL V2.X where X>0
	6. Repeat Test 1, with following change at step 2:
	In the Common Part of all messages set:
	- Version to:
	  - Maj set to 2
	  - Min set to a lower number than the maximum supported by the SET
	  - Serv ind set to a lower number than the maximum supported by the SET
	
	Test 3: Correct support with SLP supporting SUPL V3.0 and V2.0
	7. Start a NI Location Session
	8. In the Common Part of all messages set:
	- Version to:
	  - Maj set to 3
	  - Min set to 0
	  - Serv ind set to 0
	9. In SUPL INIT set:
	- Positioning Method to any method supported by the SET that requires a SUPL POS session
	- Minimum Major version to 2
	10. The SET sends SUPL POS INIT (proxy mode) or SUPL AUTH REQ (non-proxy mode) with:
	- In the Common Part, Version set to:
	  - Maj set to 2
	  - Min set to 0 or correct version supported by the SET
	  - Serv ind set to 2 or correct version supported by the SET
	
	11. The Location Session completes successfully using SUPL 2.0 protocol.
	
	Test 4: Correct support with SLP supporting SUPL V1.0 only. SUPL V1.0 supported by SET [Includes optional features]
	12. Start a NI Location Session
	13. In the Common Part of all messages set:
	- Version to:
	  - Maj set to 1
	  - Min set to 0
	  - Serv ind set to 0
	14. In SUPL INIT set:
	- Positioning Method to any method supported by the SET that requires the use of SUPL POS
	15. The SET sends SUPL POS INIT (proxy mode) or SUPL AUTH REQ (non-proxy mode) with:
	- In the Common Part, Version set to:

	o Maj set to 1 o Min set to 0 or correct version supported by the SET o Serv ind set to 1 or correct version supported by the SET 16. The Location Session completes successfully using SUPL 1.0 protocol.
Pass-Criteria	Test 1 and 2: 1. At step 4 the SET shall respond with SUPL POS INIT (proxy mode) or SUPL AUTH REQ (non-proxy mode) with Version set to: o Maj set to 2 o Min set to 0 or correct version supported by the SET o Serv ind set to 2 or correct version supported by the SET Test 3: 2. At step 10 the SET shall respond with SUPL POS INIT (proxy mode) or SUPL AUTH REQ (non-proxy mode) with Version set to: o Maj set to 2 o Min set to 0 or correct version supported by the SET o Serv ind set to 2 or correct version supported by the SET 3. At step 11 the Location Session shall complete successfully using SUPL 2.0 protocol. Test 4: 4. At step 15 the SET shall respond with SUPL POS INIT (proxy mode) or SUPL AUTH REQ (non-proxy mode) with Version set to: o Maj set to 1 o Min set to 0 or correct version supported by the SET o Serv ind set to 1 or correct version supported by the SET 5. At step 16 the Location Session shall complete successfully using SUPL 1.0 protocol

5.1.1.10 SUPL-2.0-con-011 - Unsupported Versions.

Test Case Id	SUPL-2.0-con-011
Test Object	Client
Test Case Description	To test SET correctly rejects unsupported Version number in SUPL messages
Specification Reference	ULP TS 7,9,10
SCR Reference	ULP-PRO-C-007-O, ULP-PRO-C-008-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 2: ics_support_GSM_WCDMA AND NOT ics_support_SUPLV1.0
Test Procedure	Test 1: Higher Version not supported Test 2: Lower Version not supported. SUPL V1.0 not supported by SET [Includes optional features] Note: this test is not applicable when the bearer is LTE Test 1: Higher Version not supported 1. Start a NI Location Session 2. In the Common Part of all messages set: Version to: o Maj set to a higher value than that supported by the SET o Min set to 0 o Serv ind set to 0 3. In SUPL INIT o Do not use Minimum Major version 4. The SET sends SUPL END with: o Status Code set to versionNotSupported o A correctly calculated Ver parameter. 5. The Location Session ends and the SET releases the secure IP connection. Test 2: Lower Version not supported. SUPL V1.0 not supported by SET [Includes optional features] 6. Start a NI Location Session using GSM or WCDMA as bearer (not LTE) 7. In the Common Part of all messages set: Version to: o Maj set to 1 o Min set to 0 o Serv ind set to 0 8. The SET responds with SUPL END with: o Status Code set to versionNotSupported o A correctly calculated Ver parameter. 9. The Location Session ends and the SET releases the secure IP connection
Pass-Criteria	Test 1 and 2: 1. At step 4 and 9 the SET shall respond with SUPL END with: o Status Code set to versionNotSupported o A correctly calculated Ver parameter. 2. At step 5 and 9 the SET shall release the secure IP connection.

5.1.1.11 SUPL-2.0-con-012 - Incorrect UDP message content [Includes optional features].

Test Case Id	SUPL-2.0-con-012
Test Object	Client
Test Case Description	To test SET correctly rejects incorrect UDP message content
Specification Reference	ULP TS 8
SCR Reference	ULP-PIN-C-007-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: IP address of SET is known Applicability: • ics_UDP
Test Procedure	1. Start a NI Location Session 2. Send SUPL INIT using: UDP with: ▪ The port number set to some other value than oma-ulp 7275/ udp OMA User Plane Location Protocol 3. The SET does not respond.
Pass-Criteria	1. At step 3 the SET shall not respond

5.1.2 Notification and verification

5.1.2.1 SUPL-2.0-con-020 - No notification & no verification

Test Case Id	SUPL-2.0-con-020
Test Object	Client
Test Case Description	To test SET correctly actions No notification & no verification
Specification Reference	ULP TS 5.1
SCR Reference	ULP-PRO-C-024-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:

Test Procedure	Repeat Test Procedure for the following Cases: Case 1: Notification not set Case 2: Notification set to No notification & no verification. 1. Start a NI Location Session 2. In SUPL INIT: - Case 1: Do not set Notification - Case 2: Set Notification to No notification & no verification. - In both cases do not set Notification Mode 3. The SET sends SUPL POS INIT 4. The Location Session completes successfully. 5. There is no indication or notification of the Location Session to the User on the SET
Pass-Criteria	Case 1 and Case 2: 1. At step 4 the Location Session shall complete successfully 2. At step 5 there shall be no indication or notification of the Location Session to the User on the SET

5.1.2.2 SUPL-2.0-con-021 - Notification only

Test Case Id	SUPL-2.0-con-021
Test Object	Client
Test Case Description	To test SET correctly actions Notification only
Specification Reference	ULP TS 5.1
SCR Reference	ULP-PRO-C-024-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:
Test Procedure	1. Start a NI Location Session 2. In SUPL INIT set: - Notification to Notification only - Do not set Encoding type - Do not set RequestorID - Do not set ClientName - Do not set Notification Mode 3. The SET sends SUPL POS INIT 4. The Location Session completes successfully. 5. There is some form of indication or notification of the Location Session to the User on the SET
Pass-Criteria	1. At step 4 the Location Session shall complete successfully 2. At step 5 there shall be some form of notification of the Location Session to the User on the SET.

5.1.2.3 SUPL-2.0-con-022 - Notification and verification

Test Case Id	SUPL-2.0-con-022
Test Object	Client
Test Case Description	To test SET correctly actions Notification and verification
Specification Reference	ULP TS 5.1
SCR Reference	ULP-PRO-C-024-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ixit_verification_timeout

Test Procedure	Repeat Test Procedure for the following Cases:
	Case 1: Notification and verification: Allowed on no answer. User accepts.
	Case 2: Notification and verification: Allowed on no answer. User denies.
	Case 3: Notification and verification: Allowed on no answer. No response.
	Case 4: Notification and verification: Denied on no answer. User accepts.
	Case 5: Notification and verification: Denied on no answer. User denies.
	Case 6: Notification and verification: Denied on no answer. No response.
	1. Start a NI Location Session
	2. In SUPL INIT set:
	- Notification to:
	  - Cases 1 to 3: Notification and verification (Allowed on no answer)
	  - Cases 4 to 6: Notification and verification (Denied on no answer)
	- Do not set Encoding type
	- Do not set RequestorID
	- Do not set ClientName
	- Do not set Notification Mode
	3. The SET sends SUPL POS INIT
	4. There is a Location attempt prompt on the SET
	
	Cases 1 and 4: User accepts.
	5. The user accepts the Location attempt prompt before the internal SET timer expires (value is dependent on ixit_verification_timeout)
	6. The Location Session completes successfully.
	
	Cases 2 and 5: User rejects.
	7. The user rejects the Location attempt prompt before the internal SET timer expires (value is dependent on ixit_verification_timeout)
	8. The SET sends SUPL END with:
	- Status Code set to consentDeniedByUser
	- A correctly calculated Ver parameter.
	9. The Location Session ends and the SET releases the secure IP connection.

	Case 3: No response. 10. The user performs no action to the Location attempt prompt and the internal SET timer expires (value is dependent on ixit_verification_timeout) 11. The Location Session completes successfully. Case 6. No response. 12. The user performs no action to the Location attempt prompt and the internal SET timer expires (value is dependent on ixit_verification_timeout) 13. The SET sends SUPL END with: - Status Code set to consentDeniedByUser - A correctly calculated Ver parameter. 14. The Location Session ends and the SET releases the secure IP connection.
Pass-Criteria	All Cases: 1. At step 4 there shall be a Location attempt prompt on the SET Case 1, Case 4: 2. At step 6 the Location Session shall complete successfully Case 3: 3. At step 11 the Location Session shall complete successfully Case 2, Case 5: 4. At step 8 the SET shall respond with SUPL END with: - Status Code set to consentDeniedByUser - A correctly calculated Ver parameter. 5. At step 9 the SET shall release the secure IP connection. Case 6: 6. At step 13 the SET shall respond with SUPL END with: - Status Code set to consentDeniedByUser - A correctly calculated Ver parameter. 7. At step 14 the SET shall release the secure IP connection.

5.1.2.4 SUPL-2.0-con-023 - Privacy override

Test Case Id	SUPL-2.0-con-023
Test Object	Client
Test Case Description	To test SET correctly actions Privacy override
Specification Reference	ULP TS 5.1
SCR Reference	ULP-PRO-C-024-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:
Test Procedure	1. Start a NI Location Session 2. In SUPL INIT: □ Set Notification to Privacy override □ Do not set Notification Mode 3. The SET sends SUPL POS INIT 4. The Location Session completes successfully. 5. There is no indication or notification of the Location Session to the User on the SET. There shall be no trace of the Location Session in log files etc. on the SET.
Pass-Criteria	1. At step 4 the Location Session shall complete successfully 2. At step 5 there shall be no indication or notification of the Location Session to the User on the SET 3. At step 5 there shall be no record or indication of the Location Session in any SET log files or other debug information (implementation specific)

5.1.2.5 SUPL-2.0-con-024 - Requestor ID and Client Name

Test Case Id	SUPL-2.0-con-024
Test Object	Client
Test Case Description	To test SET correctly displays or uses Requestor ID and Client Name
Specification Reference	ULP TS 5.1
SCR Reference	ULP-PRO-C-024-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:

Test Procedure	Repeat Test Procedure for the following Cases:
	Case 1: Encoding type ucs2
	Case 2: Encoding type gsm-default
	Case 3: Encoding type UTF-8
	
	1. Start a NI Location Session
	2. In SUPL INIT:
	- Set Notification to Notification only
	- Set Encoding type to:
	  - Case 1: ucs2
	  - Case 2: gsm-default
	  - Case 3: UTF-8
	- Set RequestorType to the first value in the table below
	- Set RequestorID to some suitable string, with the string being the maximum possible length up to 50 Octets
	- Set ClientName to the first value in the table below
	- Set ClientName to some suitable string, with the string being the maximum possible length up to 50 Octets
	- Do not set Notification Mode
	3. The SET sends SUPL POS INIT
	4. The SET displays or uses the Requestor ID and the Client Name set in step 2
	5. The Location Session completes successfully.
	6. Repeat step 1 to step 5 with:
	- RequestorType set to the next value in the table below.
	- ClientNameType set to the next value in the table below.
	7. Repeat step 6 for all remaining values in the table below.

Pass-Criteria	All Cases: 1. At step 4 the SET shall correctly display or use: - Requestor ID set in step 2 - Client Name set in step 2 2. At step 5 the Location Session shall complete successfully.

Value #	**Requestor Types and Client Name Types**
Value 1	Logical name
Value 2	MSISDN
Value 3	E-mail address
Value 4	URL
Value 5	SIP URL
Value 6	IMS public identity
Value 7	MIN
Value 8	MDN

Table 2: Requestor Types and Client Name Types

5.1.2.6 SUPL-2.0-con-025 - Notification and verification based on current location [Includes optional features]

Test Case Id	SUPL-2.0-con-025
Test Object	Client
Test Case Description	To test SET correctly actions Notification and verification based on current location
Specification Reference	ULP TS 5.1.12, 5.1.16.4, 8, 9
SCR Reference	ULP-PRO-C-029-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_notification_currentLocation ixit: ixit_verification_timeout

Test Procedure	Test 1: User accepts the verification Test 2: User denies the verification Note that this test case only covers two conditions for Notification and Verification. It is assumed that the other conditions are fully tested in the Notification and Verification test cases. Test 1: User accepts the verification 1. Start a NI Location Session 2. In SUPL INIT set: - Positioning Method to any method supported by the SET that requires a SUPL POS session - Notification Mode to Notification/Verification based on location - Do not use Notification 3. The SUPL POS session completes 4. Send SUPL NOTIFY with: - Notification set to Notification and verification (Allowed on no answer) - Do not use Encoding type, RequestorID and ClientName 5. The user accepts the Location attempt prompt before the internal SET timer expires (value is implementation specific, defined by ixit_verification_timeout) 6. The SET sends SUPL NOTIFY RESPONSE with: - Notification Response set to allowed 7. Send SUPL END 8. The SET releases the secure IP connection. Test 2: User denies the verification 9. Start a NI Location Session 10. In SUPL INIT set: - Positioning Method to any method supported by the SET that requires a SUPL POS session - Notification Mode to Notification/Verification based on location - Do not use Notification 11. The SUPL POS session completes 12.Send SUPL NOTIFY with: - Notification set to Notification and verification (Denied on no answer) - Do not use Encoding type, RequestorID and ClientName 13. The user denies the Location attempt prompt before the internal SET timer expires (value is implementation specific defined by ixit_verification_timeout) 14. The SET sends SUPL NOTIFY RESPONSE with: - Notification Response set to not allowed 15. Send SUPL END with: - status code set to consentDeniedByUser 16. The SET releases the secure IP connection.

Pass-Criteria	Test 1: 1. At step 4 there shall be a Location attempt prompt on the SET 2. At step 6 the SET shall send SUPL NOTIFY RESPONSE with: □ Notification Response set to allowed 3. At step 8 the SET shall release the secure IP connection. Test 2: 4. At step 12 there shall be a Location attempt prompt on the SET 5. At step 14 the SET shall send SUPL NOTIFY RESPONSE with: □ Notification Response set to not allowed 6. At step 16 the SET shall release the secure IP connection.

5.1.3 Single sessions

5.1.3.1 SUPL-2.0-con-030 - Positioning method [Includes optional features].

Test Case Id	SUPL-2.0-con-030
Test Object	Client
Test Case Description	To test SET correctly actions single session Positioning method
Specification Reference	ULP TS 5.1.1, 8, 9
SCR Reference	ULP-PRO-C-007-O, ULP-PRO-C-011-M, ULP-PRO-C-012-O, ULP-PRO-C-013-O, ULP-PRO-C-014-O, ULP-PRO-C-015-O, ULP-PRO-C-016-O, ULP-PRO-C-018-O, ULP-PRO-C-020-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_AGPSSETassisted_Network_initiated Test 2: ics_AGPSSETbased_Network_initiated Test 3: ics_autonomousGPS_Network_initiated Test 6: ics_AGANSSSETassisted_Galileo_Network_initiated Test 7: ics_AGANSSSETassisted_GLONASS_Network_initiated Test 8: ics_AGANSSSETbased_Galileo_Network_initiated Test 9: ics_AGANSSSETbased_GLONASS_Network_initiated Test 10: ics_autonomousGANSS_Network_initiated Test 11: ics_AGPSSETassisted_Network_initiated AND ics_AGPSSETbased_Network_initiated Test 12: (ics_AGANSSSETassisted_Galileo_Network_initiated AND ics_AGANSSSETbased_Galileo_Network_initiated) OR (ics_AGANSSSETassisted_GLONASS_Network_initiated AND ics_AGANSSSETbased_GLONASS_Network_initiated) OR (ics_AGANSSSETassisted_BDS_Network_initiated AND ics_AGANSSSETbased_BDS_Network_initiated) Test 13: ics_OTDOA_Network_initiated Test 14: ics_ecidlpp_Network_initiated Test 15: ics_AGANSSSETassisted_GLONASS_Network_initiated AND ics_AGPSSETassisted_Network_initiated

	Test 16: ics_AGPSSETbased_Network_initiated AND ics_AGANSSSETbased_GLONASS_Network_initiated Test 17: ics_AGANSSSETassisted_BDS_Network_initiated Test 18: ics_AGANSSSETbased_BDS_Network_initiated Test 19: ics_AGANSSSETassisted_BDS_Network_initiated AND ics_AGPSSETassisted_Network_initiated Test 20: ics_AGPSSETbased_Network_initiated AND ics_AGANSSSETbased_BDS_Network_initiated Test 21: ics_IWLAN_Network_initiated ixit: Test 10, Test 12: ixit_gANSS
Test Procedure	Test 1: A-GPS SET assisted [Includes optional features] Test 2: A-GPS SET based [Includes optional features] Test 3: Autonomous GPS [Includes optional features] Test 4: Void Test 5: Cell ID - Cellular Test 6: A-GANSS SET assisted –Galileo [Includes optional features] Test 7: A-GANSS SET assisted –GLONASS [Includes optional features] Test 8: A-GANSS SET based –Galileo [Includes optional features] Test 9: A-GANSS SET based –GLONASS [Includes optional features] Test 10: Autonomous GANSS [Includes optional features] Test 11: A-GPS Preferred methods [Includes optional features] Test 12: A-GANSS Preferred methods [Includes optional features] Test 13: OTDOA [Includes optional features] Test 14: Enhanced Cell ID using LPP [Includes optional features] Test 15: A-GANSS SET assisted –GPS and GLONASS [Includes optional features] Test 16: A-GANSS SET based –GPS and GLONASS [Includes optional features] Test 17: A-GANSS SET assisted –Beidou [Includes optional features] Test 18: A-GANSS SET based – Beidou [Includes optional features] Test 19: A-GANSS SET assisted –GPS and Beidou [Includes optional features] Test 20: A-GANSS SET based –GPS and Beidou [Includes optional features] Test 21: Cell ID - WLAN AP [Includes optional features] Note that tests 11 and 12 only test the case where the SET supports both SET assisted and SET based modes. The cases where the SET supports only one of these modes are covered by test cases in the SUPL 1.0 ETS and could be added here if found useful. 1. All tests: start a NI Location Session 2. In SUPL INIT set: • Positioning Method to the value specified in the table below • GNSS Positioning Technology to the value specified in the table below

	3. The SET sends SUPL POS INIT with: - SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics Test 5: - Location ID, Cell Info mandatory parameters set to the correct values depending on the cellular technology used (for GSM: MCC, MNC, LAC, CI; for WCDMA: MCC, MNC, UC-ID; for LTE: CellGlobalIdEUTRA, PhysCellId, TrackingAreaCode) 4. Test 5: send SUPL END Test 21: - Location ID, Cell Info, WLAN AP Info mandatory parameter (AP MAC Address) set to the correct value 5. Test 5, Test 21: send SUPL END 6. All tests except Test 5, Test 21: - A SUPL POS session takes place and completes successfully using the Positioning Method defined by the test case. Test 3,Test 10 and Test 14: - No Assistance Data is sent. Test 10: one of Galileo or GLONASS or Beidou can be used depending on the technology supported by the SET and declared in ixit_gANSS. Test 11, Case 1: - A-GPS SET assisted is used. Note that at step 3, when the SET sends SUPL POS INIT with the SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics, the ics may be different from that declared in Test 11, Case 2. Test 11, Case 2: - A-GPS SET based is used. Note that at step 3, when the SET sends SUPL POS INIT with the SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics, the ics may be different from that declared in Test 11, Case 1. Test 12, Case 1: - A-GANSS SET assisted is used. The GANSS used can be one of Galileo or GLONASS or Beidou depending on the technology supported by the SET and declared in ixit_gANSS. Test 14: - LPP is used within the SUPL POS session. Test 12, Case 2: - A-GANSS SET based is used. The GANSS used can be one of Galileo or GLONASS or Beidou depending on the technology supported by the SET and declared in ixit_gANSS. 7. All tests except Test 5: send SUPL END 8. All tests: the SET releases the secure IP connection. Note: Repeat for all Positioning technologies supported by the SET as declared in the ics
Pass-Criteria	All tests: 1. At step 3 the SET shall respond with SUPL POS INIT with:

	- SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics Test 5: - Location ID, Cell Info mandatory parameters set to the correct values depending on the cellular technology used Test 21: - Location ID, Cell Info, WLAN AP Info mandatory parameter (AP MAC Address) set to the correct value All tests except Test 5, Test 21: 2. At step 5 a SUPL POS session shall take place and shall complete successfully using the Positioning Method defined by the test case. Test 10: one of Galileo or GLONASS or Beidou shall be used depending on the technology supported by the SET and declared in ixit_gANSS. Test 11, Case 1: A-GPS SET assisted shall be used. Test 11, Case 2: A-GPS SET based shall be used. Test 12, Case 1: A-GANSS SET assisted shall be used. The GANSS used can be one of Galileo or GLONASS or Beidou depending on the technology supported by the SET and declared in ixit_gANSS. Test 12, Case 2: A-GANSS SET based shall be used. The GANSS used can be one of Galileo or GLONASS or Beidou depending on the technology supported by the SET and declared in ixit_gANSS. Test 13: OTDOA shall be used.

Test #	**Value of Positioning Method**	**Value of GNSS Positioning Technology**
Test 1	A-GPS SET assisted only	Not set
Test 2	A-GPS SET based only	Not set
Test 3	Autonomous GPS	Not set
Test 4	Void	
Test 5	Enhanced Cell / sector	Not set
Test 6	A-GNSS SET assisted only	Galileo
Test 7	A-GNSS SET assisted only	GLONASS
Test 8	A-GNSS SET based only	Galileo
Test 9	A-GNSS SET based only	GLONASS
Test 10	Autonomous GNSS	Not set
Test 11	Case 1: A-GPS SET assisted preferred (A-GPS SET based is the fallback mode) Case 2: A-GPS SET based preferred (A-GPS SET assisted is the fallback mode)	Not set

Test 12	Case 1: A-GNSS SET assisted preferred (A-GANSS SET based is the fallback mode) Case 2: A-GNSS SET based preferred (A-GANSS SET assisted is the fallback mode)	Galileo or GLONASS or Beidou
Test 13	OTDOA	Not set
Test 14	Enhanced Cell / sector	Not set
Test 15	Hybrid A-GPS and A-GLONASS SET assisted	GPS and GLONASS
Test 16	Hybrid A-GPS and A-GLONASS SET based	GPS and GLONASS
Test 17	A-GNSS SET assisted only	Beidou
Test 18	A-GNSS SET based only	Beidou
Test 19	Hybrid A-GPS and A-Beidou SET assisted	GPS and Beidou
Test 20	Hybrid A-GPS and A-Beidou SET based	GPS and Beidou
Test 21	Enhanced Cell / sector	Not set

Table 3: Positioning Method and GNSS Positioning Technology

5.1.3.2 SUPL-2.0-con-031 - No Position

Test Case Id	SUPL-2.0-con-031
Test Object	Client
Test Case Description	To test SET correctly responds if No Position is signalled by the SLP.
Specification Reference	ULP TS 5.1, 8, 9
SCR Reference	ULP-PRO-C-026-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:
Test Procedure	Note that this test case only covers basic functionality for Notification and Verification. It is assumed that the other Notification and Verification conditions are fully tested in the Notification and Verification test cases. 1. Start a NI Location Session 2. In SUPL INIT set: - Positioning Method to No Position - Notification to Notification only 3. The SET sends SUPL END with: - Correctly calculated Ver parameter - No Status Code

	4. There is some form of indication or notification of the Location Session to the User on the SET 5. The Location Session ends and the SET releases the secure IP connection
Pass-Criteria	1. At step 3 the SET shall respond with SUPL END with: □ Correctly calculated Ver parameter □ No Status Code 2. At step 4 there shall be some form of notification of the Location Session to the User on the SET. 3. At step 5 the SET shall release the secure IP connection

5.1.3.3 SUPL-2.0-con-033 - Emergency Services Location Requests

Test Case Id	SUPL-2.0-con-033
Test Object	Client
Test Case Description	To test SET correctly actions Emergency Services Location Requests
Specification Reference	ULP TS 5.1.15, 8, 9
SCR Reference	ULP-PRO-C-034-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ixit: ixit_emergency_call_required
Test Procedure	Case 1: E-SLP address sent in SUPL INIT Case 2: Use of provisioned H-SLP address Case 3: Use of default E-SLP address. 1. If required (determined by ixit_emergency_call_required) set up an emergency call from the SET. Note that this step is outside the scope of SUPL and SUPL testing, but may be required. 2. Start a NI Emergency Services Location Session 3. In SUPL INIT set: □ Positioning Method to Enhanced Cell / sector □ Notification to: ▪ Notification type: No notification & no verification ▪ Set: Emergency Call Location o E-SLP address to: ▪ Case 1: SLP Address type set to FQDN with a suitable FQDN value that is different from the H-SLP address used for other testing ▪ Case 2 and Case 3: E-SLP address not set 4. The SET sends a DNS Query to resolve the FQDN of the SLP □ Case 1: Query includes the E-SLP FQDN used in step 3 (Case 1) □ Case 2: Query includes the normal H-SLP FQDN provisioned in the SET, or may not be sent if the SET has previously resolved the normal H-SLP FQDN.

	□ Case 3: Query includes the Default E-SLP FQDN ("e-slp.mnc<MNC>.mcc<MCC>.pub.3gppnetwork.org" where MCC and MNC correspond to the network being simulated). In this case the SET must not be provisioned with an H-SLP address in the UICC. 5. Send a DNS response to the SET 6. The SET establishes a secure session with the SLP and sends SUPL POS INIT. 7. Send SUPL END 8. The SET releases the secure IP connection. 9. If an emergency call was set up in step 1, release the emergency call. 10. Repeat for all Cases.
Pass-Criteria	1. At step 4 the SET shall send a DNS Query to resolve the FQDN of the SLP □ Case 1: Query shall include the E-SLP FQDN used in step 3 (Case 1) □ Case 2: If sent, Query shall include the normal H-SLP FQDN provisioned in the SET, or may not be sent. □ Case 3: Query shall include the Default E-SLP FQDN ("e-slp.mnc<MNC>.mcc<MCC>.pub.3gppnetwork.org" where MCC and MNC correspond to the network being simulated). 2. At step 6 the SET shall establish a secure session with the SLP and send SUPL POS INIT.

5.1.3.4 SUPL-2.0-con-034 - Emergency Services Location Request – Interaction with normal SUPL session

Test Case Id	SUPL-2.0-con-034
Test Object	Client
Test Case Description	To test SET correctly actions an Emergency Services Location Request when a normal SUPL session is also active
Specification Reference	ULP TS 6.1.5
SCR Reference	ULP-PRO-C-034-M
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ixit: ixit_emergency_call_required ixit_verification_timeout
Test Procedure	Case 1: Normal SUPL session already in progress before Emergency SUPL session Case 2: Normal SUPL session attempted during Emergency SUPL session Case 1: Normal SUPL session already in progress before Emergency SUPL session 1. Start a normal NI Location Session 2. In SUPL INIT set: □ Positioning Method to Enhanced Cell / sector

	Notification to: ▪ Notification type: Notification and verification, Allowed on no answer 3. The SET displays the Notification and prompts the User for Verification 4. (Do not respond to the Verification prompt.) 5. If required (determined by ixit_emergency_call_required) set up an emergency call from the SET. Note that this step is outside the scope of SUPL and SUPL testing, but may be required. Editor's note: It is not clear if this will always be possible from the GUI of the SET – for further consideration. 6. Immediately start a NI Emergency Services Location Session 7. In SUPL INIT set: In Session ID, a different SLP Session ID from that used in step 1. Positioning Method to Enhanced Cell / sector Notification to: ▪ Notification type: No notification & no verification ▪ Set: Emergency Call Location E-SLP address to: ▪ Not set (equivalent to using the H-SLP address) 8. The SET aborts the normal SUPL session initiated in step 1 and the Notification display and the Verification prompt are removed 9. The SET sends SUPL POS INIT in response to the Emergency Services session with: In Session ID, SLP Session ID from step 7. 10. Send SUPL END with: In Session ID use SLP Session ID from step 7 11. The SET releases the secure IP connection. 12. If an emergency call was set up in step 5, release the emergency call. 13. After step 11 (or step 12 if used) wait for a length of time equivalent to the Verification timeout in the SET, determined by ixit_verification_timeout, plus two seconds and monitor any SUPL messages sent by the SET. 14. Perform Case 2. Case 2: Normal SUPL session attempted during Emergency SUPL session 15. If required (determined by ixit_emergency_call_required) set up an emergency call from the SET. Note that this step is outside the scope of SUPL and SUPL testing, but may be required. 16. Start a NI Emergency Services Location Session 17. In SUPL INIT set: Positioning Method to Enhanced Cell / sector Notification to: ▪ Notification type: Notification and verification, Allowed on no answer ▪ Set: Emergency Call Location E-SLP address to: ▪ Not set (equivalent to using the H-SLP address) 18. The SET displays the Notification and prompts the User for Verification 19. (Do not respond to the Verification prompt.)

	20. Immediately start a normal NI Location Session 21. In SUPL INIT set: □ In Session ID, a different SLP Session ID from that used in step 17. □ Positioning Method to Enhanced Cell / sector □ Notification to: ▪ Notification type: No notification & no verification 22. (The SET ignores the SUPL INIT sent in step 21.) 23. Accept the Verification prompt from step 18. 24. The SET sends SUPL POS INIT in response to the Emergency Services session with: □ In Session ID, SLP Session ID from step 17. 25. Send SUPL END with: □ In Session ID , use SLP Session ID from step 17 26. The SET releases the secure IP connection. 27. If an emergency call was set up in step 15, release the emergency call. 28. After step 26 (or step 27 if used) wait for a length of time equivalent to the Verification timeout in the SET, determined by ixit_verification_timeout, plus two seconds and monitor any SUPL messages sent by the SET.
Pass-Criteria	Case 1. 1. At step 8 the SET shall remove the Notification display and the Verification prompt. 2. From step 6 until the end of step 13 there shall be no SUPL messages sent by the SET with: □ In Session ID, the SLP Session ID used in step 1. 3. At step 9 the SET shall send SUPL POS INIT with: □ In Session ID, the SLP Session ID from step 7. Case 2. 4. At step 24 the SET shall send SUPL POS INIT with: □ In Session ID, the SLP Session ID from step 17. 5. From step 21 until the end of step 28 there shall be no SUPL messages sent by the SET with: □ In Session ID, the SLP Session ID used in step 21.

5.1.3.5 SUPL-2.0-con-035 - Retrieval of historical positions [Includes optional features]

Test Case Id	SUPL-2.0-con-035
Test Object	Client
Test Case Description	To test SET correctly actions Retrieval of historical positions
Specification Reference	ULP TS 5.1.13, 8, 9, 10
SCR Reference	ULP-PRO-C-035-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test:

	Applicability: ics_historic_reporting

Test Procedure	Case 1: Position estimates only
	Case 2: Enhanced cell/sector measurements only
	Case 3: Both position estimates and enhanced cell/sector measurements
	1. Ensure the SET has performed and stored at least one SET-based location session and at least one cell/sector measurement at some time before this test is initiated. If necessary perform one SET-based location session using default parameters and a SET-based positioning method such as A-GPS. If necessary perform one cell/sector measurement using default parameters and ECID as the positioning method. The conditions under which these measurements are stored is outside the scope of SUPL.
	2. Start a Retrieval of historic positions session.
	3. In SUPL INIT set:
	- Positioning Method to Historical Data Retrieval
	- Historic Reporting, Allowed Reporting Type to:
	  - Case 1: Position estimates only
	  - Case 2: Enhanced cell/sector measurements only
	  - Case 3: Both position estimates and enhanced cell/sector measurements
	4. The SET sends SUPL REPORT with:
	- From 1 to 1024 sets of Report Data with:
	  - Case 1: Position Data only, with a Timestamp and a Position Estimate
	  - Case 2:
	    - Multiple Location Ids only, with one or more sets of Location ID and Serving Cell Flag
	    - Timestamp
	  - Case 3: Either:
	    - Both Position Data, with a Timestamp and a Position Estimate, and Multiple Location Ids, with one or more sets of Location ID and Serving Cell Flag
	    Or:
	    - Result Code set to No Position and no measurement if the SET has deleted all data during the running of Case 1 and Case 2. This behaviour is outside the scope of SUPL.
	    - Timestamp
	- Ver: correctly calculated
	- More Components not set
	5. The SET releases the secure IP connection.
	6. Repeat for all Cases.

Pass-Criteria	1. At step 4 the SET shall send SUPL REPORT with:
	- From 1 to 1024 sets of Report Data with:
	  - Case 1: Position Data only, with a Timestamp and a Position Estimate
	  - Case 2:
	    - Multiple Location Ids only, with one or more

	sets of Location ID and Serving Cell Flag ▪ Timestamp o Case 3: Either: ▪ Both Position Data, with a Timestamp and a Position Estimate, and Multiple Location Ids, with one or more sets of Location ID and Serving Cell Flag Or: ▪ Result Code set to No Position and no measurement if the SET has deleted all data during the running of Case 1 and Case 2. ▪ Timestamp □ Ver: correctly calculated □ More Components not set 2. At step 5 the SET shall release the secure IP connection.

5.1.4 Triggered Services: Periodic Triggers

5.1.4.1 SUPL-2.0-con-040 - Real Time reporting [Includes optional features]

Test Case Id	SUPL-2.0-con-040
Test Object	Client
Test Case Description	To test SET correctly performs Real Time Periodic reporting
Specification Reference	ULP TS 5.1.7
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-046-O,,
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_real_time AND ics_periodic_Network_initiated AND ics_AGPSSETassisted_Network_initiated Test 2: ics_real_time AND ics_periodic_Network_initiated AND ics_AGPSSETbased_Network_initiated
Test Procedure	Test 1: A-GPS SET assisted Test 2: A-GPS SET based Test 1: A-GPS SET assisted: 1. Start a NI Periodic Location Session 2. In SUPL INIT set: □ Positioning Method to A-GPS SET assisted □ Trigger Type set to Periodic 3. The SET responds with SUPL TRIGGERED START with: □ The details of the Reporting Capability parameter consistent with the known reporting capabilities supported by the SET. □ The details of the Services Supported and the Reporting

	Capabilities parameters in the Services Capabilities parameter in the SET Capabilities are consistent with the known reporting capabilities supported by the SET.
	4. Send SUPL TRIGGERED RESPONSE with:
	- Trigger Params set to Periodic Params with:
	  - Number of Fixes: 50
	  - Interval Between Fixes: 60 or equal to "minimum interval between fixes" received in Reporting Capability if greater than 60
	  - Start Time: 30
	[Editors note: these values are just place-holders, we may wish to change these values after further study]
	- Do not set Reporting Mode (this is equivalent to Real Time reporting)
	Note that the SET may release the secure connection at this point.
	5. After approximately 30 seconds (set by Start Time) the SET responds with SUPL POS INIT and a SUPL POS session takes place
	6. The SUPL POS Session completes successfully
	7. Send SUPL REPORT with no parameters.
	Note that the SET may release the secure connection at this point.
	8. After approximately 60 seconds after the SET sends SUPL POS INIT in step 5 (set by Interval Between Fixes) the SET responds with SUPL POS INIT and a SUPL POS session takes place
	9. The SUPL POS Session completes successfully
	10. Send SUPL REPORT with no parameters.
	Note that the SET may release the secure connection at this point.
	11. Steps 8 through 10 are repeated until the remaining number of fixes (the total number is set by Number of Fixes) have been received.
	12. Send SUPL END
	
	Test 2: A-GPS SET based:
	13. Start a NI Periodic Location Session
	14. In SUPL INIT set:
	- Positioning Method to A-GPS SET based
	- Trigger Type set to Periodic
	15. The SET responds with SUPL TRIGGERED START with:
	- The details of the Reporting Capability parameter consistent with the known reporting capabilities supported by the SET.
	- The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities are consistent with the known reporting capabilities supported by the SET.
	16. Send SUPL TRIGGERED RESPONSE with:
	- Trigger Params set to Periodic Params with:
	  - Number of Fixes: 50
	  - Interval Between Fixes: 60 or equal to "minimum interval between fixes" received in Reporting Capability if greater than 60
	  - Start Time: 30

	[Editors note: these values are just place-holders, we may wish to change these values after further study] - Do not set Reporting Mode (this is equivalent to Real Time reporting) Note that the SET may release the secure connection at this point. 17. At any time during the following part of the test when the SET is required to make a position estimate, if the SET requires Assistance Data, then: - The SET responds with SUPL POS INIT - A SUPL POS session takes place to only deliver Assistance Data - Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 18. After approximately 30 seconds (set by Start Time): The SET sends SUPL REPORT with the position estimate Note that the SET may release the secure connection at this point. 19. After approximately 60 seconds (set by Interval Between Fixes): - The SET sends SUPL REPORT with the position estimate. Note that the SET may release the secure connection at this point. 20. Step 19 is repeated until the remaining number of fixes (the total number is set by Number of Fixes) have been received. 21. Send SUPL END
Pass-Criteria	Test 1 and 2: 1. At step 3 and step 15: - The details of the Reporting Capability parameter shall be consistent with the known Reporting capabilities supported by the SET. - The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities shall be consistent with the known reporting capabilities supported by the SET. Test 1: 2. At step 6 and 9 the SUPL POS Session shall complete successfully the requested number of times. Test 2: 3. At step 18 and 19 the SET shall send SUPL REPORT with the position estimate the requested number of times.

5.1.4.2 SUPL-2.0-con-041 - Basic Quasi Real Time reporting [Includes optional features]

Test Case Id	SUPL-2.0-con-041
Test Object	Client
Test Case Description	To test SET correctly performs basic Quasi Real Time Periodic reporting
Specification Reference	ULP TS 5.1.7
SCR Reference	ULP-PRO-C-032-O,, ULP-PRO-C-047-O,,
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_quasi_real_time AND ics_periodic_Network_initiated AND ics_AGPSSETassisted_Network_initiatedAND ics_SETbased_in_quasi_real_time Test 2: ics_quasi_real_time AND ics_periodic_Network_initiated AND ics_AGPSSETbased_Network_initiated
Test Procedure	Test 1: A-GPS SET assisted Test 2: A-GPS SET based Test 1: A-GPS SET assisted Note that this test depends on the SET using either Autonomous GPS or SET based A-GPS during the period that it is out of contact with the SLP. In this case the SET must receive or have received current Assistance Data before step 11. [Editor's note: the method for providing this Assistance Data may need to be specified after further study] 1. Start a NI Periodic Location Session 2. In SUPL INIT set: - Positioning Method to A-GPS SET assisted - Trigger Type set to Periodic 3. The SET responds with SUPL TRIGGERED START with: - The details of the Reporting Capability parameter are consistent with the known reporting capabilities supported by the SET. - The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities are consistent with the known reporting capabilities supported by the SET. 4. Send SUPL TRIGGERED RESPONSE with: - Trigger Params set to Periodic Params with: o Number of Fixes: 15 o Interval Between Fixes: 60 or equal to "minimum interval between fixes" received in Reporting Capability if greater than 60 o Start Time: 30 [Editors note: these values are just place-holders, we may wish to change these values after further study] - Reporting Mode set to: o Rep Mode to Quasi real time o Batch Report Type with: ▪ Position set to true ▪ Other values set to false Note that the SET may release the secure connection at this point. 5. After approximately 30 seconds (set by Start Time) the SET responds with SUPL POS INIT and a SUPL POS session takes place

	6. The SUPL POS Session completes successfully
	7. Send SUPL REPORT with no parameters.
	Note that the SET may release the secure connection at this point.
	8. After approximately 60 seconds after the SET sends SUPL POS INIT in step 5 (set by Interval Between Fixes) the SET responds with SUPL POS INIT and a SUPL POS session takes place
	9. The SUPL POS Session completes successfully
	10. Send SUPL REPORT with no parameters.
	Note that the SET may release the secure connection at this point.
	11. Simulate a loss of communication with the H-SLP (Conformance Test Tool) such that the SET will detect a loss of lower layer communication with the SLP by, for example, heavily attenuating the RF signal to the SET.
	12. Wait for a time equivalent to 10 intervals between fixes (set by Interval Between Fixes) and then simulate re-established communication with the H-SLP (Conformance Test Tool) by, for example, restoring the RF signal to the SET.
	13. The SET sends SUPL REPORT with the stored position estimates. Note that this step depends on the SET having used either Autonomous GPS or SET based A-GPS in which case the SET must have received current Assistance Data before step 11. [Editor's note: the method for providing this Assistance Data may need to be specified after further study]
	14. At approximately the next 60 second interval (set by Interval Between Fixes) the SET responds with SUPL POS INIT and a SUPL POS session takes place
	15. The SUPL POS Session completes successfully
	16. Send SUPL REPORT with no parameters.
	Note that the SET may release the secure connection at this point.
	17. Steps 14 through 16 are repeated until the remaining number of SUPL POS sessions (the total number is set by Number of Fixes) have been completed.
	18. Send SUPL END
	
	Test 2: A-GPS SET based:
	19. Start a NI Periodic Location Session
	20. In SUPL INIT set:
	- Positioning Method to A-GPS SET based
	- Trigger Type set to Periodic
	21. The SET responds with SUPL TRIGGERED START with:
	- The details of the Reporting Capability parameter consistent with the known reporting capabilities supported by the SET.
	- The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities are consistent with the known reporting capabilities supported by the SET.
	22. Send SUPL TRIGGERED RESPONSE with:
	- Trigger Params set to Periodic Params with values as follows:
	  - Number of Fixes: 15
	  - Interval Between Fixes: 60 or equal to "minimum interval between fixes" received in Reporting Capability if greater

	than 60 o Start Time: 30 [Editors note: these values are just place-holders, we may wish to change these values after further study] □ Reporting Mode set to: o Rep Mode to Quasi real time o Batch Report Type with: ▪ Position set to true ▪ Other values set to false Note that the SET may release the secure connection at this point. 23. At any time during the following part of the test when the SET is required to make a position estimate, if the SET requires Assistance Data, then: □ The SET responds with SUPL POS INIT □ A SUPL POS session takes place to only deliver Assistance Data □ Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 24. After approximately 30 seconds (set by Start Time): □ The SET sends SUPL REPORT with the position estimate Note that the SET may release the secure connection at this point. 25. After approximately 60 seconds (set by Interval Between Fixes): □ The SET sends SUPL REPORT with the position estimate. Note that the SET may release the secure connection at this point. 26. Simulate a loss of communication with the H-SLP (Conformance Test Tool) such that the SET will detect a loss of lower layer communication with the SLP by, for example, heavily attenuating the RF signal to the SET. 27. Wait for a time equivalent to 10 intervals between fixes (set by Interval Between Fixes) and then simulate re-established communication with the H-SLP (Conformance Test Tool) by, for example, restoring the RF signal to the SET. 28. The SET sends SUPL REPORT with the stored position estimates. Note that this step depends on the SET having used either Autonomous GPS or SET based A-GPS which assumes the SET had current Assistance Data 29. At approximately the next 60 second interval (set by Interval Between Fixes): □ The SET sends SUPL REPORT with the position estimate. Note that the SET may release the secure connection at this point. 30. Step 29 is repeated until the remaining number of fixes (the total number is set by Number of Fixes) have been received. 31. Send SUPL END

Pass-Criteria	Test 1 and 2: 1. At step 3 and step 21: - The details of the Reporting Capability parameter shall be consistent with the known Reporting capabilities supported by the SET. - The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities shall be consistent with the known reporting capabilities supported by the SET. Test 1: 2. At step 6 and 9 the SUPL POS Session shall complete successfully. 3. At step 13 the SET shall send SUPL REPORT with the stored position estimates. 4. At step 15 the SUPL POS Session shall complete successfully 5. At step 17 the SUPL POS Session shall complete successfully the remaining number of times (the total number is set by Number of Fixes). Test 2: 6. At step 24 and 25 the SET shall send SUPL REPORT with the position estimate. 7 At step 28 the SET shall send SUPL REPORT with the stored position estimates. 8. At step 29 the SET shall send SUPL REPORT with the position estimate. 9. At step 30 the remaining number of fixes shall be received (the total number is set by Number of Fixes).

5.1.4.3 SUPL-2.0-con-042 - Basic Batch reporting [Includes optional features]

Test Case Id	SUPL-2.0-con-042
Test Object	Client
Test Case Description	To test SET correctly performs basic Batch Periodic reporting
Specification Reference	ULP TS 5.1.7
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-048-O,,
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_batch AND ics_periodic_Network_initiated AND ics_AGPSSETassisted_Network_initiated Test 2: ics_batch AND ics_periodic_Network_initiated AND ics_AGPSSETbased_Network_initiated
Test Procedure	Test 1: A-GPS SET assisted Test 2: A-GPS SET based

	Test 1: A-GPS SET assisted, Case #1: 1. Start a NI Periodic Location Session 2. In SUPL INIT set: - Positioning Method to A-GPS SET assisted - Trigger Type set to Periodic 3. The SET responds with SUPL TRIGGERED START with: - The details of the Reporting Capability parameter consistent with the known reporting capabilities supported by the SET. - The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities are consistent with the known reporting capabilities supported by the SET. 4. Send SUPL TRIGGERED RESPONSE with: - The parameters set according to the table below for Case #1 Note that the SET may release the secure connection at this point. 5. After approximately 30 seconds (set by Start Time) the SET responds with SUPL POS INIT and a SUPL POS session takes place 6. The SUPL POS Session completes successfully 7. Send SUPL REPORT with a realistic position estimate (see note at step 10) Note that the SET may release the secure connection at this point. 8. After approximately 60 seconds after the SET sends SUPL POS INIT in step 5 (set by Interval Between Fixes) the SET responds with SUPL POS INIT and a SUPL POS session takes place 9. The SUPL POS Session completes successfully 10. Send SUPL REPORT with a realistic position estimate (Note: for convenience of checking the Pass Criteria, make this position estimate slightly different from the previous position estimate, e.g. by incrementing the LSB of the latitude and longitude.) Note that the SET may release the secure connection at this point. 11. Steps 8 through 10 are repeated until the 8th SUPL POS session and SUPL REPORT (set by Batch Reporting Conditions) is completed 12. The SET sends a SUPL REPORT with: - Report Data List containing all the stored positions correctly listed in the Position Data fields of the Report Data fields. In the first SUPL REPORT there are 8 stored positions. 13. Steps 11 through 12 are repeated a further 5 times so that the final possible fully populated SUPL REPORT is received (set by the Number of Fixes and the Batch Reporting Conditions). Each SUPL REPORT contains all the stored positions since the previous SUPL REPORT and each contains 8 stored positions 14. Steps 8 through 10 are repeated until the remaining number of SUPL POS Sessions have been completed (the total number is set by the Number of Fixes) 15. The SET sends a SUPL REPORT with: - Report Data List containing the remaining 4 stored positions listed in the Position Data fields of the Report Data fields 16. Send SUPL END Test 1: A-GPS SET assisted, Case #2: 17. Repeat steps 1 through 10, but at step 4 send SUPL TRIGGERED

	RESPONSE with: - The parameters set according to the table below for Case #2. 18. Steps 8 through 10 are repeated until the end of step 21 19. Approximately 5 minutes after step 4 occurred, the SET sends a SUPL REPORT with: - Report Data List containing all the stored positions listed in the Position Data fields of the Report Data fields. In the first SUPL REPORT there are 5 stored positions. 20. At approximately 5 minute interval thereafter, the SET sends a SUPL REPORT with: - Report Data List containing all the stored positions listed in the Position Data fields of the Report Data fields. The SUPL REPORT contains all the stored positions since the previous SUPL REPORT and contains 5 stored positions 21. Step 20 is repeated a further 8 times so that the final possible fully populated SUPL REPORT is received (set by the Number of Fixes and the Batch Reporting Conditions). 21. Steps 8 through 10 are repeated so that the remaining number of SUPL POS Sessions have been completed (the total number is set by the Number of Fixes) 22. The SET sends a SUPL REPORT with: - Report Data List containing the remaining 2 stored positions listed in the Position Data fields of the Report Data fields. 23. Send SUPL END Test 1: A-GPS SET assisted, Case #3: 24. Repeat steps 1 through 10, but at step 4 send SUPL TRIGGERED RESPONSE with: - The parameters set according to the table below for Case #3. 25. Steps 8 through 10 are repeated until the remaining number of SUPL POS sessions (the total number is set by Number of Fixes) have been completed. 26. The SET sends a SUPL REPORT with: - Report Data List containing all the 52 stored positions listed in the Position Data fields of the Report Data fields. 27. Send SUPL END Test 2: A-GPS SET based, Case #1: 28. Start a NI Periodic Location Session 29. In SUPL INIT set: - Positioning Method to A-GPS SET based - Trigger Type set to Periodic 30. The SET responds with SUPL TRIGGERED START with: - The details of the Reporting Capability parameter consistent with the known reporting capabilities supported by the SET. - The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities are consistent with the known reporting capabilities supported by the SET. 31. Send SUPL TRIGGERED RESPONSE with:

	The parameters set according to the table below for Case #1 Note that the SET may release the secure connection at this point. Note that at any time during the following procedure when the SET is required to make a position estimate, if the SET requires Assistance Data: The SET responds with SUPL POS INIT A SUPL POS session takes place to only deliver Assistance Data Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 32. After approximately 30 seconds (set by Start Time) the SET makes a position estimate 33. After approximately 60 seconds (set by Interval Between Fixes) the SET makes a position estimate 34. Step 33 is repeated until the 8th position estimate (set by Batch Reporting Conditions) is completed 35. The SET sends a SUPL REPORT with a Report Data List containing all the stored positions listed in the Position Data fields of the Report Data fields. In the first SUPL REPORT there are 8 stored positions. 36. Steps 34 through 35 are repeated a further 5 times so that the final possible fully populated SUPL REPORT is received (set by the Number of Fixes and the Batch Reporting Conditions). Each SUPL REPORT contains all the stored positions since the previous SUPL REPORT. 37. Step 33 is repeated until the remaining number of position estimates have been completed (the total number is set by the Number of Fixes) 38. The SET sends a SUPL REPORT with: Report Data List containing the remaining 4 stored positions listed in the Position Data fields of the Report Data fields. 39. Send SUPL END Test 2: A-GPS SET based, Case #2: 40. Repeat steps 28 through 34 but at step 31send SUPL TRIGGERED RESPONSE with: The parameters set according to the table below for Case #2. 41. Step 33 is repeated until the end of step 44 42. Approximately 5 minutes after step 31 occurred, the SET sends a SUPL REPORT with: Report Data List containing all the stored positions listed in the Position Data fields of the Report Data fields. In the first SUPL REPORT there are 5 stored positions. 43. At approximately 5 minute interval thereafter, the SET sends a SUPL REPORT with: Report Data List containing all the stored positions listed in the Position Data fields of the Report Data fields. The SUPL REPORT contains all the stored positions since the previous SUPL REPORT and contains 5 stored positions 44. Step 43 is repeated a further 8 times so that the final possible fully populated SUPL REPORT is received (set by the Number of Fixes and the Batch Reporting Conditions). 45. Step 33 is repeated so that the remaining number of position estimates have been completed (the total number is set by the Number of Fixes) 46. The SET sends a SUPL REPORT with: Report Data List containing the remaining 2 stored positions listed

	in the Position Data fields of the Report Data fields. 47. Send SUPL END Test 2: A-GPS SET based, Case #3: 48. Repeat steps 28 through 34 but at step 31 send SUPL TRIGGERED RESPONSE with: - The parameters set according to the table below for Case #3. 49. Step 33 is repeated until the remaining number of position estimates (the total number is set by Number of Fixes) have been completed. 50. The SET sends a SUPL REPORT with: - Report Data List containing all the 52 stored positions listed in the Position Data fields of the Report Data fields. 51. Send SUPL END
Pass-Criteria	Test 1, all Cases: 1. At step 3: - The details of the Reporting Capability parameter shall be consistent with the known Reporting capabilities supported by the SET. - The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities shall be consistent with the known reporting capabilities supported by the SET. 2. At steps 6 and 9 the SUPL POS session shall complete successfully Test 1, Case #1: 3. At step 12 the SET shall send a SUPL REPORT with: - Report Data List containing all the correct stored positions correctly listed in the Position Data fields of the Report Data fields. (The stored positions can be checked for correctness by comparing with the values previously sent to the SET in the SUPL REPORTs.) Each SUPL REPORT shall contain all the stored positions since the previous SUPL REPORT. In the first SUPL REPORT there are 8 stored positions. The subsequent 5 SUPL REPORTs each contains 8 stored positions 4. At step 15 the SET shall send a SUPL REPORT with: - Report Data List containing the remaining 4 correct stored positions correctly listed in the Position Data fields of the Report Data fields. (The stored positions can be checked for correctness by comparing with the values previously sent to the SET in the SUPL REPORTs.) Test 1, Case #2: 5. At step 19 the SET shall send a SUPL REPORT with: - Report Data List containing all the correct stored positions correctly listed in the Position Data fields of the Report Data fields. (The stored positions can be checked for correctness by comparing with the values previously sent to the SET in the SUPL REPORTs.) In the first SUPL REPORT there are 5 stored positions. 6. At step 20 the SET shall send SUPL REPORT 9 times with: - Report Data List containing all the correct stored positions correctly listed in the Position Data fields of the Report Data fields. (The stored positions can be checked for correctness by comparing with the values previously sent to the SET in the SUPL REPORTs.) The SUPL REPORT contains all the stored positions

	since the previous SUPL REPORT and contains 5 stored positions 7. At step 22 the SET shall send a SUPL REPORT with: - Report Data List containing the remaining 2 correct stored positions correctly listed in the Position Data fields of the Report Data fields. (The stored positions can be checked for correctness by comparing with the values previously sent to the SET in the SUPL REPORTs.) Test 1, Case #3: 8. At step 26 the SET shall send a SUPL REPORT with: - Report Data List containing all the 52 correct stored positions correctly listed in the Position Data fields of the Report Data fields. (The stored positions can be checked for correctness by comparing with the values previously sent to the SET in the SUPL REPORTs.) Test 2,all Cases: 9. At step 30: - The details of the Reporting Capability parameter shall be consistent with the known Reporting capabilities supported by the SET. - The details of the Services Supported and the Reporting Capabilities parameters in the Services Capabilities parameter in the SET Capabilities shall be consistent with the known reporting capabilities supported by the SET. Test 2, Case #1: 10. At step 35the SET shall send a SUPL REPORT with: - Report Data List containing all the stored positions correctly listed in the Position Data fields of the Report Data fields. Note that each SUPL REPORT shall contain all the stored positions since the previous SUPL REPORT. In the first SUPL REPORT there are 8 stored positions. The subsequent 5 SUPL REPORTs each contains 8 stored positions 11. At step 38 the SET shall send a SUPL REPORT with: - Report Data List containing the remaining 4 stored positions correctly listed in the Position Data fields of the Report Data fields. Test 2, Case #2: 12. At step 42 the SET shall send a SUPL REPORT with: - Report Data List containing all the stored positions correctly listed in the Position Data fields of the Report Data fields. In the first SUPL REPORT there are 5 stored positions. 13. At step 43 the SET shall send SUPL REPORT 9 times with: - Report Data List containing all the stored positions correctly listed in the Position Data fields of the Report Data fields. The SUPL REPORT contains all the stored positions since the previous SUPL REPORT and contains 5 stored positions 14. At step 46 the SET shall send a SUPL REPORT with: - Report Data List containing the remaining 2 stored positions correctly listed in the Position Data fields of the Report Data fields.

	Test 2, Case #3: 15. At step 50 the SET shall send a SUPL REPORT with: - Report Data List containing all the 52 stored positions correctly listed in the Position Data fields of the Report Data fields.

Parameter	**Value**
Trigger Params	Periodic Params, with values as follows: - Number of Fixes: 52 - Interval Between Fixes: 60 or equal to "minimum interval between fixes" received in Reporting Capability if greater than 60 - Start Time: 30 [Editors note: these values are just place-holders, we may wish to change these values after further study]
Reporting Mode	Batch reporting
Batch Reporting Conditions	Case #1: Sending of a batch report after every 8 fixes/measurements Case #2: Sending of a batch report after every 5 minutes Case #3: Sending of only one batch report at the end of the session [Editors note: these values are place-holders and may need revision if the values above are changed.
Batch Report Type	Position set to true Other values set to false

Table 4: SUPL TRIGGERED RESPONSE parameters

5.1.5 Triggered Services: Area Event Triggers

5.1.5.1 SUPL-2.0-con-050 - Geographic Target Area [Includes optional features]

Test Case Id	SUPL-2.0-con-050
Test Object	Client
Test Case Description	To test SET correctly performs Area Event reporting with Geographic Target Area
Specification Reference	ULP TS 5.1.8
SCR Reference	ULP-PRO-C-033-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:

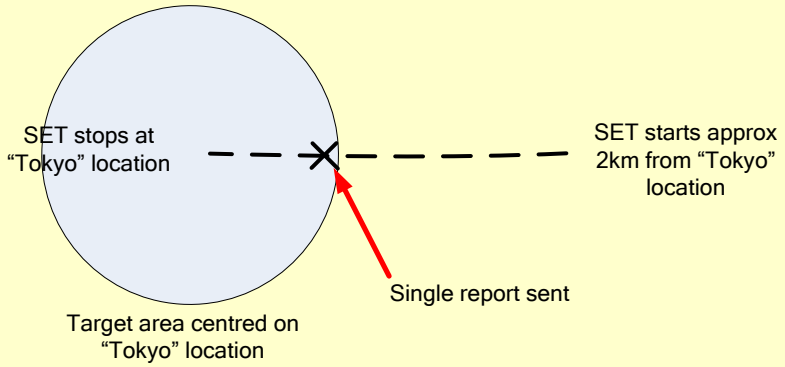
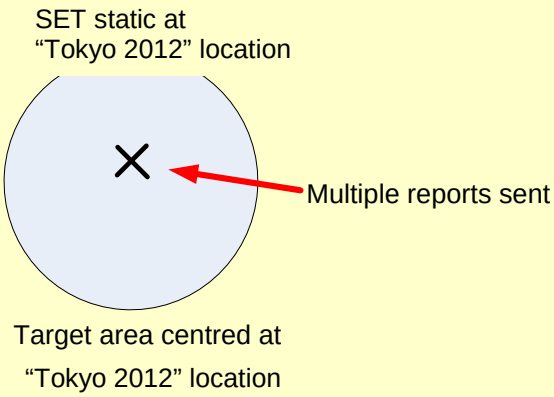
	Test 1: ics_event_Network_initiated AND ics_GeoTargetArea AND ics_AGPSSETassisted_Network_initiated AND ics_SETassisted_AreaEvent Test 2: ics_event_Network_initiated AND ics_GeoTargetArea AND ics_AGPSSETbased_Network_initiated AND ics_SETbased_AreaEvent
Test Procedure	Test 1: A-GPS SET assisted Test 2: A-GPS SET based Case 1: Entering event type Case 2: Inside event type Case 3: Outside event type Case 4: Leaving event type Details of GPS scenarios to be used and figures showing locations to aid understanding of test cases: Case 1: Entering event type Simulate a moving GPS scenario starting at latitude 35.744287 degrees North, longitude 139.698201 degrees East and ending at latitude 35.744287 degrees North, longitude 139.680176 degrees East, moving with a speed of 8 m/s  **Figure 1: Case 1: SET enters area** Case 2: Inside event type Use the static GPS “Tokyo 2012” scenario specified in [3GPP TS 37.571-5] 

Figure 2: Case 2: SET is inside area

Case 3: Outside event type

Use the static GPS “Tokyo 2012” scenario specified in [3GPP TS 37.571-5]

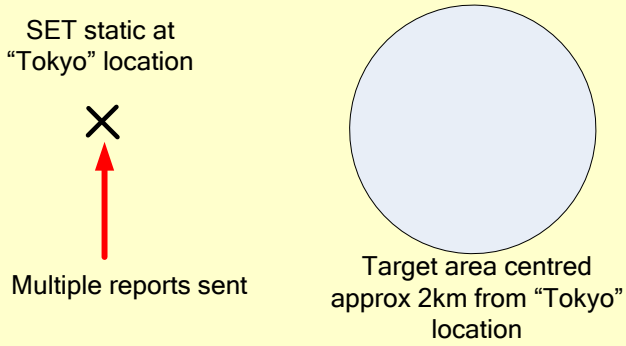


Figure 3: Case 3: SET is outside area

Case 4: Leaving event type Simulate a moving GPS scenario starting at latitude 35.744287 degrees North, longitude 139.698201 degrees East and ending at latitude 35.744287 degrees North, longitude 139.680176 degrees East, moving with a speed of 8 m/s

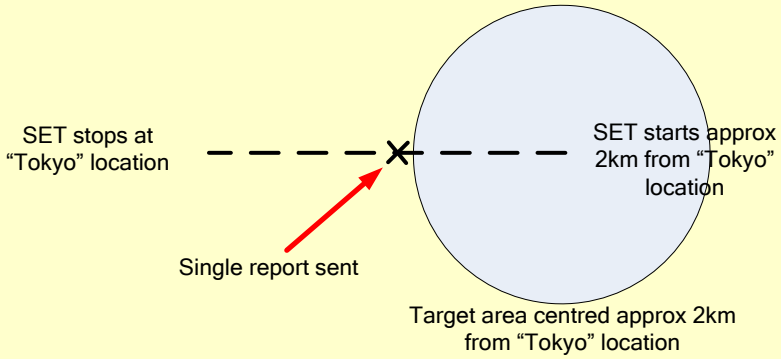


Figure 4: Case 4: SET leaves area

Test 1: A-GPS SET assisted:

1. Start a NI Area Event Triggered Session
2. In SUPL INIT set:
   - Positioning Method to A-GPS SET assisted
   - Trigger Type set to Area Event
3. The SET responds with SUPL TRIGGERED START with:
   - The details of the Services Supported and the Event Trigger Capabilities parameters in the SET Capabilities parameter are consistent with the known trigger capabilities supported by the SET.
4. Send SUPL TRIGGERED RESPONSE with:
   - Trigger Params set to Area Event Params with:

	o Area Event Type: ▪ Case 1: Entering event type ▪ Case 2: Inside event type ▪ Case 3: Outside event type ▪ Case 4: Leaving event type o Location estimate: True o Repeated reporting ▪ Minimum Interval Time: 60 ▪ Maximum Number of Reports: 6 o Start Time: 30 o Stop Time: 240 o Geographic Target Area List with: ▪ Geographic Target Area set to: • Circular with: Case #1, Case #2: • Coordinate set to: o latitudeSign set to: North o latitude set to: 35.744287 degrees o longitude set to: +139.680176 degrees • Radius set to: 1000 meters • Radius-min radius and Radius-max radius not set Note that this is an area centred on the coordinates of the GPS "Tokyo 2012" scenario specified in [3GPP TS 37.571-5] Case #3, Case #4: • Coordinate set to: o latitudeSign set to: North o latitude set to: 35.744287 degrees o longitude set to: +139.698201 degrees • Radius set to: 1000 meters • Radius-min radius and Radius-max radius not set Note that this is an area centred approximately 2km from the coordinates of the GPS "Tokyo 2012" scenario specified in [3GPP TS 37.571-5] o Area Id Lists not set Note that the SET may release the secure connection at this point. 5. At any time the following sequence up to step 7 occurs, and may occur more than once: □ The SET responds with SUPL POS INIT and a SUPL POS session takes place

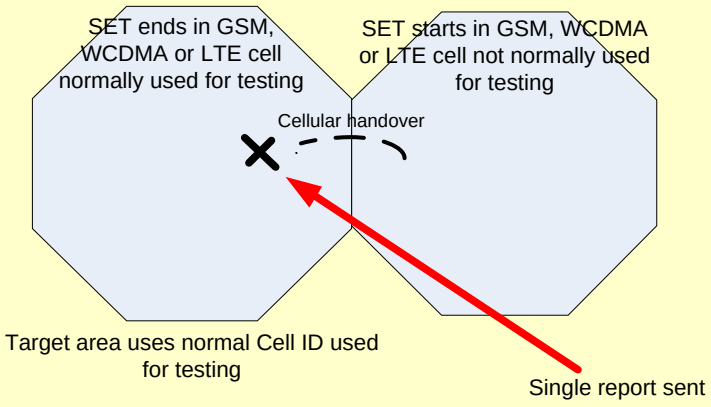
	6. The SUPL POS Session completes successfully 7. Send SUPL REPORT with the correctly calculated position. Note that the SET may release the secure connection at this point. 8. Case 1: The SET does not immediately respond as Entering event has not been met. Note however that the SET will eventually respond as described in step 9. Case 2: After at least 30 seconds (set by Start Time) after step 4: - The SET sends SUPL REPORT with the position estimate as Inside event has been met Case 3: After at least 30 seconds (set by Start Time) after step 4: - The SET sends SUPL REPORT with the position estimate as Outside event has been met Case 4: The SET does not immediately respond as Leaving event has not been met. Note however that the SET will eventually respond as described in step 9. 9. Until step 11 is reached, the following sequence takes place repeatedly: - The SET responds with SUPL POS INIT and a SUPL POS session takes place. - The SUPL POS Session completes successfully - Send SUPL REPORT with the correctly calculated position. Note that the SET may release the secure connection at this point. 10. Case 1: After one of these sequences the SET sends SUPL REPORT with the position estimate as Entering event has been met. After the others of these sequences the SET does not respond as Entering event has not been met. Case 2: After some of these sequences the SET sends SUPL REPORT with the position estimate as Inside event has been met. The interval between these SUPL REPORTs is at least 60 seconds (set by Minimum Interval Time) Case 3: After some of these sequences the SET sends SUPL REPORT with the position estimate as Outside event has been met. The interval between these SUPL REPORTs is at least 60 seconds (set by Minimum Interval Time) Case 4: After one of these sequences the SET sends SUPL REPORT with the position estimate as Leaving event has been met. After the others of these sequences the SET does not respond as Leaving event has not been met. 11. Approximately 240 seconds (set by Stop Time) after step 4: - The SET sends SUPL END (as Stop Time has been reached) with: o Status Code set to sessionStopped Note that this step may occur inside a SUPL POS session, in which case the SUPL POS session will then be abandoned. Test 2: A-GPS SET based: 12. Repeat step 1 through step 4, but at step 2 set: - Positioning Method to A-GPS SET based 13. At any time during the following part of the test when the SET is required to make a position estimate, if the SET requires Assistance Data, then:

	☐ The SET responds with SUPL POS INIT ☐ A SUPL POS session takes place to only deliver Assistance Data and completes successfully ☐ Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 14. After at least 30 seconds (set by Start Time) after step 4 : Case 1: The SET does not immediately respond as Entering event has not been met. Note however that the SET will eventually respond as described in step 15. Case 2: The SET sends SUPL REPORT with the position estimate as Inside event has been met Case 3: The SET sends SUPL REPORT with the position estimate as Outside event has been met Case 4: The SET does not immediately respond as Leaving event has not been met. Note however that the SET will eventually respond as described in step 15. 15. Until step 16 is reached: Case 1: At one point in time the SET sends SUPL REPORT with the position estimate as Entering event has been met. Case 2: At intervals of at least 60 seconds (set by Minimum Interval Time) after the previous SUPL REPORT, the SET sends SUPL REPORT with the position estimate as Inside event has been met Case 3: At intervals of at least 60 seconds (set by Minimum Interval Time) after the previous SUPL REPORT, the SET sends SUPL REPORT with the position estimate as Outside event has been met Case 4: At one point in time the SET sends SUPL REPORT with the position estimate as Leaving event has been met. 16. Approximately 240 seconds (set by Stop Time) after step 4: ☐ The SET sends SUPL END (as Stop Time has been reached) with: o Status Code set to sessionStopped Note that this step may occur inside a SUPL POS session, in which case the SUPL POS session will then be abandoned.
Pass-Criteria	Test 1 and 2: 1. At step 3: ☐ The details of the Services Supported and the Event Trigger Capabilities parameters in the SET Capabilities parameter shall be consistent with the known trigger capabilities supported by the SET. Test 1: 2. At step 5 the SET shall respond with SUPL POS INIT and a SUPL POS session shall take place and complete successfully 3. At step 8: Case 1: The SET shall not respond Case 2: The SET shall send SUPL REPORT with the position estimate after at least 30 seconds after step 4 Case 3: The SET shall send SUPL REPORT with the position estimate after at least 30 seconds after step 4 Case 4: The SET shall not respond 4. At step 9 the SET shall repeatedly respond with SUPL POS INIT and a SUPL POS session takes place and completes successfully

	5. At step 10: Case 1: After one of these sequences the SET shall send SUPL REPORT with the position estimate and the position estimate shall be within the target area. After the others of these sequences the SET shall not respond Case 2: After some of these sequences the SET shall send SUPL REPORT with the position estimate. The interval between these SUPL REPORTs shall be at least 60 seconds Case 3: After some of these sequences the SET shall send SUPL REPORT with the position estimate. The interval between these SUPL REPORTs shall be at least 60 seconds Case 4: After one of these sequences the SET shall send SUPL REPORT with the position estimate and the position estimate shall be outside the target area. After the others of these sequences the SET shall not respond 5a. At step 11 the SET shall send SUPL END with: o Status Code set to sessionStopped Test 2: 6. At step 14: Case 1: The SET shall not respond Case 2: The SET shall send SUPL REPORT with the position estimate after at least 30 seconds after step 4 Case 3: The SET shall send SUPL REPORT with the position estimate after at least 30 seconds after step 4 Case 4: The SET shall not respond 7. At step 15: Case 1: At one point in time only, the SET shall send SUPL REPORT with the position estimate and the position estimate shall be within the target area. Case 2: At intervals of at least 60 seconds after the previous SUPL REPORT, the SET shall send SUPL REPORT with the position estimate Case 3: At intervals of at least 60 seconds after the previous SUPL REPORT, the SET shall send SUPL REPORT with the position estimate Case 4: At one point in time only, the SET shall send SUPL REPORT with the position estimate and the position estimate shall be outside the target area. 8. At step 16 the SET shall send SUPL END with: o Status Code set to sessionStopped

5.1.5.2 SUPL-2.0-con-051 - Area ID [Includes optional features]

Test Case Id	SUPL-2.0-con-051
Test Object	Client
Test Case Description	To test SET correctly performs Area Event reporting with Area ID
Specification Reference	ULP TS 5.1.8
SCR Reference	ULP-PRO-C-033-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_event_Network_initiated AND ics_AreaId AND ics_AGPSSETassisted_Network_initiated AND ics_SETassisted_AreaEvent Test 2: ics_event_Network_initiated AND ics_AreaId AND ics_AGPSSETbased_Network_initiated AND ics_SETbased_AreaEvent
Test Procedure	Test 1: A-GPS SET assisted Test 2: A-GPS SET based Case 1: Entering event type Case 2: Inside event type Case 3: Outside event type Case 4: Leaving event type Details of GPS scenario and cellular scenarios to be used and figures showing locations to aid understanding of test cases: In all cases use the static GPS “Tokyo 2012” scenario specified in [3GPP TS 37.571-5] Case 1: Entering event type The SET camps on a GSM, WCDMA or LTE Cell ID that is not normally used for testing and that is not present in Area ID list. The SET then handsover to the cell that is normally used for testing and that is present in the Area ID List. A single report is then sent using the GPS “Tokyo 2012” scenario.  **Figure 1: Case 1: SET enters area** Case 2: Inside event type The SET camps on the GSM, WCDMA or LTE Cell ID that is normally used for testing and that is present in the Area ID list. Multiple reports are then sent using the GPS “Tokyo 2012” scenario.

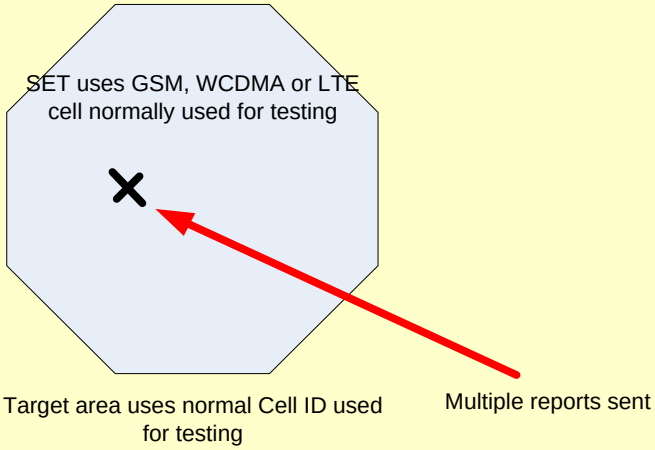


Figure 2: Case 2: SET is inside area

Case 3: Outside event type

The SET camps on a GSM, WCDMA or LTE Cell ID that is not normally used for testing and that is not present in Area ID list.

The cell that is normally used for testing is present in the Area ID List. Multiple reports are then sent using the GPS “Tokyo 2012” scenario.

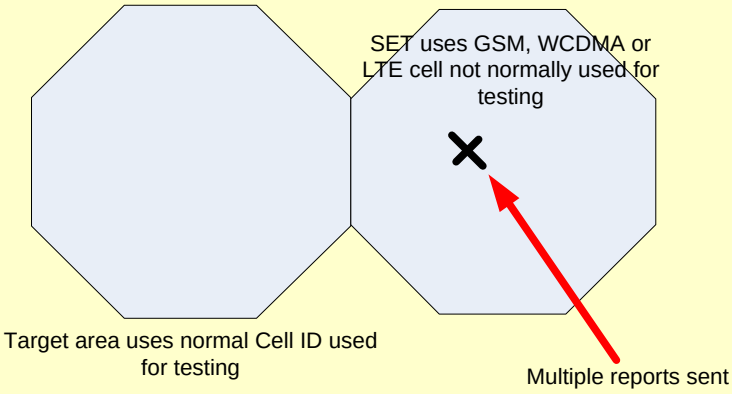


Figure 3: Case 3: SET is outside area

Case 4: Leaving event type

The SET camps on the GSM, WCDMA or LTE Cell ID that is normally used for testing and that is present in Area ID list. The SET then handsover to a cell that is not normally used for testing and that is not present in the Area ID List. A single report is then sent using the GPS “Tokyo 2012” scenario.

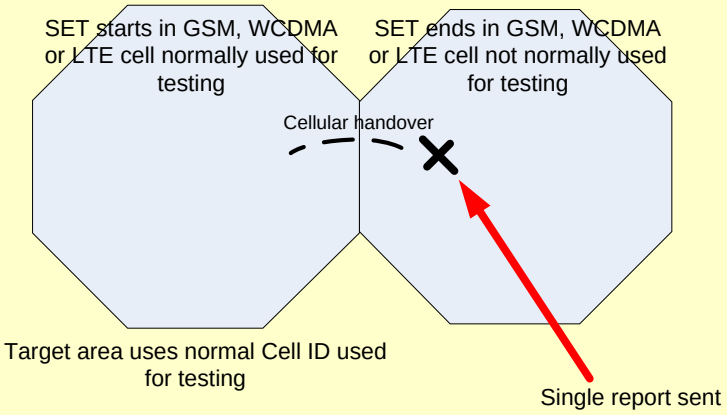


Figure 4: Case 4: SET leaves area

Test 1: A-GPS SET assisted

1. Start a NI Area Event Triggered Session
2. In SUPL INIT set:
   - Positioning Method to A-GPS SET assisted
   - Trigger Type set to Area Event
3. The SET responds with SUPL TRIGGERED START with:
   - The details of the Services Supported and the Event Trigger Capabilities parameters in the SET Capabilities parameter are consistent with the known trigger capabilities supported by the SET.
4. Send SUPL TRIGGERED RESPONSE with:
   - Trigger Params set to Area Event Params with:
     - Area Event Type:
       - Case 1: Entering event type
       - Case 2: Inside event type
       - Case 3: Outside event type
       - Case 4: Leaving event type
     - Location estimate: True
     - Repeated reporting
       - Minimum Interval Time: 60
       - Maximum Number of Reports: 6
     - Start Time: 30
     - Stop Time:
       - Case 1 and Case 4: 210
       - Case 2 and Case 3: 120
     - Geographic Target Area List not set
     - Area Id List with:
       - Area Id Set set to one of the following, depending on the technology being used for testing:
         - GSM Area Id with: Mobile Country Code, Mobile Network Code, Location Area Code and Cell Global Identity set to the values

	normally used during testing with GSM • WCDMA Area Id with: Mobile Country Code, Mobile Network Code, Location Area Code and Cell Identity set to the values normally used during testing with WCDMA and Mobile Country Code, Mobile Network Code and Location Area Code not set • LTE Area Id with: Mobile Country Code, Mobile Network Code and Cell ID set to the values normally used during testing with LTE ▪ Area Id Set Type and Geographic Area Mapping List not set Note that the SET may release the secure connection at this point. 5. At some time Case 2 and Case 3: The following sequence occurs, and may occur more than one: - The SET responds with SUPL POS INIT and a SUPL POS session takes place - The SUPL POS Session completes successfully - Send SUPL REPORT with the correctly calculated position. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS "Tokyo 2012" scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. Case 1 and Case 4: - Case 1: The SET does not respond as Entering event has not been met. - Case 4: The SET does not respond as Leaving event has not been met 6. After at least 30 seconds (set by Start Time) after step 4: - Case 2: The SET sends SUPL REPORT with the position estimate sent in the SUPL REPORT in step 5 as Inside event has been met - Case 3: The SET sends SUPL REPORT with the position estimate sent in the SUPL REPORT in step 5 as Outside event has been met 7. At some time: Case 2 and Case 3: The following sequence occurs, and may occur more than once: - The SET responds with SUPL POS INIT and a SUPL POS session takes place - The SUPL POS Session completes successfully - Send SUPL REPORT with the correctly calculated position. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS "Tokyo 2012" scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East.

	Note that the SET may release the secure connection at this point. Case 1 and Case 4: - Case 1: The SET does not respond as Entering event has not been met. - Case 4: The SET does not respond as Leaving event has not been met 8. After at least 60 seconds (set by Minimum Interval Time) after step 6: Case 2 and Case 3: - Case 2: The SET sends SUPL REPORT with the position estimate sent in the SUPL REPORT in step 7 as Inside event has been met - Case 3: The SET sends SUPL REPORT with the position estimate sent in the SUPL REPORT in step 7 as Outside event has been met 9. Case 2 and Case 3: Approximately 120 seconds (set by Stop Time) after step 4: - The SET sends SUPL END (as Stop Time has been reached) with: o Status Code set to sessionStopped Note that this step may occur inside a SUPL POS session, in which case the SUPL POS session will then be abandoned. 10. Case 1 and Case 4 120 seconds after step 4: - Case 1: force a cellular handover to the GSM, WCDMA or LTE Cell ID that is normally used for testing. - Case 4: force a cellular handover to a GSM, WCDMA or LTE Cell ID that is not normally used for testing. 11. Case 1 and Case 4: - The SET responds with SUPL POS INIT and a SUPL POS session takes place - The SUPL POS Session completes successfully - Send SUPL REPORT with the correctly calculated position. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS "Tokyo 2012" scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. 12. Case 1 and Case 4 - Case 1: The SET sends SUPL REPORT with the position estimate sent in the SUPL REPORT in step 11 as Entering event has been met. - Case 4: The SET sends SUPL REPORT with the position estimate sent in the SUPL REPORT in step 11 as Leaving event has been met. 13. Case 1 and Case 4: After at least 60 seconds (set by Minimum Interval Time)(wait for 90 seconds): - Case 1: The SET does not respond as Entering event has not been met.

	- Case 4: The SET does not respond as Leaving event has not been met 14. Case 1 and Case 4 Approximately 210 seconds (set by Stop Time) after step 4: - The SET sends SUPL END (as Stop Time has been reached) with: o Status Code set to sessionStopped Test 2: A-GPS SET based: 15. Repeat step 1 through step 4, but at step 2 set: - Positioning Method to A-GPS SET based 16. At any time during the following part of the test when the SET is required to make a position estimate, if the SET requires Assistance Data, then: - The SET responds with SUPL POS INIT - A SUPL POS session takes place to only deliver Assistance Data and completes successfully - Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 17. After at least 30 seconds (set by Start Time) after step 4: - Case 1: The SET does not respond as Entering event has not been met. - Case 2: The SET sends SUPL REPORT with a position estimate as Inside event has been met - Case 3: The SET sends SUPL REPORT with a position estimate as Outside event has been met - Case 4: The SET does not respond as Leaving event has not been met 18. After at least 60 seconds (set by Minimum Interval Time) after step 17: - Case 1: The SET does not respond as Entering event has not been met. - Case 2: The SET sends SUPL REPORT with a position estimate as Inside event has been met - Case 3: The SET sends SUPL REPORT with a position estimate as Outside event has been met - Case 4: The SET does not respond as Leaving event has not been met 19. Case 2 and Case 3: Approximately 120 seconds (set by Stop Time) after step 4: - The SET sends SUPL END (as Stop Time has been reached) with: o Status Code set to sessionStopped Note that this step may occur inside a SUPL POS session, in which case the SUPL POS session will then be abandoned. 20. Case 1 and Case 4: - Case 1: force a cellular handover to the GSM, WCDMA or LTE Cell ID that is normally used for testing. - Case 4: force a cellular handover to a GSM, WCDMA or LTE

	Cell ID that is not normally used for testing. 21. Case 1 and Case 4: □ Case 1: The SET sends SUPL REPORT with a position estimate as Entering event has been met. □ Case 4: The SET sends SUPL REPORT with a position estimate as Leaving event has been met. 22. Case 1 and Case 4: After at least 60 seconds (set by Minimum Interval Time)(wait for 90 seconds): □ Case 1: The SET does not respond as Entering event has not been met. □ Case 4: The SET does not respond as Leaving event has not been met 23. Case 1 and Case 4: Approximately 210 seconds (set by Stop Time) after step 4: □ The SET sends SUPL END (as Stop Time has been reached) with: o Status Code set to sessionStopped
Pass-Criteria	Test 1 and Test 2: 1. At step 3: □ The details of the Services Supported and the Event Trigger Capabilities parameters in the SET Capabilities parameter shall be consistent with the known trigger capabilities supported by the SET. Test 1: 2. At step 5: Case 2 and Case 3: the SET shall respond with SUPL POS INIT and a SUPL POS session shall take place and complete successfully Case 1 and Case 4: the SET shall not respond 3. At step 6: Case 2 and Case 3: the SET shall send SUPL REPORT with the position estimate after at least 30 seconds after step 4 4. At step 7: Case 2 and Case 3: the SET shall respond with SUPL POS INIT and a SUPL POS session shall take place and complete successfully Case 1 and Case 4: the SET shall not respond 5. At step 8: Case 2 and Case 3: the SET shall send SUPL REPORT with the position estimate after at least 60 seconds after step 6 5a. At step 9: Case 2 and Case 3: The SET shall send SUPL END with: o Status Code set to sessionStopped 6. At step 11: Case 1 and Case 4: The SET shall respond with SUPL POS INIT and a SUPL POS session shall take place and complete successfully. 7. At step 12: Case 1 and Case 4: The SET shall send SUPL REPORT with the position estimate

	8. At step 13: Case 1 and Case 4: The SET shall not respond 8a. At step 14: Case 1 and Case 4: The SET shall send SUPL END with: o Status Code set to sessionStopped Test 2: 9. At step 17: Case 1: The SET shall not respond Case 2: The SET shall send SUPL REPORT with a position estimate after at least 30 seconds after step 4 Case 3: The SET shall send SUPL REPORT with a position estimate after at least 30 seconds after step 4 Case 4: The SET shall not respond 10. At step 18: Case 1: The SET shall not respond Case 2: The SET shall send SUPL REPORT with a position estimate after at least 60 seconds after step 17 Case 3: The SET shall send SUPL REPORT with a position estimate after at least 60 seconds after step 17 Case 4: The SET shall not respond 10a. At step 19: Case 2 and Case 3: The SET shall send SUPL END with: o Status Code set to sessionStopped 11. At step 21: Case 1: The SET shall send SUPL REPORT with a position estimate Case 4: The SET shall send SUPL REPORT with a position estimate 12. At step 22: Case 1 and Case 4: the SET shall not respond 13. At step 23: Case 1 and Case 4: The SET shall send SUPL END with: o Status Code set to sessionStopped

5.1.6 Triggered Services: Other Scenarios

5.1.6.1 SUPL-2.0-con-060 - Network Capabilities change [Includes optional features]

Test Case Id	SUPL-2.0-con-060
Test Object	Client
Test Case Description	To test SET correctly actions Network Capabilities change for Area Event triggered session
Specification Reference	ULP TS 5.1.14, 8, 9, 10
SCR Reference	ULP-PRO-C-033-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as:

	Prerequisite for this test: Applicability: ics_event_Network_initiated OR ics_event_SET_initiated ixit: ixit_session_info_query
Test Procedure	Case 1: Network sends new trigger parameters Case 2: Network does not send new trigger parameters Case 1: 1. Start a NI Area Event Triggered Location Session or a SI Area Event Triggered Location Session in the case that Network Initiated Area Event Triggered Location Session is not supported in the SET. Use suitable parameters, for example Inside event type and suitable Area Id List, such that Area Event triggers are easily observed. 2. The first trigger event occurs and completes. 3. Force a handover from the current cellular serving cell to a target cell for which the MNC is not in the downloaded Area Id lists in Area Event Params in Trigger Params in SUPL TRIGGERED RESPONSE used in step 1. 4. The SET sends SUPL TRIGGERED START with: - Cause Code set to Serving Network not in Area Id list 5. Send SUPL TRIGGERED RESPONSE with: - MNC in the Area Id lists in Area Event Params in Trigger Params set to the value from the target cell (network). Use suitable parameters, for example Inside event type and suitable Area Id List, such that Area Event triggers are easily observed. 6. The triggered session continues and a trigger event occurs and completes 7. After the first trigger for the continued session has occurred and the associated session has completed the Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note below) Case 2: 8. After the Area Event Triggered Location Session in Case 1 has finished, repeat steps 1 to 4. 9. Send SUPL TRIGGERED RESPONSE with: - Empty Area Id list. 10. The triggered session is paused as the SET has no valid parameters for the current cellular network so the SET does not respond. 11. Force a handover from the current cellular serving cell back to the original cell used in step 1. 12. The SET does not respond with SUPL TRIGGERED START as it maintains the previous trigger parameters. 13. The original triggered session continues and a trigger event occurs and completes 14. After the first trigger for the continued session has occurred and the associated session has completed the Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the

	session (see note below)
Pass-Criteria	Case 1 and Case 2: 1. At step 4 the SET shall send SUPL TRIGGERED START with: - Cause Code set to Serving Network not in Area Id list Case 1: 2. At step 6 the triggered session shall continue successfully Case 2: 3. At step 10 the SET shall not respond. 4. At step 12 the SET shall not respond with SUPL TRIGGERED START. 5. At step 13 the original triggered session shall continue successfully
Note	The procedure for sending SUPL TRIGGERED STOP is as follows: Alternative 1: (The SET does not release the secure IP connection). 1. The secure IP connection is not released by the SET, send SUPL TRIGGERED STOP with no parameters. 2. The SET sends SUPL END 3. The Triggered Location Session ends and the SET releases the secure IP connection. Alternative 2a: (The SET releases the secure IP connection. Session-Info Query procedure supported by SET according to ixit_session_info_query). 4. The SET releases the secure connection such that SUPL TRIGGERED STOP cannot be sent. Send SUPL INIT with: - Positioning Method set to Session-Info Query 5. The SET sends SUPL REPORT. 6. Send SUPL TRIGGERED STOP with no parameters 7. The SET sends SUPL END in response to the SUPL TRIGGERED STOP and the Triggered Location Session ends. 8. Send SUPL END to terminate the Session-Info Query session. 9. The SET releases the secure IP connection. Alternative 2b: (The SET releases the secure IP connection. Session-Info Query procedure not supported by SET according to ixit_session_info_query). 10. The SET releases the secure connection such that SUPL TRIGGERED STOP cannot be sent. Do not respond to any messages sent by the SET. The Triggered Location Session will eventually time-out in the SET.0

5.1.6.2 SUPL-2.0-con-061 - Network cancels Triggered Location Request [Includes optional features]

Notes:

1. Only the case of the Network cancelling a Triggered Location session is given. The case of the SET cancelling a Triggered Location session is considered trivial and is therefore not tested.

2. This test case covers both Network Initiated and SET Initiated call flows. In the case that the SET supports both call-flows, only the Network Initiated case needs to be run.

Test Case Id	SUPL-2.0-con-061
Test Object	Client
Test Case Description	To test SET correctly actions when the Network cancels a Triggered Location Request
Specification Reference	ULP TS 5.1.17, 8, 9, 10
SCR Reference	ULP-MES-C-011-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_periodic_Network_initiated OR ics_periodic_SET_initiated OR ics_event_Network_initiated OR ics_event_SET_initiated ixit: ixit_session_info_query
Test Procedure	Case 1 (The Test System does not release the secure IP connection, the SET may or may not release the secure IP connection). 1. Start a NI Periodic Triggered Location Session, or a NI Area Event Triggered Location session if Periodic Location sessions are not supported in the SET or in the case that Network Initiated Periodic or Area Event Triggered Location Sessions are not supported in the SET start a SI Periodic Triggered Location Session, or a SI Area Event Triggered Location session if Periodic Location sessions are not supported in the SET,. **Alternative 1:** (The SET does not release the secure IP connection). 2. Immediately after the first trigger has occurred and the associated session has completed and if the secure IP connection is not released by the SET, send SUPL TRIGGERED STOP with no parameters. 3. The SET sends SUPL END 4. The Triggered Location Session ends and the SET releases the secure IP connection. **Alternative 2:** (The SET releases the secure IP connection). If at step 2 the SET releases the secure connection such that SUPL TRIGGERED STOP cannot be sent to the SET, then run Alternative 2a or 2b as appropriate. **Alternative 2a:** (Session-Info Query procedure not supported by SET according to ixit_session_info_query). 5. If Session-Info Query procedure is not supported by the SET according to ixit_session_info_query, then do not respond to any messages sent by the SET. The Triggered Location Session will eventually time-out in the SET. In this case this complete test case is not applicable and the test is terminated with the message "SUPL-2.0-con-061 is not applicable as the SET releases the secure IP connection after a triggered session and does not support the Session Info Query procedure".

	Alternative 2b: (Session-Info Query procedure supported by SET according to ixit_session_info_query). 5a. Send SUPL INIT with: □ Positioning Method set to Session-Info Query 5b. The SET sends SUPL REPORT. 5c. Send SUPL TRIGGERED STOP with no parameters 5d. The SET sends SUPL END in response to the SUPL TRIGGERED STOP and the Triggered Location Session ends. 5e. Send SUPL END to terminate the Session-Info Query session. 5f. The SET releases the secure IP connection. Note that if this Alternative 2b is run, then it is not necessary to also run Case 2 and the test can be terminated at this point. Case 2 (The Test System releases the secure IP connection so that a Session Info Query session is required). If Session-Info Query procedure is not supported by the SET according to ixit_session_info_query, then Case 2 is not applicable and the test is terminated after Case 1. 6. Start a NI Periodic Triggered Location Session, or a NI Area Event Triggered Location session if Periodic Location sessions are not supported in the SET or in the case that Network Initiated Periodic or Area Event Triggered Location Sessions are not supported in the SET start a SI Periodic Triggered Location Session, or a SI Area Event Triggered Location session if Periodic Location sessions are not supported in the SET,. 7. After the first trigger has occurred and the associated session has completed release the secure IP connection. 8. Send SUPL INIT with: □ Positioning Method set to Session-Info Query 9. The SET sends SUPL REPORT. 10. Send SUPL TRIGGERED STOP with no parameters 11. The SET sends SUPL END in response to the SUPL TRIGGERED STOP and the Triggered Location Session ends. 11a. Send SUPL END to terminate the Session-Info Query session. 12. The SET releases the secure IP connection.
Pass-Criteria	1. At step 3 (if applicable), step 5d (if applicable) and step 11 (if applicable) the SET shall respond with SUPL END. 2. At step 4 (if applicable), step 5f (if applicable) and step 12 (if applicable) the SET shall release the secure IP connection. 3. At step 5b (if applicable) and step 9 (if applicable), the SET shall send SUPL REPORT. Note that if Alternative 2a is run then in this case this complete test case is not applicable and the test is terminated with the message "SUPL-2.0-con-061 is not applicable as the SET releases the secure IP connection after a triggered session and does not support the Session Info Query procedure".

5.1.6.3 SUPL-2.0-con-062 - V-SLP to V-SLP Handover [Includes optional features]

Test Case Id	SUPL-2.0-con-062
Test Object	Client
Test Case Description	To test SET correctly actions V-SLP to V-SLP Handover
Specification Reference	ULP TS 5.1.11, 8, 9, 10
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-033-O,
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: (ics_periodic_Network_initiated AND ics_AGPSSETassisted_Network_initiated) OR (ics_periodic_SET_initiated AND ics_AGPSSETassisted_SET_initiated) ixit: ixit_session_info_query
Test Procedure	Note: This test case is applicable to all SETs that support any location method that at some point causes the SET to send a SUPL POS INIT to the SLP, and that supports any triggered service. This test case has been written for a Periodic Triggered, SET assisted mode Location Session. The case where Periodic Location sessions or a SET assisted mode is not supported in the SET is FFS 1. Start a NI Periodic Triggered Location Session, or a SI Periodic Triggered Location Session if NI Periodic Location sessions are not supported in the SET. 2.In SUPL INIT and/or SUPL TRIGGERED RESPONSE set: - Positioning Method to any SET assisted method that is supported by the SET 3. After the first trigger has occurred and the associated session has completed the SET sends SUPL POS INIT to initiate the second triggered positioning session 4. Send SUPL END with: - Status Code set to No SUPL Coverage 5. The SET sends SUPL TRIGGERED START with: - Session ID set to the same as that sent in SUPL END in step 3 including both SET Session ID and SLP Session ID - Cause Code set to No SUPL Coverage 6. Send SUPL TRIGGERED RESPONSE with the same or similar parameters to those used in step 1. 7. The triggered session continues 8. After the first trigger for the continued session has occurred and the associated session has completed the Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060)
Pass-Criteria	1. At step 5 the SET shall send SUPL TRIGGERED START with:

	Session ID set to the same as that sent in SUPL END in step 3 including both SET Session ID and SLP Session ID Cause Code set to No SUPL Coverage 2. At step 7 the triggered session shall continue successfully

5.1.7 Timer expiration

5.1.7.1 SUPL-2.0-con-070 - Timeout UT2 [Includes optional features]

Test Case Id	SUPL-2.0-con-070
Test Object	Client
Test Case Description	To test SET correctly actions timer UT2
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-007-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_AGPSSETassisted_Network_initiated OR ics_AGPSSETbased_Network_initiated OR [others FFS] AND NOT ics_SUPL_POS_in_SUPL_POS_INIT (Any positioning method requiring a SUPL POS session) Test 2: (ics_AGPSSETassisted_Network_initiated OR ics_AGPSSETbased_Network_initiated OR [others FFS]) AND (ics_periodic_Network_initiated OR ics_event_Network_initiated) AND NOT ics_SUPL_POS_in_SUPL_POS_INIT Test 4: ics_periodic_Network_initiated OR ics_event_Network_initiated ixit: ixit_timer_UT2 ixit_session_info_query
Test Procedure	Test 1: SUPL POS session (Immediate session) [Includes optional features] Test 2: SUPL POS session (Triggered session) [Includes optional features] Test 3: No SUPL POS session (Immediate session) Test 4: No SUPL POS session (Triggered session) [Includes optional features] Test 1: SUPL POS session (Immediate session) [Includes optional features] 1. Start a NI Location Session 2. In SUPL INIT set: Positioning Method to any method that requires a SUPL POS session that is supported by the SET 3. The SET sends SUPL POS INIT

	4. Do not respond 5. After timer UT2 expires (depending on ixit_timer_UT2) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 6. The Location Session ends and the SET releases the secure IP connection. Test 2: SUPL POS session (Triggered session) [Includes optional features] Note: This test case is applicable to SETs that support any location method that requires a SUPL POS session and that supports any triggered service. This test case has been written for four possible alternatives using Periodic or Area Event Triggered sessions, and SET assisted or SET based mode Location Sessions. Only one of these alternative cases needs to be run depending on the ics (and also possibly depending on the choice of the User). **Alternative 1:** Periodic Triggered, SET assisted mode Applicability: (ics_AGPSSETassisted_Network_initiated OR [others FFS]) AND ics_periodic_Network_initiated 7a. Start a NI Periodic Triggered Location Session 8a. In SUPL INIT set: - Positioning Method to any SET assisted method that requires a SUPL POS session that is supported by the SET In SUPL TRIGGERED RESPONSE set: - Positioning Method to any SET assisted method that requires a SUPL POS session that is supported by the SET - Do not set Reporting Mode (equivalent to Real Time Reporting) 9a. When the first periodic trigger occurs the SET sends SUPL POS INIT 10a. Do not respond 11a. (After timer UT2 expires (depending on ixit_timer_UT2) the SET will abandon the SUPL POS session) Note that the SET may release the secure connection at this time. 12a. When the second periodic trigger occurs the SET sends SUPL POS INIT 13a. A SUPL POS session takes place 14a. Send SUPL REPORT with no parameters Note that the SET may release the secure connection at this point. 15a. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060) **Alternative 2:** Periodic Triggered, SET based mode Applicability: (ics_AGPSSETbased_Network_initiated OR [others FFS]) AND ics_periodic_Network_initiated

	7b. Reset any stored Assistance Data in the SET 8b. Start a NI Periodic Triggered Location Session 9b. In SUPL INIT set: - Positioning Method to any SET based method that requires a SUPL POS session that is supported by the SET In SUPL TRIGGERED RESPONSE set: - Positioning Method to any SET based method that requires a SUPL POS session that is supported by the SET - Do not set Reporting Mode (equivalent to Real Time Reporting) 10b. At some time the SET sends SUPL POS INIT to request Assistance Data. 11b. Do not respond 12b. (After timer UT2 expires (depending on ixit_timer_UT2) the SET will abandon the SUPL POS session) Note that the SET may release the secure connection at this time. 13b. At some time the SET may send another SUPL POS INIT to again request Assistance Data, or it may proceed directly to step 16b (using some other positioning method) 14b. A SUPL POS session takes place to only deliver Assistance Data 15b. Send SUPL REPORT with no parameters Note that the SET may release the secure connection at this point. 16b. At some point the SET sends SUPL REPORT with the first position estimate. 17b. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060) **Alternative 3:** Area Event Triggered, SET assisted mode Applicability: (ics_AGPSSETassisted_Network_initiated OR [others FFS]) AND ics_event_Network_initiated 7c. Start a NI Area Event Triggered Location Session using either Geographic Target Area or Area ID. For simplicity of testing use an Area Event Type that will easily generate multiple triggered events such as “Inside” or “Outside”. 8c. In SUPL INIT set: - Positioning Method to any SET assisted method that requires a SUPL POS session that is supported by the SET In SUPL TRIGGERED RESPONSE set: - Positioning Method to any SET assisted method that requires a SUPL POS session that is supported by the SET 9c. At some time the SET sends SUPL POS INIT 10c. Do not respond 11c. (After timer UT2 expires (depending on ixit_timer_UT2) the SET will abandon the SUPL POS session) Note that the SET may release the secure connection at this time. 12c. At some time the SET sends SUPL POS INIT. 13c. A SUPL POS session takes place.

	14c. Send SUPL REPORT with the correctly calculated position. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS "Tokyo 2012" scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. 15c. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060) **Alternative 4:** Area Event Triggered, SET based mode Applicability: (ics_AGPSSETbased_Network_initiated OR [others FFS]) AND ics_event_Network_initiated 7d. Reset any stored Assistance Data in the SET 8d. Start a NI Area Event Triggered Location Session using either Geographic Target Area or Area ID. For simplicity of testing use an Area Event Type that will easily generate multiple triggered events such as "Inside" or "Outside". 9d. In SUPL INIT set: □ Positioning Method to any SET based method that requires a SUPL POS session that is supported by the SET In SUPL TRIGGERED RESPONSE set: □ Positioning Method to any SET based method that requires a SUPL POS session that is supported by the SET 10d. At some time the SET sends SUPL POS INIT to request Assistance Data. 11d. Do not respond 12d. (After timer UT2 expires (depending on ixit_timer_UT2) the SET will abandon the SUPL POS session) Note that the SET may release the secure connection at this time. 13d. At some time the SET may send another SUPL POS INIT to again request Assistance Data, or it may proceed directly to step 16d (using some other positioning method) 14d. A SUPL POS session takes place to only deliver Assistance Data 15d. Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 16d. At some point the SET sends SUPL REPORT with a position estimate. 17d. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060) Test 3: No SUPL POS session (Immediate session) 16. Start a NI Location Session 17. In SUPL INIT set: □ Positioning Method to Enhanced Cell/sector 18. The SET sends SUPL POS INIT 19. Do not respond

	20. After timer UT2 expires (depending on ixit_timer_UT2) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 21. The Location Session ends and the SET releases the secure IP connection. Test 4: No SUPL POS session (Triggered session) [Includes optional features] Note: This test case is applicable to SETs that support any triggered service. This test case has been written for two possible alternatives using Periodic or Area Event Triggered Location Sessions. Only one of these alternative cases needs to be run depending on the ics (and also possibly depending on the choice of the User). **Alternative 1:** Periodic Triggered Applicability: ics_periodic_Network_initiated 22a. Start a NI Periodic Triggered Location Session 23a. In SUPL INIT set: - Positioning Method to Enhanced Cell/sector In SUPL TRIGGERED RESPONSE set: - Positioning Method to Enhanced Cell/sector - Do not set Reporting Mode (equivalent to Real Time Reporting) 24a. When the first periodic trigger occurs the SET sends SUPL POS INIT 25a. Do not respond 26a. (After timer UT2 expires (depending on ixit_timer_UT2) the SET will abandon the individual location session) Note that the SET may release the secure connection at this time. 27a. When the second periodic trigger occurs the SET sends SUPL POS INIT 28a. Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 29a. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060) **Alternative 2:** Area Event Triggered Applicability: ics_event_Network_initiated 22b. Start a NI Area Event Triggered Location Session using either Geographic Target Area or Area ID. For simplicity of testing use an Area Event Type that will easily generate multiple triggered events such as “Inside” or “Outside”. 23b. In SUPL INIT set: - Positioning Method to Enhanced Cell/sector In SUPL TRIGGERED RESPONSE set:

	Positioning Method to Enhanced Cell/sector 24b. At some time the SET sends SUPL POS INIT 25b. Do not respond 26b. (After timer UT2 expires (depending on ixit_timer_UT2) the SET will abandon the individual location session) Note that the SET may release the secure connection at this time. 27b. At some time the SET sends SUPL POS INIT 28b. Send SUPL REPORT with a suitable position. Note that the SET may release the secure connection at this point. 29b. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060)
Pass-Criteria	Test 1 and Test 3: 1. At step 5 and step 20 the SET shall respond with SUPL END with: Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 6 and step 21 the SET shall release the secure IP connection. Test 2: 1. At step 12a or step 12c the SET shall send SUPL POS INIT 2. At step 13b or step 13d the SET shall either send SUPL POS INIT or shall proceed directly to step 16b or step 16d and send SUPL REPORT Test 4: 1. At step 27a or step 27b the SET shall send SUPL POS INIT

5.1.7.2 SUPL-2.0-con-071 - Timeout UT3 [Includes optional features]

Test Case Id	SUPL-2.0-con-071
Test Object	Client
Test Case Description	To test SET correctly actions timer UT3
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-007-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_AGPSSETassisted_Network_initiated OR ics_AGPSSETbased_Network_initiated OR [others FFS] (Any positioning method requiring a SUPL POS session) Test 2: (ics_AGPSSETassisted_Network_initiated OR [others FFS]) AND ics_periodic_Network_initiated ixit: ixit_timer_UT3 ixit_session_info_query

Test Procedure	Test 1: Immediate session Test 2: Triggered session Test 1: Immediate session 1. Start a NI Location Session 2. In SUPL INIT set: - Positioning Method to any method that requires a SUPL POS session that is supported by the SET 3. The SET sends SUPL POS INIT 4. A SUPL POS session takes place 5. After the SET sends the final SUPL POS do not respond 6. After timer UT3 expires (depending on ixit_timer_UT3) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 7. The Location Session ends and the SET releases the secure IP connection. Test 2: Triggered session Note: This test case is applicable to SETs that support any location method that requires a SUPL POS session and that supports any triggered service. This test case has been written for a Periodic Triggered, SET assisted mode Location Session. The case where Periodic Location sessions or a SET assisted mode is not supported in the SET is FFS 8. Start a NI Periodic Triggered Location Session 9. In SUPL INIT set: - Positioning Method to any SET assisted method that requires a SUPL POS session that is supported by the SET In SUPL TRIGGERED RESPONSE set: - Positioning Method to any SET assisted method that requires a SUPL POS session that is supported by the SET - Do not set Reporting Mode (equivalent to Real Time Reporting) 10. When the first periodic trigger occurs the SET sends SUPL POS INIT 11. A SUPL POS session takes place 12. After the SET sends the final SUPL POS do not respond 13. (After timer UT3 expires (depending on ixit_timer_UT3) the SET will continue to the next trigger in the session) Note that the SET may release the secure connection at this time. 14. When the second periodic trigger occurs the SET sends SUPL POS INIT 15. A SUPL POS session takes place 16. Send SUPL REPORT. Note that the SET may release the secure connection at this point. 17. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060)

Pass-Criteria	Test 1: 1. At step 6 the SET shall respond with SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 7 the SET shall release the secure IP connection. Test 2: 1. At step 14 the SET shall send SUPL POS INIT

5.1.7.3 SUPL-2.0-con-072 - Timeout UT5 [Includes optional features]

Test Case Id	SUPL-2.0-con-072
Test Object	Client
Test Case Description	To test SET correctly actions timer UT5
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-007-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_notification_currentLocation ixit: ixit_verification_timeout ixit_timer_UT5
Test Procedure	1. Start a NI Location Session with Notification/Verification based on current location 2. In SUPL INIT set: - Positioning Method to any method supported by the SET that requires a SUPL POS session - Notification Mode to Notification/Verification based on location - Do not use Notification 3. The SUPL POS session completes 4. Send SUPL NOTIFY with: - Notification set to Notification and verification (Allowed on no answer) - Do not use Encoding type, RequestorID and ClientName 5. The user accepts the Location attempt prompt before the internal SET timer expires (defined by ixit_verification_timeout) 6. The SET sends SUPL NOTIFY RESPONSE with: - Notification Response set to allowed 7. Do not respond 8. After timer UT5 expires (depending on ixit_timer_UT5) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified,

	systemFailure or posMethodFailure. 9. The Location Session ends and the SET releases the secure IP connection.
Pass-Criteria	1. At step 8 the SET shall respond with SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 9 the SET shall release the secure IP connection.

5.1.7.4 SUPL-2.0-con-073 - Timeout UT7 [Includes optional features]

Test Case Id	SUPL-2.0-con-073
Test Object	Client
Test Case Description	To test SET correctly actions timer UT7
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-007-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: (ics_periodic_Network_initiated OR ics_event_Network_initiated) AND ics_stop_triggered_session ixit: ixit_timer_UT7
Test Procedure	1. Start a NI Periodic Triggered Location Session, or a NI Area Event Triggered Location session if Periodic Location sessions are not supported in the SET, with Notification set to Notification only in SUPL INIT (so that the User is informed that the Triggered Session is starting). 2. Allow at least the first trigger to occur (either periodic or area event) and at least the first location session to complete 3. From the SET the User stops the Triggered Location Session 4. The SET sends SUPL TRIGGERED STOP 5 Do not respond 6. After timer UT7 expires (depending on ixit_timer_UT7) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 7. The Triggered Location Session ends and the SET releases the secure IP connection.
Pass-Criteria	1. At step 6 the SET shall respond with SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 7 the SET shall release the secure IP connection.

5.1.7.5 SUPL-2.0-con-074 - Timeout UT8 [Includes optional features]

Test Case Id	SUPL-2.0-con-074

Test Object	Client
Test Case Description	To test SET correctly actions timer UT8
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-007-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_periodic_Network_initiated ixit: ixit_timer_UT8
Test Procedure	1. Start a NI Periodic Triggered Location Session [Editor's note: in the "default" Periodic session we need to make sure the total session is as short as possible] 2. Allow all the triggers to occur 3. The SET sends the final SUPL REPORT[Editor's note: we may need to give guidance on how to tell the last SUPL REPORT has been sent] 4 Do not respond 5. After timer UT8 expires (depending on ixit_timer_UT8) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 6. The Triggered Location Session ends and the SET releases the secure IP connection.
Pass-Criteria	1. At step 5 the SET shall respond with SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 6 the SET shall release the secure IP connection.

5.2 Client Conformance: SET Initiated

The Test Cases in this section are applicable for SETs that support any SET Initiated call flows. This particular applicability is not specified in the individual test cases. For definitive applicabilities of test cases see Appendix B.

5.2.1 Common Part of ULP Message, Basic Functionality and Cross Version Compatibility

5.2.1.1 SUPL-2.0-con-100 - Correct Session ID

Test Case Id	SUPL-2.0-con-100
Test Object	Client
Test Case Description	To test SET correctly actions Session ID
Specification Reference	ULP TS 9, 10
SCR Reference	
Tool	SUPL Client Conformance Test Tool

Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:
Test Procedure	1. Case 1, Case 2 and Case3 : Start a SI Location Session 2. The SET sends SUPL START 3. Send SUPL RESPONSE with: □ SLP Session ID set to a valid value with: o SLP ID using the Parameter type: ▪ Case 1: IPAddress, IPv4 ▪ Case 2: IPAddress, IPv6 ▪ Case 3: FQDN 4. The SET sends SUPL POS INIT with: □ Correct full Session ID 5. The Location Session completes successfully
Pass-Criteria	1. At step 4 in each case the SET shall respond with SUPL POS INIT with: □ Correct full Session ID

5.2.1.2 SUPL-2.0-con-101 - Invalid SET Session ID

Test Case Id	SUPL-2.0-con-101
Test Object	Client
Test Case Description	To test SET correctly rejects an invalid SET Session ID
Specification Reference	ULP TS 9, 10
SCR Reference	
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:

Test Procedure	1. Case 1 and Case 2: Start a SI Location Session
	2. The SET sends SUPL START
	3. Send SUPL RESPONSE with:
	- Case 1: In SET Session ID set:
	  - Session ID to an invalid value (i.e. set Session ID to a different value from that received from the SET)
	- Case 2: In SET Session ID set:
	  - SET ID to an invalid value (i.e. set SET ID to a different value or a different parameter type from that received from the SET)
	4. The SET responds with SUPL END with:
	- The invalid Session ID in the SUPL END Common Part
	- Status Code set to invalidSessionID.
	Note that between Cases, in order to return to a "known state" for the next Case, the Conformance Test Tool ends the Location Session and releases the secure IP connection.

Pass-Criteria	1. At step 4 in both cases, the SET shall respond with SUPL END with: - The invalid Session ID in the SUPL END Common Part Status Code set to invalidSessionID.

5.2.1.3 SUPL-2.0-con-102 - Invalid SLP Session ID

Test Case Id	SUPL-2.0-con-102
Test Object	Client
Test Case Description	To test SET correctly rejects an invalid SLP Session ID
Specification Reference	ULP TS 9, 10
SCR Reference	
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:

Test Procedure	1. Case 1 and Case 2: Start a SI Location Session 2. The SET sends SUPL START 3. Send SUPL RESPONSE with: - Positioning Method set to: o Any method supported by the SET that requires a SUPL POS session (e.g. A-GPS SET Assisted) 4. The SET sends SUPL POS INIT 5. Send SUPL POS with: - Case 1: In SLP Session ID set: o Session ID to an invalid value (i.e. set Session ID to a different value from that used in the SUPL RESPONSE message) - Case 2: In SLP Session ID set: o SLP ID to an invalid value (i.e. set SET ID to a different value or a different parameter type from that used in the SUPL RESPONSE message) 6. The SET responds with SUPL END with: - The invalid Session ID in the SUPL END Common Part - Status Code set to invalidSessionID. Note that between Cases, in order to return to a "known state" for the next Case, the Conformance Test Tool ends the Location Session and releases the secure IP connection.
Pass-Criteria	1. At step 6 in both cases, the SET shall respond with SUPL END with: - The invalid Session ID in the SUPL END Common Part Status Code set to invalidSessionID.

5.2.1.4 SUPL-2.0-con-103 - Compatible versions

Test Case Id	SUPL-2.0-con-103
Test Object	Client
Test Case Description	To test SET correctly accepts compatible Version numbers in SUPL messages
Specification Reference	ULP TS 7,9,10
SCR Reference	ULP-PRO-C-009-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 2: ics_SETInitiated AND ixit_SUPLV2.X > 0

Test Procedure	Test 1: Support for higher versions of SUPL 2.X.X Test 2: Support for lower versions of SUPL 2.X.X Test 1: Support for higher versions of SUPL 2.X.X 1. Start a SI Location Session 2. In the Common Part of all messages set: - Version to: o Maj set to 2 o Min set to a higher value than that supported by the SET o Serv ind set to a higher value than that supported by the SET 3. The SET sends SUPL START 4. Send SUPL RESPONSE with Version set as in step 2. 5. The SET sends SUPL POS INIT with: - In the Common Part, Version set to: o Maj set to 2 o Min set to 0 or correct version supported by the SET o Serv ind set to 2 or correct version supported by the SET 6. The Location Session completes successfully. Test 2: Support for lower versions of SUPL 2.X.X. Only applicable if there exists SUPL V2.X where X>0 7. Repeat Test 1 with following change at step 2: In the Common Part of all messages set: - Version to: o Maj set to 2 o Min set to a lower values than the maximum value supported by the SET o Serv ind set to a lower values than the maximum value supported by the SET
Pass-Criteria	Test 1 and 2: 1. 1. At step 5 the SET shall respond with SUPL POS INIT with: - In the Common Part, Version set to: o Maj set to 2 o Min set to 0 or correct version supported by the SET o Serv ind set to 2 or correct version supported by the SET

5.2.2 Single sessions

5.2.2.1 SUPL-2.0-con-110 - Positioning method [Includes optional features]

Test Case Id	SUPL-2.0-con-110
Test Object	Client

Test Case Description	To test SET correctly actions single session Positioning method
Specification Reference	ULP TS 5.2.1, 8, 9
SCR Reference	ULP-PRO-C-009-O, ULP-PRO-C-011-M, ULP-PRO-C-012-O, ULP-PRO-C-013-O, ULP-PRO-C-014-O, ULP-PRO-C-015-O, ULP-PRO-C-016-O, ULP-PRO-C-018-O, ULP-PRO-C-020
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_AGPSSETassisted_SET_initiated Test 2: ics_AGPSSETbased_SET_initiated Test 3: ics_autonomousGPS_SET_initiated Test 6: ics_AGANSSSETassisted_Galileo_SET_initiated Test 7: ics_AGANSSSETassisted_GLONASS_SET_initiated Test 8: ics_AGANSSSETbased_Galileo_SET_initiated Test 9: ics_AGANSSSETbased_GLONASS_SET_initiated Test 10: ics_autonomousGANSS_SET_initiated Test 11: ics_AGNSSSETassisted_preferred Test 12: ics_AGNSSSETbased_preferred Test 13: ics_OTDOA_SET_initiated Test 14: ics_ecidlpp_SET_initiated Test 15: ics_AGANSSSETassisted_GLONASS_SET_initiated AND ics_AGPSSETassisted_SET_initiated Test 16: ics_AGPSSETbased_SET_initiated AND ics_AGANSSSETbased_GLONASS_SET_initiated Test 17: ics_AGANSSSETassisted_BDS_SET_initiated Test 18: ics_AGANSSSETbased_BDS_SET_initiated Test 19: ics_AGANSSSETassisted_BDS_SET_initiated AND ics_AGPSSETassisted_SET_initiated Test 20: ics_AGPSSETbased_SET_initiated AND ics_AGANSSSETbased_BDS_SET_initiated Test 21: ics _IWLAN_SET_initiated ixit: Test 10, Test 11,Test 12: ixit_gANSS
Test Procedure	Test 1: A-GPS SET assisted [Includes optional features] Test 2: A-GPS SET based [Includes optional features] Test 3: Autonomous GPS [Includes optional features] Test 4: Void Test 5: Cell ID - Cellular Test 6: A-GANSS SET assisted –Galileo [Includes optional features] Test 7: A-GANSS SET assisted –GLONASS [Includes optional features] Test 8: A-GANSS SET based –Galileo [Includes optional features] Test 9: A-GANSS SET based –GLONASS [Includes optional features] Test 10: Autonomous GANSS [Includes optional features] Test 11: SET declares A-GNSS SET-assisted Preferred method [Includes

	optional features] Test 12: SET declares A-GNSS SET-based Preferred method [Includes optional features] Test 13: OTDOA [Includes optional features] Test 14: Enhanced Cell ID using LPP [Includes optional features] Test 15: A-GANSS SET assisted –GPS and GLONASS [Includes optional features] Test 16: A-GANSS SET based –GPS and GLONASS [Includes optional features] Test 17: A-GANSS SET assisted –Beidou [Includes optional features] Test 18: A-GANSS SET based –Beidou [Includes optional features] Test 19: A-GANSS SET assisted –GPS and Beidou [Includes optional features] Test 20: A-GANSS SET based –GPS and Beidou [Includes optional features] Test 21: Cell ID – WLAN AP [Includes optional features] 1. All tests: start a SI Location Session 2. The SET sends SUPL START with: • SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics 3. Send SUPL RESPONSE with: • Positioning Method set to the value specified in the table below • GNSS Positioning Technology set to the value specified in the table below 4. The SET sends SUPL POS INIT with: • SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics Test 5: • Location ID, Cell Info mandatory parameters set to the correct values depending on the cellular technology used (for GSM: MCC, MNC, LAC, CI; for WCDMA: MCC, MNC, UC-ID; for LTE: CellGlobalIdEUTRA, PhysCellId, TrackingAreaCode) Test 21: • Location ID, Cell Info, WLAN AP Info mandatory parameter (AP MAC Address) set to the correct value 5. Test 5, Test 21: send SUPL END with: • Position set to a realistic position for the SET. 6. All tests except Test 5, Test 21: • A SUPL POS session takes place and completes successfully using the Positioning Method defined by the test case. In the case of Test 2, Test 8, Test 9, Test 11 the SUPL POS session takes place to only deliver Assistance Data. Test 3,Test 10and Test 14: • No Assistance Data is sent. Test 10: One of Galileo or GLONASS or Beidou can be used depending on the technology supported by the SET and declared in ixit_gANSS. Test 11: • If A-GPS is supported by the SET then A-GPS SET based is used. Otherwise A-GANSS SET based is used. The GANSS used can be

	one of Galileo or GLONASS or Beidou depending on the technology supported by the SET and declared in ixit_gANSS Test 12: - If A-GPS is supported by the SET then A-GPS SET assisted is used. Otherwise A-GANSS SET assisted is used. The GANSS used can be one of Galileo or GLONASS or Beidou depending on the technology supported by the SET and declared in ixit_gANSS. Test 14: - LPP is used within the SUPL POS session 7. Test 2, Test 3, Test 8, Test 9, Test 10 and Test 11: send SUPL END 8. Test 1, Test 6, Test 7, Test 12,Test 13 and Test 14: send SUPL END with: - Position set to a realistic position for the SET. 9. All tests: the SET releases the secure IP connection. Note: Repeat for all Positioning technologies supported by the SET as declared in the ics
Pass-Criteria	All tests: 1. At step 2 the SET shall send SUPL START with: - SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics 2. At step 4 the SET shall send SUPL POS INIT with: - SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics Test 5: - Location ID, Cell Info mandatory parameters set to the correct values depending on the cellular technology used Test 21: - Location ID, Cell Info, WLAN AP Info mandatory parameter (AP MAC Address) set to the correct value All tests except Test 5 and Test 21: 3. At step 6 a SUPL POS session shall take place and shall complete successfully using the Positioning Method defined sby the test case. Test 10: one of Galileo or GLONASS or Beidou shall be used depending on the technology supported by the SET and declared in ixit_gANSS. Test 11: If A-GPS is supported by the SET then A-GPS SET based shall be used. Otherwise A-GANSS SET based shall be used. The GANSS used can be one of Galileo or GLONASS or Beidou depending on the technology supported by the SET and declared in ixit_gANSS. Test 12: If A-GPS is supported by the SET then A-GPS SET assisted shall be used. Otherwise A-GANSS SET assisted shall be used. The GANSS used can be one of Galileo or GLONASS or Beidou depending on the technology supported by the SET and declared in ixit_gANSS. Test 13: OTDOA shall be used.

Test #	**Value of Positioning Method**	**Value of GNSS Positioning Technology**
Test 1	A-GPS SET assisted only	Not set
Test 2	A-GPS SET based only	Not set

Test 3	Autonomous GPS	Not set
Test 4	Void	
Test 5	Enhanced Cell / sector	Not set
Test 6	A-GNSS SET assisted only	Galileo
Test 7	A-GNSS SET assisted only	GLONASS
Test 8	A-GNSS SET based only	Galileo
Test 9	A-GNSS SET based only	GLONASS
Test 10	Autonomous GNSS	Not set
Test 11	If A-GPS is supported by the SET then A-GPS SET based only. Otherwise A-GANSS SET based only	Not set or Galileo or GLONASS or Beidou
Test 12	If A-GPS is supported by the SET then A-GPS SET assisted only. Otherwise A-GANSS SET assisted only.	Not set or Galileo or GLONASS or Beidou
Test 13	OTDOA	Not set
Test 14	Enhanced Cell / sector	Not set
Test 15	Hybrid A-GPS and A-GLONASS SET assisted	GPS and GLONASS
Test 16	Hybrid A-GPS and A-GLONASS SET based	GPS and GLONASS
Test 17	A-GNSS SET assisted only	Beidou
Test 18	A-GNSS SET based only	Beidou
Test 19	Hybrid A-GPS and A-Beidou SET assisted	GPS and Beidou
Test 20	Hybrid A-GPS and A-Beidou SET based	GPS and Beidou
Test 21	Enhanced Cell / sector	Not set

Table 5: Positioning Method and GNSS Positioning Technology

5.2.2.2 SUPL-2.0-con-111 - SET Initiated Location Request of another SET [Includes optional features]

Test Case Id	SUPL-2.0-con-111
Test Object	Client
Test Case Description	To test SET correctly supports SET Initiated Location Request of another SET
Specification Reference	ULP TS 5.2.7
SCR Reference	ULP-PRO-C-038-O
Tool	SUPL Client Conformance Test Tool

Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_silr_another_SET ixit: ixit_timer_UT9
Test Procedure	1. Start a SI Location Request of another SET 2. The SET sends SUPL SET INIT 3 Wait for approximately 90% of timer UT9 (depending on ixit_timer_UT9). During this time the SET does not release the secure IP connection 4. Send SUPL END with: Position set to some suitable value. 5. The Session ends and the SET releases the secure IP connection. 6. The SET displays the received position
Pass-Criteria	1. At step 3 the SET shall not release the secure IP connection 2. At step 5 the SET shall release the secure IP connection. 3. At step 6 the SET shall display the received position

5.2.2.3 SUPL-2.0-con-113 - Transfer Location to Third Party [Includes optional features]

Note that this test case only tests Transfer Location to Third Party in the case of A-GPS SET based positioning method. In the case of all other positioning methods, Transfer Location to Third Party is considered trivial and is not tested.

Test Case Id	SUPL-2.0-con-113
Test Object	Client
Test Case Description	To test SET correctly actions Transfer Location to Third Party
Specification Reference	ULP TS 5.2.15, 8.1.6.2
SCR Reference	ULP-PRO-C-040-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: ics_transfer_thirdParty AND ics_AGPSSETbased_SET_initiated
Test Procedure	1. Start a SI Location Session 2. The SET sends SUPL START with: SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics Third Party ID in Third Party set to a valid value 3. Send SUPL RESPONSE with: Positioning Method set to A-GPS SET based only

	4. The SET sends SUPL POS INIT 6. A SUPL POS session takes place and completes successfully using: • Either in the case of RRLP: Measure Position Request / Measure Position Response messages • Or in the case of RRC: Measurement Control / Measurement Response messages • Or in the case of LPP: RequestLocationInformation / ProvideLocationInformation messages 7. The SET returns its position in either Measure Position Response (RRLP), Measurement Response (RRC) or ProvideLocationInformation (LPP) 8. Send SUPL END
Pass-Criteria	1. At step 2 the SET shall send SUPL START with: • SET capabilities parameter consistent with the Positioning technologies supported by the SET as declared in the ics • Third Party ID in Third Party set to a valid value 2. At step 6 a SUPL POS session shall take place and shall complete successfully using: • Either in the case of RRLP: Measure Position Request / Measure Position Response messages • Or in the case of RRC: Measurement Control / Measurement Response messages • Or in the case of LPP: RequestLocationInformation / ProvideLocationInformation messages 3. At step 7 the SET shall return its position in either Measure Position Response (RRLP), Measurement Response (RRC) or ProvideLocationInformation (LPP)

5.2.3 Triggered Services: Periodic Triggers

5.2.3.1 SUPL-2.0-con-120 - Periodic reporting [Includes optional features]

Test Case Id	SUPL-2.0-con-120
Test Object	Client
Test Case Description	To test SET correctly performs Periodic reporting
Specification Reference	ULP TS 5.1.7
SCR Reference	ULP-PRO-C-032-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_periodic_SET_initiated AND ics_AGPSSETassisted_SET_initiated Test 2: ics_periodic_SET_initiated AND ics_AGPSSETbased_SET_initiated
Test Procedure	Test 1: A-GPS SET assisted Test 2: A-GPS SET based

	Test 1: A-GPS SET assisted: 1. Start a SI Periodic Location Session with the following values set in the application running on the SET or otherwise: - Number of Fixes: 50 - Interval Between Fixes: 60 seconds or equal to the minimum interval between fixes supported by the SET if greater than 60 seconds - Start Time: 30 seconds [Editors note: these values are just place-holders, we may wish to change these values after further study] 2. The SET sends SUPL TRIGGERED START with: - Trigger Type set to Periodic - Details of the Reporting Capability parameter consistent with the known reporting capabilities supported by the SET. - If the SET sends the Services Capabilities parameter in the SET Capabilities then the details of the Services Supported and the Reporting Capabilities parameters are consistent with the known reporting capabilities supported by the SET. 3. Send SUPL TRIGGERED RESPONSE with: Positioning Method set to A-GPS SET assisted. Note that the SET may release the secure connection at this point. 4. After approximately 30 seconds (set by Start Time) the SET responds with SUPL POS INIT and a SUPL POS session takes place 5. The SUPL POS Session completes successfully 6. Send SUPL REPORT with a realistic position estimate. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS “Tokyo 2012” scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. 7. The SET displays the received position estimate 8. After approximately 60 seconds after the SET sends SUPL POS INIT in step 4 (set by Interval Between Fixes) the SET responds with SUPL POS INIT and a SUPL POS session takes place 9. The SUPL POS Session completes successfully 10. Send SUPL REPORT with a realistic position estimate. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS “Tokyo 2012” scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. 11. The SET displays the received position estimate 12. Repeat steps 8 through 11 until the remaining number of fixes (set by Number of Fixes) have been sent and displayed. 13. The SET sends SUPL END Test 2: A-GPS SET based: 14. Start a SI Periodic Location Session with the following values set in the application running on the SET or otherwise: - Number of Fixes: 50 - Interval Between Fixes: 60 seconds or equal to the minimum

	interval between fixes supported by the SET if greater than 60 seconds - Start Time: 30 seconds [Editors note: these values are just place-holders, we may wish to change these values after further study] 15. The SET sends SUPL TRIGGERED START with: - Trigger Type set to Periodic - The details of the Reporting Capability parameter consistent with the known reporting capabilities supported by the SET. - If the SET sends the Services Capabilities parameter in the SET Capabilities then the details of the Services Supported and the Reporting Capabilities parameters are consistent with the known reporting capabilities supported by the SET. 16. Send SUPL TRIGGERED RESPONSE with: - Positioning Method set to A-GPS SET based. Note that the SET may release the secure connection at this point. Note that at any time during the following procedure when the SET is required to make a position estimate, if the SET requires Assistance Data: - The SET responds with SUPL POS INIT - A SUPL POS session takes place to only deliver Assistance Data - Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 17. After approximately 30 seconds (set by Start Time) the SET makes a position estimate 18. The SET displays a position estimate 19. After approximately 60 seconds (set by Interval Between Fixes) the SET makes a position estimate 20. The SET displays a position estimate 21. Steps 19 and 20 are repeated until the remaining number of fixes (set by Number of Fixes) have been displayed. 22. The SET sends SUPL END
Pass-Criteria	1. At step 2 and step 15: - The Trigger Type shall be set to Periodic - The details of the Reporting Capability parameter shall be consistent with the known Reporting capabilities supported by the SET. - If the SET sends the Services Capabilities parameter in the SET Capabilities then the details of the Services Supported and the Reporting Capabilities parameters shall be consistent with the known reporting capabilities supported by the SET. Test 1: 2. At step 5 and step 9 the SUPL POS Session shall complete successfully 3. At step 7 and step 11 the SET shall display the received position estimate the requested number of times 4. At step 13 the SET shall send SUPL END Test 2: 5. At step 18 and step 20 the SET shall display a position estimate the

	requested number of times 6. At step 22 the SET shall send SUPL END

5.2.4 Triggered Services: Area Event Triggers

5.2.4.1 SUPL-2.0-con-130 - Geographic Target Area [Includes optional features]

Test Case Id	SUPL-2.0-con-130
Test Object	Client
Test Case Description	To test SET correctly performs Area Event reporting using Geographic Target Area
Specification Reference	ULP TS 5.2.9
SCR Reference	ULP-PRO-C-033-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_event_SET_initiated AND ics_GeoTargetArea AND ics_AGPSSETassisted_SET_initiated Test 2: ics_event_SET_initiated AND ics_GeoTargetArea AND ics_AGPSSETbased_SET_initiated ixit: ixit_start_time_SI_areaEvent ixit_stop_time_SI_areaEvent ixit_session_info_query
Test Procedure	Test 1: A-GPS SET assisted Test 2: A-GPS SET based Case 1: Entering event type Case 2: Inside event type Case 3: Outside event type Case 4: Leaving event type Details of GPS scenarios to be used and figures showing locations to aid understanding of test cases: Case 1: Entering event type Simulate a moving GPS scenario starting at latitude 35.744287 degrees North, longitude 139.698201 degrees East and ending at latitude 35.744287 degrees North, longitude 139.680176 degrees East, moving with a speed of 8 m/s

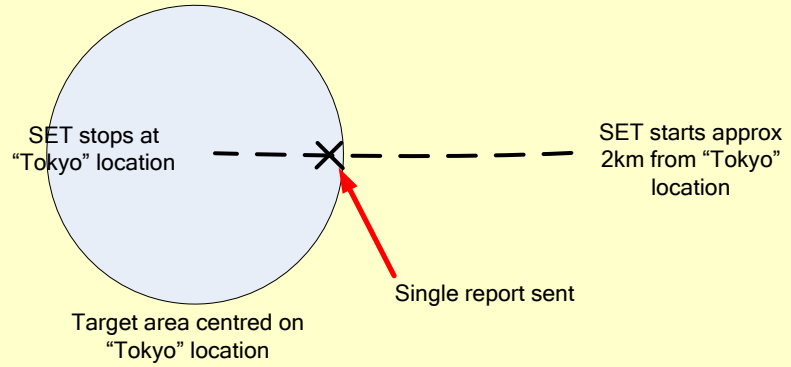


Figure 1: Case 1: SET enters area

Case 2: Inside event type

Use the static GPS “Tokyo 2012” scenario specified in [3GPP TS 37.571-5]

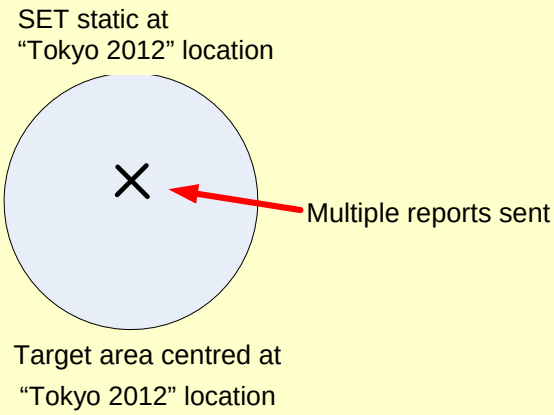


Figure 2: Case 2: SET is inside area

Case 3: Outside event type

Use the static GPS “Tokyo 2012” scenario specified in [3GPP TS 37.571-5]

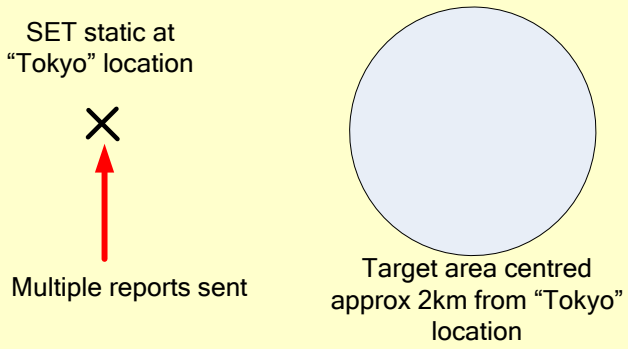


Figure 3: Case 3: SET is outside area

Case 4: Leaving event type Simulate a moving GPS scenario starting at latitude 35.744287 degrees North, longitude 139.698201 degrees East and ending at latitude 35.744287 degrees North, longitude 139.680176 degrees East, moving with a speed of 8 m/s

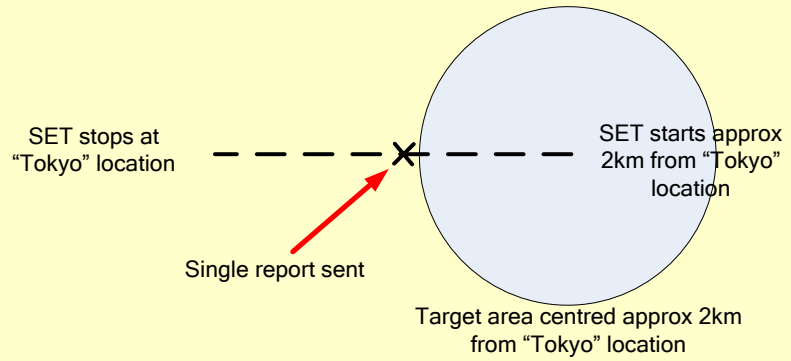


Figure 4: Case 4: SET leaves area

Test 1: A-GPS SET assisted:

1. Start a SI Area Event Triggered Session with the following values set in the application running on the SET or otherwise:
   - Area Event Type:
     - Case 1: Entering event type
     - Case 2: Inside event type
     - Case 3: Outside event type
     - Case 4: Leaving event type
   - Repeated reporting
     - Minimum Interval Time: 60 seconds
     - Maximum Number of Reports: 6
   - Start Time: If supported (depending on ixit_start_time_SI_areaEvent): 30 seconds
   - Stop Time: If supported (depending on ixit_stop_time_SI_areaEvent): 240 seconds
   - Geographic Target Area List with:
     - Geographic Target Area set to:
       - Circular with:

         Case #1, Case #2:
         - Coordinate set to:
           - latitude set to: 35.744287 degrees North
           - longitude set to: 139.680176 degrees East
         - Radius set to: 1000 meters
         - Radius-min radius and Radius-max radius not set or set to 1 meter

         Note that this is an area centred on the coordinates of the GPS “Tokyo 2012” scenario specified in [3GPP TS 37.571-5]

         Case #3, Case #4:
         - Coordinate set to:
           - latitude set to: 35.744287 degrees North

	o longitude set to: 139.698201 degrees East • Radius set to: 1000 meters • Radius-min radius and Radius-max radius not set or set to 1 meter Note that this is an area centred approximately 2km from the coordinates of the GPS “Tokyo 2012” scenario specified in [3GPP TS 37.571-5] □ Area Id Lists not set 2. The SET sends SUPL TRIGGERED START with: □ Trigger Type set to Area Event □ If the SET sends the Service Capabilities parameter in the SET Capabilities then the details of the Services Supported and the Event Trigger Capabilities parameters are consistent with the known trigger capabilities supported by the SET. 3. Send SUPL TRIGGERED RESPONSE with: □ Positioning Method set to A-GPS SET assisted. □ Trigger Params not set Note that the SET may release the secure connection at this point. 4. At any time the following sequence occurs, and may occur more than once: □ The SET responds with SUPL POS INIT and a SUPL POS session takes place □ The SUPL POS Session completes successfully □ Send SUPL REPORT with the correctly calculated position Note that the SET may release the secure connection at this point. 5. After at least 30 seconds (set by Start Time) after step 2, or immediately after step 4 if Start Time is not supported (depending on ixit_start_time_SI_areaEvent): Case 1: The SET does not immediately display the position estimate as Entering event has not been met. Note however that the SET will eventually respond as described in step 7. Case 2: The SET displays the position estimate sent in the SUPL REPORT in step 4 as Inside event has been met Case 3: The SET displays the position estimate sent in the SUPL REPORT in step 4 as Outside event has been met Case 4: The SET does not immediately display the position estimate as Leaving event has not been met. Note however that the SET will eventually respond as described in step 7. 6. Until step 8 is reached, the following sequence takes place repeatedly: □ The SET responds with SUPL POS INIT and a SUPL POS session takes place □ The SUPL POS Session completes successfully □ Send SUPL REPORT with the correctly calculated position. Note that the SET may release the secure connection at this point. 7. Case 1: After one of these sequences the SET displays the position estimate as Entering event has been met. At other times the SET does not display the position estimate as Entering event has not been met. Case 2: At intervals of at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET

	displays the position estimate as Inside event has been met Case 3: At intervals of at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET displays the position estimate as Outside event has been met Case 4: After one of these sequences the SET displays the position estimate as Leaving event has been met. At other times the SET does not display the position estimate as Leaving event has not been met. 8. If Stop Time is supported (depending on ixit_stop_time_SI_areaEvent), approximately 240 seconds (set by Stop Time) after step 2 the SET sends SUPL END with: o Status Code set to sessionStopped. Note that this step may occur inside a SUPL POS session, in which case the SUPL POS session will then be abandoned. If Stop Time is not supported: Case 1 and Case 4: 240 seconds after step 2 send SUPL TRIGGERED STOP (to terminate the test) (see note in SUPL-2.0-con-060) Case 2 and Case 3: At intervals of at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET displays the remaining number of position estimates (the total number set by Maximum Number of Reports), and then the SET sends SUPL END Test 2: A-GPS SET based: 9. Repeat step 1 through step 3, but at step 2 set: □ Positioning Method to A-GPS SET based 10. At any time during the following part of the test when the SET is required to make a position estimate, if the SET requires Assistance Data, then: □ The SET responds with SUPL POS INIT □ A SUPL POS session takes place to only deliver Assistance Data and completes successfully □ Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 11. After at least 30 seconds (set by Start Time) after step 2, or immediately after step 3 if Start Time is not supported (depending on ixit_start_time_SI_areaEvent): Case 1: The SET does not immediately display a position estimate as Entering event has not been met. Note however that the SET will eventually respond as described in step 12. Case 2: The SET displays a position estimate as Inside event has been met Case 3: The SET displays a position estimate as Outside event has been met Case 4: The SET does not immediately display a position estimate as Leaving event has not been met. Note however that the SET will eventually respond as described in step 12. 12. Until step 13 is reached: Case 1: At one time the SET displays a position estimate as Entering event has been met. The remainder of the time the SET does not display a position estimate as Entering event has not been met. Case 2: At intervals of at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET

	displays a position estimate as Inside event has been met Case 3: At intervals of at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET displays a position estimate as Outside event has been met Case 4: At one time the SET displays a position estimate as Leaving event has been met. The remainder of the time the SET does not display a position estimate as Leaving event has not been met. 13. If Stop Time is supported (depending on ixit_stop_time_SI_areaEvent), approximately 240 seconds (set by Stop Time) after step 2. the SET sends SUPL END with: o Status Code set to sessionStopped Note that this step may occur inside a SUPL POS session, in which case the SUPL POS session will then be abandoned. If Stop Time is not supported: Case 1 and Case 4: 240 seconds after step 2 send SUPL TRIGGERED STOP (to terminate the test) (see note in SUPL-2.0-con-060) Case 2 and Case 3: At intervals of at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET displays the remaining number of position estimates (the total number set by Maximum Number of Reports), and then the SET sends SUPL END
Pass-Criteria	1. At step 2: □ The Trigger Type shall be set to Area Event □ If the SET sends the Service Capabilities parameter in the SET Capabilities then the details of the Services Supported and the Event Trigger Capabilities parameters shall be consistent with the known trigger capabilities supported by the SET. Test 1: 2. At step 4 and step 6 the SUPL POS Sessions shall complete successfully 3. At step 5: Case 1 and Case 4: The SET shall not display the position estimate Case 2 and Case 3: The SET shall display the position estimate after at least 30 seconds after step 2 or immediately after step 3 if Start Time is not supported 4: At step 7: Case 1 and Case 4: After one of these sequences the SET shall display the position estimate. After the others of these sequences the SET shall not display the position estimate. Case 2 and Case 3: After some of these sequences the SET shall display the position estimate at intervals of at least 60 seconds after the display of the previous position estimate. 5. At step 8: If Stop Time is supported the SET shall send SUPL END with : o Status Code set to sessionStopped. If Stop Time is not supported: Case 1 and Case 4: No requirement Case 2 and Case 3: At intervals of at least 60 seconds after the display of the previous position estimate, the SET shall display the remaining number of position estimates and then the SET shall send SUPL END Test 2:

	6. At step 11: Case 1 and Case 4: The SET shall not display the position estimate Case 2 and Case 3: The SET shall display a position estimate after at least 30 seconds after step 2 or immediately after step 3 if Start Time is not supported 7: At step 12: Case 1 and Case 4: At one time the SET shall display a position estimate. The remainder of the time the SET shall not display a position estimate. Case 2 and Case 3: At intervals of at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET shall display a position estimate. 8. At step 13: If Stop Time is supported the SET shall send SUPL END with: o Status Code set to sessionStopped. approximately 240 seconds after step 2. If Stop Time is not supported: Case 1 and Case 4: No requirement Case 2 and Case 3: At intervals of at least 60 seconds after the display of the previous position estimate, the SET shall display the remaining number of position estimates and then the SET shall send SUPL END

5.2.4.2 SUPL-2.0-con-131 - Area ID [Includes optional features]

Note: This test case tests the case where the SET initiates the session using a Geographic Target Area and the SLP then converts this into an Area Id. The session then continues using this Area Id supplied by the SLP. Note that this test case requires that the SET supports both Geographic Target Area and Area Id

The use of Area Id initially supplied by the SET seems to be allowed by the SUPL TS, however no Use Case for this feature can be imagined, and so no test case is provided.

Test Case Id	SUPL-2.0-con-131
Test Object	Client
Test Case Description	To test SET correctly performs Area Event reporting using Area ID generated by the SLP
Specification Reference	ULP TS 5.2.9
SCR Reference	ULP-PRO-C-033-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_event_SET_initiated AND ics_GeoTargetArea AND ics_AreaId AND ics_AGPSSETassisted_SET_initiated Test 2: ics_event_SET_initiated AND ics_GeoTargetArea AND ics_AreaId AND ics_AGPSSETbased_SET_initiated ixit: ixit_start_time_SI_areaEvent ixit_stop_time_SI_areaEvent ixit_session_info_query
Test Procedure	Test 1: A-GPS SET assisted

Test 2: A-GPS SET based

Case 1: Entering event type

Case 2: Inside event type

Case 3: Outside event type

Case 4: Leaving event type

Details of GPS scenario and cellular scenarios to be used and figures showing locations to aid understanding of test cases:

In all cases use the static GPS “Tokyo 2012” scenario specified in [3GPP TS 37.571-5]

In cases 1 and 2 the SET specifies the “Tokyo 2012” Geographical target area and the SLP converts this into the Cell ID that is normally used for testing and returns it to the SET in the target Area ID List.

In cases 3 and 4 the SET specifies a Geographical target area adjacent to the “Tokyo 2012” Geographical target area and the SLP converts this into the Cell ID that is normally used for testing and returns it to the SET in the target Area ID List.

Case 1: Entering event type

The SET camps on a GSM, WCDMA or LTE Cell ID that is not normally used for testing and that is not present in Area ID list. The SET then handsover to the cell that is normally used for testing and that is present in the Area ID List. A single report is then sent using the GPS “Tokyo 2012” scenario.

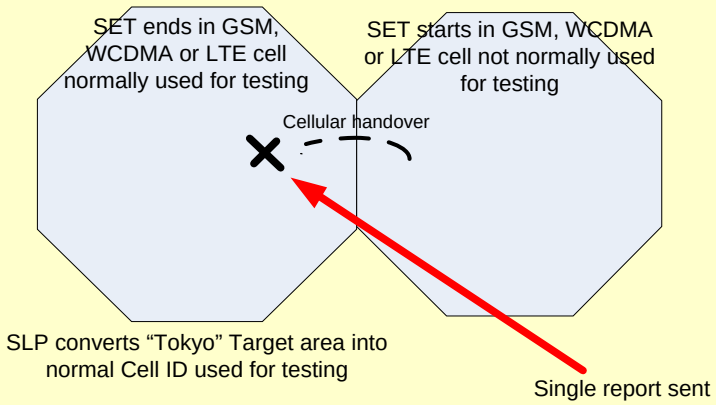


Figure 1: Case 1: SET enters area

Case 2: Inside event type

The SET camps on the GSM, WCDMA or LTE Cell ID that is normally used for testing and that is present in the Area ID list. Multiple reports are then sent using the GPS “Tokyo 2012” scenario.

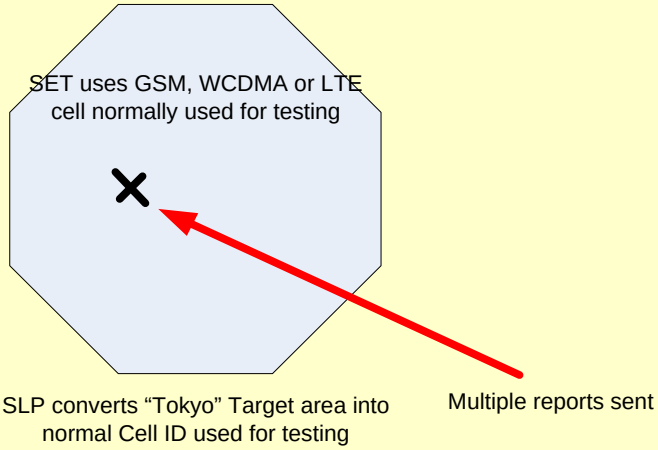


Figure 2: Case 2: SET is inside area

Case 3: Outside event type

The SET camps on a GSM, WCDMA or LTE Cell ID that is not normally used for testing and that is not present in Area ID list.

The cell that is normally used for testing is present in the Area ID List. Multiple reports are then sent using the GPS “Tokyo 2012” scenario.

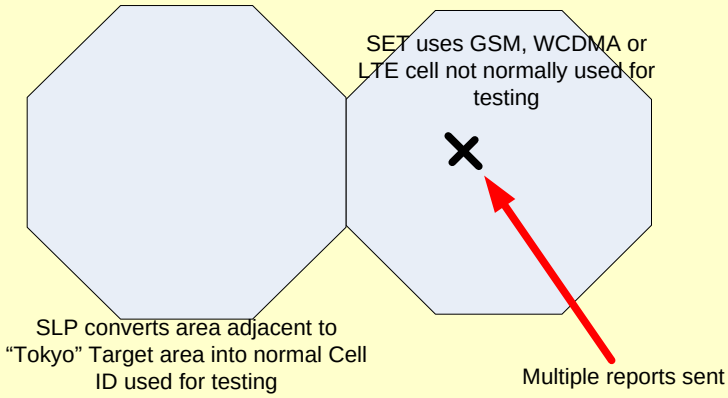


Figure 3: Case 3: SET is outside area

Case 4: Leaving event type

The SET camps on the GSM, WCDMA or LTE Cell ID that is normally used for testing and that is present in Area ID list. The SET then handsover to a cell that is not normally used for testing and that is not present in the Area ID List. A single report is then sent using the GPS “Tokyo 2012” scenario.

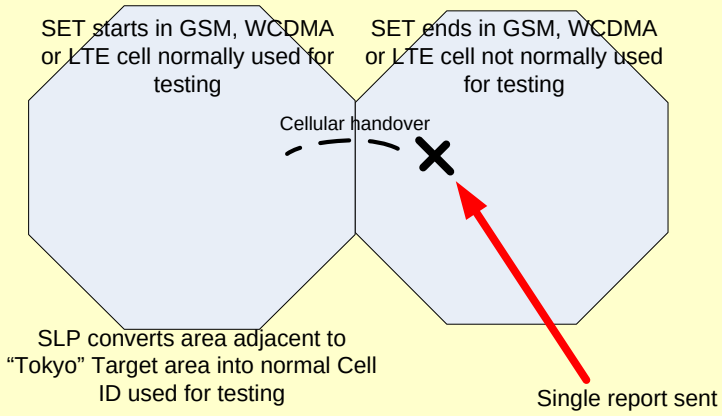


Figure 4: Case 4: SET leaves area

Test 1: A-GPS SET assisted:

1. Start a SI Area Event Triggered Session with the following values set in the application running on the SET or otherwise:
   - Area Event Type:
     - Case 1: Entering event type
     - Case 2: Inside event type
     - Case 3: Outside event type
     - Case 4: Leaving event type
   - Repeated reporting
     - Minimum Interval Time: 60 seconds
     - Maximum Number of Reports: 4
   - Start Time: If supported (depending on ixit_start_time_SI_areaEvent): 30 seconds
   - Stop Time: If supported (depending on ixit_stop_time_SI_areaEvent):
     - Case 1 and Case 4: 240 seconds
     - Case 2 and Case 3: 120 seconds
   - Geographic Target Area List with:
     - Geographic Target Area set to:
       - Circular with:
         - Coordinate set to:
           - latitude set to: 35.744287 degrees North
           - longitude set to: Case 1 and Case 2: 139.680176 degrees East, Case 3 and Case 4: 139.698201 degrees East
         - Radius set to: 1000 meters
         - Radius-min radius and Radius-max radius not set or set to 1 meter

       Note that for cases 1 and 2 this is an area centred on the coordinates of the GPS "Tokyo 2012" scenario specified in [3GPP

	TS 37.571-5] and for cases 3 and 4 this is an area centred approximately 2km from the coordinates of the GPS "Tokyo 2012" scenario specified in [3GPP TS 37.571-5] - Area Id Lists not set 2. The SET sends SUPL TRIGGERED START with: - Trigger Type set to Area Event - If the SET sends the Service Capabilities parameter in the SET Capabilities then the details of the Services Supported and the Event Trigger Capabilities parameters are consistent with the known trigger capabilities supported by the SET. 3. Send SUPL TRIGGERED RESPONSE with: - Positioning Method set to A-GPS SET assisted. - Trigger Params set to Area Event Params with: o Area Event Type: ▪ Case 1: Entering event type ▪ Case 2: Inside event type ▪ Case 3: Outside event type ▪ Case 4: Leaving event type o Location estimate: True o Repeated reporting not set o Geographic Target Area List not set o Area Id List with: ▪ Area Id Set set to one of the following, depending on the technology being used for testing: • GSM Area Id with: Mobile Country Code, Mobile Network Code, Location Area Code and Cell Global Identity set to the values normally used during testing with GSM • WCDMA Area Id with: Mobile Country Code, Mobile Network Code, Location Area Code and Cell Identity set to the values normally used during testing with WCDMA • LTE Area Id with: Mobile Country Code, Mobile Network Code and Cell ID set to the values normally used during testing with LTE ▪ Area Id Set Type and Geographic Area Mapping List not set Note that the SET may release the secure connection at this point. 4. At some time: Case 2 and Case 3: The following sequence occurs, and may occur more than once: - The SET responds with SUPL POS INIT and a SUPL POS session takes place - The SUPL POS Session completes successfully - Send SUPL REPORT with the correctly calculated position. Note that as there is no requirement on the accuracy of this

	position, this position can simply be the coordinates of the GPS “Tokyo 2012” scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. Case 1 and Case 4: - Case 1: The SET does not respond as Entering event has not been met. - Case 4: The SET does not respond as Leaving event has not been met 5. After at least 30 seconds (set by Start Time) after step 2, or immediately after step 4 if Start Time is not supported (depending on ixit_start_time_SI_areaEvent): - Case 2: The SET displays the position estimate sent in the SUPL REPORT in step 4 as Inside event has been met - Case 3: The SET displays the position estimate sent in the SUPL REPORT in step 4 as Outside event has been met 6. At some time: Case 2 and Case 3: The following sequence occurs, and may occur more than once: - The SET responds with SUPL POS INIT and a SUPL POS session takes place - The SUPL POS Session completes successfully - Send SUPL REPORT with the correctly calculated position. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS “Tokyo 2012” scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. Case 1 and Case 4: - Case 1: The SET does not respond as Entering event has not been met. - Case 4: The SET does not respond as Leaving event has not been met 7. After at least 60 seconds (set by Minimum Interval Time) after step 5: - Case 2: The SET displays the position estimate sent in the SUPL REPORT in step 6 as Inside event has been met - Case 3: The SET displays the position estimate sent in the SUPL REPORT in step 6 as Outside event has been met 8. Case 2 and Case 3: If Stop Time is supported (depending on ixit_stop_time_SI_areaEvent), approximately 120 seconds (set by Stop Time) after step 2 the SET sends SUPL END with: o Status Code set to sessionStopped. Note that this step may occur inside a SUPL POS session, in which case the SUPL POS session will then be abandoned. Note that one or more sequences as detailed below may take place before this occurs. If Stop Time is not supported the following sequence takes place repeatedly until the SET has displayed the remaining number of position estimates (the total number set by Maximum Number of Reports), and

	then the SET sends SUPL END At some time: - The SET responds with SUPL POS INIT and a SUPL POS session takes place - The SUPL POS Session completes successfully - Send SUPL REPORT with the correctly calculated position. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS "Tokyo 2012" scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. Case 2: After at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET displays the position estimate sent in the SUPL REPORT in step 8 as Inside event has been met Case 3: After at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET displays the position estimate sent in the SUPL REPORT in step 8 as Outside event has been met 9. Case 1 and Case 4 120 seconds after step 2: Case 1: force a cellular handover to the GSM, WCDMA or LTE Cell ID that is normally used for testing. Case 4: force a cellular handover to a GSM, WCDMA or LTE Cell ID that is not normally used for testing. 10. Case 1 and Case 4 At some time: - The SET responds with SUPL POS INIT and a SUPL POS session takes place - The SUPL POS Session completes successfully - Send SUPL REPORT with the correctly calculated position. Note that as there is no requirement on the accuracy of this position, this position can simply be the coordinates of the GPS "Tokyo 2012" scenario, i.e. latitude 35.744287 degrees North, longitude 139.680176 degrees East. Note that the SET may release the secure connection at this point. 11. Case 1 and Case 4 Case 1: The SET displays the position estimate sent in the SUPL REPORT in step 10 as Entering event has been met. Case 4: The SET displays the position estimate sent in the SUPL REPORT in step 10 as Leaving event has been met. 12. Case 1 and Case 4 If Stop Time is supported (depending on ixit_stop_time_SI_areaEvent), approximately 240 seconds (set by Stop Time) after step 2 the SET sends SUPL END with: o Status Code set to sessionStopped. If Stop Time is not supported, 240 seconds after step 2 send SUPL TRIGGERED STOP (to terminate the test) (see note in SUPL-2.0-con-060) Test 2: A-GPS SET based:

	13. Repeat step 1 through step 3, but at step 3 set: - Positioning Method to A-GPS SET based 14. At any time during the following part of the test when the SET is required to make a position estimate, if the SET requires Assistance Data, then: - The SET responds with SUPL POS INIT - A SUPL POS session takes place to only deliver Assistance Data and completes successfully - Send SUPL REPORT with no parameters. Note that the SET may release the secure connection at this point. 15. After at least 30 seconds (set by Start Time) after step 2, or immediately after step 3 if Start Time is not supported (depending on ixit_start_time_SI_areaEvent): - Case 1: The SET does not respond as Entering event has not been met. - Case 2: The SET displays a position estimate as Inside event has been met - Case 3: The SET displays a position estimate as Outside event has been met - Case 4: The SET does not respond as Leaving event has not been met 16. After at least 60 seconds (set by Minimum Interval Time) after step 15: - Case 1: The SET does not respond as Entering event has not been met. - Case 2: The SET displays a position estimate as Inside event has been met - Case 3: The SET displays a position estimate as Outside event has been met - Case 4: The SET does not respond as Leaving event has not been met 17. Case 2 and Case 3: If Stop Time is supported (depending on ixit_stop_time_SI_areaEvent), approximately 120 seconds (set by Stop Time) after step 2 the SET sends SUPL END with: o Status Code set to sessionStopped. Note that this step may occur inside a SUPL POS session, in which case the SUPL POS session will then be abandoned. Note that one more display of a position estimate as detailed below may take place before this occurs. If Stop Time is not supported the following takes place repeatedly until the SET has displayed the remaining number of position estimates (the total number set by Maximum Number of Reports), and then the SET sends SUPL END Case 2: After at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET displays a position estimate as Inside event has been met Case 3: After at least 60 seconds (set by Minimum Interval Time) after the display of the previous position estimate, the SET displays a position estimate as Outside event has been met 18. Case 1 and Case 4:

	120 seconds after step 3: Case 1: force a cellular handover to the GSM, WCDMA or LTE Cell ID that is normally used for testing. Case 4: force a cellular handover to a GSM, WCDMA or LTE Cell ID that is not normally used for testing. 19. Case 1 and Case 4 Case 1: The SET displays a position estimate as Entering event has been met. Case 4: The SET displays a position estimate as Leaving event has been met. 20. Case 1 and Case 4 If Stop Time is supported (depending on ixit_stop_time_SI_areaEvent), approximately 240 seconds (set by Stop Time) after step 2 the SET sends SUPL END with: o Status Code set to sessionStopped. If Stop Time is not supported, 240 seconds after step 2 send SUPL TRIGGERED STOP (to terminate the test) (see note in SUPL-2.0-con-060)
Pass-Criteria	1. At step 2: - The Trigger Type shall be set to Area Event - If the SET sends the Service Capabilities parameter in the SET Capabilities then the details of the Services Supported and the Event Trigger Capabilities parameters shall be consistent with the known trigger capabilities supported by the SET. Test 1: 2. At step 4: Case 2 and Case 3 the SET shall respond with SUPL POS INIT and a SUPL POS session shall take place and complete successfully. Case 1 and Case 4 the SET shall not respond 3. At step 5: Case 2 and Case 3 the SET shall display the position estimate after at least 30 seconds after step 2 or immediately after step 4 if Start Time is not supported 4. At step 6: Case 2 and Case 3 the SET shall respond with SUPL POS INIT and a SUPL POS session shall take place and complete successfully. Case 1 and Case 4 the SET shall not respond 5. At step 7: Case 2 and Case 3 the SET shall display the position estimate after at least 60 seconds after step 5 6. At step 8: Case 2 and Case 3: If Stop Time is supported the SET shall send SUPL END with: o Status Code set to sessionStopped. If Stop Time is not supported the following shall take place repeatedly until the SET has displayed the remaining number of position estimates, and then the SET shall send SUPL END - The SET shall respond with SUPL POS INIT and a SUPL POS session shall take place and complete successfully. After at least 60 seconds after the display of the previous position estimate, the SET shall display the position estimate 7. At step 10: Case 1 and Case 4 the SET shall respond with SUPL POS INIT and a SUPL POS session shall take place and complete successfully 8. At step 11: Case 1 and Case 4 the SET shall display the position

	estimate 9. At step 12: Case 1 and Case 4 if Stop Time is supported, the SET shall send SUPL END with: o Status Code set to sessionStopped. Test 2: 10. At step 15: Case 1 and Case 4: The SET shall not display a position estimate. Case 2 and Case 3 The SET shall display a position estimate after at least 30 seconds after step 2 or immediately after step 3 if Start Time is not supported 11. At step 16: Case 1 and Case 4 the SET shall not respond Case 2 and Case 3 the SET shall display a position estimate after at least 60 seconds after step 15 12. At step 17: Case 2 and Case 3: If Stop Time is supported the SET shall send SUPL END with: o Status Code set to sessionStopped. If Stop Time is not supported the following shall take place repeatedly until the SET has displayed the remaining number of position estimates, and then the SET shall send SUPL END After at least 60 seconds after the display of the previous position estimate, the SET shall display a position estimate 13: At step 19: Case 1 and Case 4 The SET shall display a position estimate. 14. At step 20: Case 1 and Case 4 if Stop Time is supported, the SET shall send SUPL END with: o Status Code set to sessionStopped.

5.2.5 Triggered Services: Other Scenarios

5.2.5.1 SUPL-2.0-con-135 - Network cancels Triggered Location Request [Includes optional features].

Note: This test case is covered by SUPL-2.0-con-061.

5.2.6 Timer expiration

5.2.6.1 SUPL-2.0-con-140 - Timeout UT1

Test Case Id	SUPL-2.0-con-140
Test Object	Client
Test Case Description	To test SET correctly actions timer UT1
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-009-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case

Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 2: ics_periodic_SET_initiated OR ics_event_SET_initiated ixit: ixit_timer_UT1
Test Procedure	Test 1: Immediate session Test 2: Triggered session [Includes Optional Features] Test 1: Immediate session 1. Start a SI Location Session. 2. The SET sends SUPL START 3. Do not respond 4. After timer UT1 expires (depending on ixit_timer_UT1) the SET sends SUPL END with - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 5. The Location Session ends and the SET releases the secure IP connection. Test 2: Triggered session [Includes Optional Features] 6. Start a SI Periodic Triggered Location Session, or a SI Area Event Triggered Location session if Periodic Location sessions are not supported in the SET. 7. The SET sends SUPL TRIGGERED START 8. Do not respond 9. After timer UT1 expires (depending on ixit_timer_UT1) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 10. The Location Session ends and the SET releases the secure IP connection.
Pass-Criteria	1. At step 4 and step 9 the SET shall respond with SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 5 and step 10 the SET shall release the secure IP connection.

5.2.6.2 SUPL-2.0-con-141 - Timeout UT2

Test Case Id	SUPL-2.0-con-141
Test Object	Client
Test Case Description	To test SET correctly actions timer UT2
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-009-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State:

	Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_AGPSSETassisted_SET_initiated OR ics_AGPSSETbased_SET_initiated OR [others FFS] AND NOT ics_SUPL_POS_in_SUPL_POS_INIT (Any positioning method requiring a SUPL POS session) Test 2: (ics_AGPSSETassisted_SET_initiated OR [others FFS]) AND ics_periodic_SET_initiated AND NOT ics_SUPL_POS_in_SUPL_POS_INIT Test 4: ics_periodic_SET_initiated ixit: ixit_timer_UT2 ixit_session_info_query
Test Procedure	Test 1: SUPL POS session (Immediate session) [Includes optional features] Test 2: SUPL POS session (Triggered session) [Includes optional features] Test 3: No SUPL POS session (Immediate session) Test 4: No SUPL POS session (Triggered session) [Includes optional features] Test 1: SUPL POS session (Immediate session) [Includes optional features] 1. Start a SI Location Session 2. The SET sends SUPL START 3. Send SUPL RESPONSE with: - Positioning Method set to any method that requires a SUPL POS session that is supported by the SET 4. The SET sends SUPL POS INIT 5. Do not respond 6. After timer UT2 expires (depending on ixit_timer_UT2) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 7. The Location Session ends and the SET releases the secure IP connection. Test 2: SUPL POS session (Triggered session) [Includes optional features] Note: This test case is applicable to SETs that support any location method that requires a SUPL POS session and that supports any triggered service. This test case has been written for a Periodic Triggered, SET assisted mode Location Session. The case where Periodic Location sessions or a SET assisted mode is not supported in the SET is FFS 8. Start a SI Periodic Triggered Location Session 9. The SET sends SUPL TRIGGERED START 10. Send SUPL TRIGGERED RESPONSE with: - Positioning Method set to any SET assisted method that

	requires a SUPL POS session that is supported by the SET 11. When the first periodic trigger occurs the SET sends SUPL POS INIT 12. Do not respond 13. (After timer UT2 expires (depending on ixit_timer_UT2) the SET will abandon the SUPL POS session) Note that the SET may release the secure connection at this time. 14. When the second periodic trigger occurs the SET sends SUPL POS INIT 15. A SUPL POS session takes place 16. Send SUPL REPORT. Note that the SET may release the secure connection at this point. 17. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060) Test 3: No SUPL POS session (Immediate session) 18. Start a SI Location Session 19. The SET sends SUPL START 20. Send SUPL RESPONSE with: □ Positioning Method set to Enhanced Cell/sector 21. The SET sends SUPL POS INIT 22. Do not respond 23. After timer UT2 expires (depending on ixit_timer_UT2) the SET sends SUPL END with: □ Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 24. The Location Session ends and the SET releases the secure IP connection. Test 4: No SUPL POS session (Triggered session) [Includes optional features] Note: This test case is applicable to SETs that support any triggered service. This test case has been written for a Periodic Triggered Location Session. The case where Periodic Location sessions is not supported in the SET is FFS 25. Start a SI Periodic Triggered Location Session 26. The SET sends SUPL TRIGGERED START 27. Send SUPL TRIGGERED RESPONSE with: □ Positioning Method set to Enhanced Cell/sector 28. When the first periodic trigger occurs the SET sends SUPL POS INIT 29. Do not respond 30. (After timer UT2 expires (depending on ixit_timer_UT2) the SET will abandon the individual location session) 31. When the second periodic trigger occurs the SET sends SUPL POS INIT 32. Send SUPL REPORT. Note that the SET may release the secure connection at this point.

	33. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060)
Pass-Criteria	Test 1 and Test 3: 1. At step 6 and step 23 the SET shall respond with SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 7 and step 24 the SET shall release the secure IP connection. Test 2 and Test 4: 3. At step 14 and step 31 the SET shall send SUPL POS INIT

5.2.6.3 SUPL-2.0-con-142 - Timeout UT3 [Includes optional features]

Test Case Id	SUPL-2.0-con-142
Test Object	Client
Test Case Description	To test SET correctly actions timer UT3
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-009-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_AGPSSETassisted_SET_initiated OR ics_AGPSSETbased_SET_initiated OR [others FFS] (Any positioning method requiring a SUPL POS session) Test 2: (ics_AGPSSETassisted_SET_initiated OR [others FFS]) AND ics_periodic_SET_initiated ixit: ixit_timer_UT3 ixit_session_info_query
Test Procedure	Test 1: Immediate session Test 2: Triggered session Test 1: Immediate session 1. Start a SI Location Session 2. The SET sends SUPL START 3. Send SUPL RESPONSE with: - Positioning Method set to any method that requires a SUPL POS session that is supported by the SET 4. The SET sends SUPL POS INIT 5. A SUPL POS session takes place

	6. After the SET sends the final SUPL POS do not respond 7. After timer UT3 expires (depending on ixit_timer_UT3) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 8. The Location Session ends and the SET releases the secure IP connection. Test 2: Triggered session Note: This test case is applicable to SETs that support any location method that requires a SUPL POS session and that supports any triggered service. This test case has been written for a Periodic Triggered, SET assisted mode Location Session. The case where Periodic Location sessions or a SET assisted mode is not supported in the SET is FFS 9. Start a SI Periodic Triggered Location Session 10. The SET sends SUPL TRIGGERED START 11. Send SUPL TRIGGERED RESPONSE with: - Positioning Method set to any SET assisted method that requires a SUPL POS session that is supported by the SET 12. When the first periodic trigger occurs the SET sends SUPL POS INIT 13. A SUPL POS session takes place 14. After the SET sends the final SUPL POS do not respond 15. (After timer UT3 expires (depending on ixit_timer_UT3) the SET will continue to the next trigger in the session) Note that the SET may release the secure connection at this time. 16. When the second periodic trigger occurs the SET sends SUPL POS INIT 17. A SUPL POS session takes place 18. Send SUPL REPORT. Note that the SET may release the secure connection at this point. 19. The Triggered Location Session can be allowed to continue, or send SUPL TRIGGERED STOP to terminate the session (see note in SUPL-2.0-con-060)
Pass-Criteria	Test 1: 1. At step 7 the SET shall respond with SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 8 the SET shall release the secure IP connection. Test 2: 3. At step 16 the SET shall send SUPL POS INIT

5.2.6.4 SUPL-2.0-con-143 - Timeout UT7 [Includes optional features]

Note: If Test Case SUPL-2.0-con-073 - Timeout UT7 (Network Initiated) is run, then this test case is not required as it tests the same feature. This test case is only included in case Network Initiated Triggered sessions are not supported, but SET Initiated Triggered sessions are supported

Test Case Id	SUPL-2.0-con-143

Test Object	Client
Test Case Description	To test SET correctly actions timer UT7
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-009-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: (ics_periodic_SET_initiated OR ics_event_SET_initiated) AND NOT (ics_periodic_Network_initiated OR ics_event_Network_initiated) ixit: ixit_timer_UT7
Test Procedure	1. Start a SI Periodic Triggered Location Session, or a SI Area Event Triggered Location session if Periodic Location sessions are not supported in the SET. 2. Allow the first trigger to occur (either periodic or area event) and the first location session to complete 3. From the SET stop the Triggered Location Session 4. The SET sends SUPL TRIGGERED STOP 5 Do not respond 6. After timer UT7 expires (depending on ixit_timer_UT7) the SET sends SUPL END with: Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 7. The Triggered Location Session ends and the SET releases the secure IP connection.
Pass-Criteria	1. At step 6 the SET shall respond with SUPL END with: Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 7 the SET shall release the secure IP connection.

5.2.6.5 SUPL-2.0-con-144 - Timeout UT9 [Includes optional features].

Test Case Id	SUPL-2.0-con-144
Test Object	Client
Test Case Description	To test SET correctly actions timer UT9
Specification Reference	ULP TS Appendix D
SCR Reference	ULP-PRO-C-009-O
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability:

	ics_silr_another_SET ixit: ixit_timer_UT9
Test Procedure	1. Start a SI Location Request of another SET 2. The SET sends SUPL SET INIT 3 Do not respond 4. After timer UT9 expires (depending on ixit_timer_UT9) the SET sends SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 5. The Session ends and the SET releases the secure IP connection.
Pass-Criteria	1. At step 4 the SET shall respond with SUPL END with: - Status Code not sent or set to any of: unspecified, systemFailure or posMethodFailure. 2. At step 5 the SET shall release the secure IP connection.

5.3 Client Conformance Testing: Common

The Test Cases in this section are applicable for all SETs but they only require to be run once in either a Network Initiated or a SET Initiated call flow.

5.3.1 Basic Functionality

5.3.1.1 SUPL-2.0-con-007 - Alternative H-SLP Addresses [Includes optional features]

Test Case Id	SUPL-2.0-con-007
Test Object	Client
Test Case Description	To test SET correctly generates and uses the correct H-SLP address
Specification Reference	ULP TS 6.2
SCR Reference	
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_HSLP_stored_in_UICC OR NOT (ics_HSLP_stored_in_SET AND ics_PSK_TLS) Test 2: (ics_HSLP_stored_in_SET AND ics_PSK_TLS) OR NOT ics_HSLP_stored_in_UICC
Test Procedure	Test 1: H-SLP address stored on UICC [Includes optional features] Test 2: H-SLP address stored on SET [Includes optional features] Test 3: Auto configuration of H-SLP address Test 4: Auto configuration of H-SLP address following authentication failure: Test 5: Clearing of old H-SLP address following change of IMSI: Test 1: H-SLP address stored on UICC [Includes optional features]:

	1. Ensure there is an H-SLP address stored on the UICC Test 2: H-SLP address stored on SET [Includes optional features]: 2. Ensure there is no H-SLP address stored on the UICC, and ensure there is an H-SLP address stored on the SET Test 3: Auto configuration of H-SLP address: 3. Ensure there is no H-SLP address stored on either the UICC or on the SET Test 4: Auto configuration of H-SLP address following authentication failure: 4. Ensure there is an H-SLP address stored on either the UICC or on the SET Test 5: Clearing of old H-SLP address following change of IMSI: 5. Ensure there is no H-SLP address stored on the SET Tests 1, 2 and 3: 6. Start a NI Location Session or a SI Location Session if NI Location Session is not supported in the SET. 7. The SET establishes a secure IP connection using: □ Test 1: The H-SLP address provisioned in the UICC □ Test 2: PSK-TLS and using the H-SLP address provisioned on the SET □ Test 3: The H-SLP address generated from the IMSI stored on the UICC 8. The Location Session completes successfully. Test 4: 9. Start a NI Location Session or a SI Location Session if NI Location Session is not supported in the SET. 10. The SET attempts to establish a secure IP connection 11. Send an invalid server certificate to the SET resulting in an authentication failure. 12. The SET establishes a secure IP connection using: □ The H-SLP address generated from the IMSI stored in the UICC 13. The Location Session completes successfully. Test 5: 14. Start a NI Location Session or a SI Location Session if NI Location Session is not supported in the SET. 15. The SET establishes a secure IP connection 16. Record the H-SLP address used. 17. The Location Session completes successfully. 18. Power down the SET 19. Insert a new UICC into the SET with a different MNC and, or MCC. If the H-SLP address is stored in the UICC, then the new UICC must have a different H-SLP address from the original one. 20. Start a NI Location Session or a SI Location Session if a SI Location Session was used in step 14. 21. The SET establishes a secure IP connection using:

	The H-SLP address stored on the new UICC or generated from the new IMSI stored in the UICC 22. The Location Session completes successfully.
Pass-Criteria	Test 1, 2 and 3: 1. At step 7 the SET shall establish a secure IP connection using: Test 1: The H-SLP address provisioned in the UICC Test 2: PSK-TLS and using the H-SLP address provisioned on the SET Test 3: The H-SLP address generated from the IMSI stored on the UICC 2. At step 8 the Location Session shall complete successfully. Test 4: 3. At step 12 the SET shall establish a secure IP connection using: The H-SLP address generated from the IMSI stored in the UICC 4. At step 13 the Location Session shall complete successfully. Test 5: 5. At step 21 the SET shall establish a secure IP connection using: The H-SLP address stored on the new UICC or generated from the new IMSI stored in the UICC 6. At step 22 the Location Session shall complete successfully.

5.3.1.2 SUPL-2.0-con-008 - Optional Ciphering Suites [Includes optional features]

Test Case Id	SUPL-2.0-con-008
Test Object	Client
Test Case Description	To test SET correctly uses optional ciphering suites
Specification Reference	ULP TS 6.3
SCR Reference	
Tool	SUPL Client Conformance Test Tool
Test code	Validated test code for this test case
Preconditions	State: Continuation of / Can be tested at the same time as: Prerequisite for this test: Applicability: Test 1: ics_TLS_add_cipher Test 2: ics_PSKTLS_add_cipher

Test Procedure	Test 1: TLS_RSA_WITH_3DES_EDE_CBC_SHA Test 2: TLS_PSK_WITH_3DES_EDE_CBC_SHA 1. Configure the Conformance Test Tool to use: □ Test 1: TLS_RSA_WITH_3DES_EDE_CBC_SHA □ Test 2: TLS_PSK_WITH_3DES_EDE_CBC_SHA 2. Start a NI Location Session or a SI Location Session if NI Location Session is not supported in the SET. 3. The SET establishes a secure IP connection using : □ Test 1: TLS_RSA_WITH_3DES_EDE_CBC_SHA □ Test 2: TLS_PSK_WITH_3DES_EDE_CBC_SHA 4. The Location Session completes successfully.
Pass-Criteria	Test 1 and 2: 1. At step 3 the SET shall establish a secure IP connection using: □ Test 1: TLS_RSA_WITH_3DES_EDE_CBC_SHA □ Test 2: TLS_PSK_WITH_3DES_EDE_CBC_SHA 2. At step 4 the Location Session shall complete successfully.

6. SUPL Server Conformance Test Cases

6.1 SUPL Server Conformance: Network Initiated

None

6.2 SUPL Server Conformance: SET Initiated

None

7. SUPL Interoperability Test Cases

7.1 SUPL Interoperability: Network Initiated

The following Network Initiated SUPL 1.0 test cases from [SUPL 1.0 ETS] test features that have not changed since SUPL 1.0. Where indicated these test cases (and features) have been tested sufficiently in various TestFests and therefore these test cases do not require retesting for SUPL 2.0.2. In addition most of the features indicated will be tested implicitly in some of the new test cases for SUPL 2.0.2. Where the test cases have not been run during SUPL 1.0 TestFests, they may be considered for SUPL 2.0.2 testing

SUPL 2.0 ETR reference	SUPL 1.0 Test Case	Tested in SUPL 1.0 TestFests
NB1: Basic Network Initiated flows – Proxy mode NB2: Basic Network Initiated flows – Non-Proxy mode NPP: Negotiation of Positioning method, Proxy mode and Protocol	SUPL-1.0-int-000 - Cell ID	Yes
	SUPL-1.0-int-200 - SET-assisted A-GPS	Yes
	SUPL-1.0-int-201 - SET-based A-GPS	Yes
	SUPL-1.0-int-202 - Autonomous GPS	Yes
	SUPL-1.0-int-203 - AFLT	No
	SUPL-1.0-int-204 - Enhanced Cell ID	No
	SUPL-1.0-int-205 - E-OTD	No
	SUPL-1.0-int-206 - OTDOA	No
ACA: Alternative Client Authentication (ACA) Mechanisms - ACA Procedures	SUPL-1.0-int-010 - Alternative authentication model for GSM/WCDMA	Yes
QOP: QoP ALT: Altitude	SUPL-1.0-int-210 - Horizontal accuracy	Yes
	SUPL-1.0-int-211 - Response time	Yes
	SUPL-1.0-int-212 - Vertical accuracy (Altitude), Best Effort	Yes
	SUPL-1.0-int-213 - Vertical accuracy (Altitude), Assured	Yes
	SUPL-1.0-int-214 - Horizontal Accuracy, Best Effort	Yes
	SUPL-1.0-int-215 - Horizontal Accuracy, Assured	Yes
	SUPL-1.0-int-217 - Max location age, current position returned	Yes
	SUPL-1.0-int-220 - Position fulfils requested QoP	Yes
	SUPL-1.0-int-221 - Position does not fulfil requested QoP	Yes
VEL: Velocity	SUPL-1.0-int-240 - SET-based A-GPS	Yes
	SUPL-1.0-int-241 - SET-assisted A-GPS	Yes
NB: Notification and Verification	SUPL-1.0-int-250 - Notification only	Yes
	SUPL-1.0-int-251 - Notification and Verification Allowed on No Answer, SET User Answers and Accepts	Yes
	SUPL-1.0-int-252 - Notification and Verification Allowed on No Answer, SET User answers and Rejects	Yes
	SUPL-1.0-int-253 - Notification and Verification Allowed on No Answer, SET User does not answer, which means Accept	Yes
	SUPL-1.0-int-254 - Notification and Verification Denied on No Answer, SET User answers and Accepts	Yes

	SUPL-1.0-int-255 - Notification and Verification Denied on No Answer, SET User answers and Rejects	Yes
	SUPL-1.0-int-256 - Notification and Verification Denied on No Answer, SET User does not answer, which means Reject	Yes
	SUPL-1.0-int-257 - Privacy Override	Yes
	SUPL-1.0-int-258 - Requestor Id	Yes
	SUPL-1.0-int-259 - Client Name	Yes

7.1.1 SUPL-2.0-int-001 - SET-assisted A-GANSS [Includes optional features]

Test Case Id	SUPL-2.0-int-001
Test Object	H-SLP and SET
Test Case Description	To test SET-assisted A-GANSS positioning method when SET is not roaming.
Specification Reference	TS-ULP 5.1.1, TS-ULP 9, AD 5.3.2.1, AD 5.3.2.2, AD 5.3.2.3
SCR Reference	ULP-PRO-S-017-O, ULP-PRO-C-015-O
ETR Reference	NPP - Negotiation of Positioning method, Proxy mode and Protocol NB1 – Basic Network Initiated Flows – Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • GNSS-simulator State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP is configured to use the SET-assisted GANSS positioning method. The GANSS or GANSSs to be used depend on the SET capabilities and the available GANSS signals. • The H-SLP is configured to indicate no notification and no verification to the SET user. Note this test case is intended to test GANSS systems e.g. Galileo, SBAS, Modernized GPS, QZSS, GLONASS, Beidou and not GPS Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The network resident MLS application requests the current position of the SET 2. The H-SLP initiates a location session with the SET. 3. The H-SLP and the SET complete a secure positioning session using the selected positioning method or methods 4. The H-SLP returns position and timestamp to the SUPL Agent, which in turn returns position and timestamp to the network resident MLS application.

Pass-Criteria	1. Check that correct positioning method is used and that relevant signalling between H-SLP and SET is sent over a secure IP connection. 2. Check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.1.2 SUPL-2.0-int-002 - SET-based A-GANSS [Includes optional features]

Test Case Id	SUPL-2.0-int-002
Test Object	H-SLP and SET
Test Case Description	To test SET-based A-GANSS positioning method when SET is not roaming.
Specification Reference	TS-ULP 5.1.1, TS-ULP 9, AD 5.3.2.1, AD 5.3.2.2, AD 5.3.2.3
SCR Reference	ULP-PRO-S-018-O, ULP-PRO-C-016-O
ETR Reference	NPP - Negotiation of Positioning method, Proxy mode and Protocol NB1 – Basic Network Initiated Flows – Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with either GSM, WCDMA or LTE access network or combination thereof. • GNSS-simulator State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP is configured to use the SET-based GANSS positioning method. The GANSS or GANSSs to be used depend on the SET capabilities and the available GANSS signals. • The H-SLP is configured to indicate no notification and no verification to the SET user. Note this test case is intended to test GANSS systems e.g. Galileo, SBAS, Modemized GPS, QZSS, GLONASS, Beidou and not GPS Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The network resident MLS application requests the current position of the SET 2. The H-SLP initiates a location session with the SET. 3. The H-SLP and the SET complete a secure positioning session using the selected positioning method or methods 4. The H-SLP returns position and timestamp to the SUPL Agent, which in turn returns position and timestamp to the network resident MLS application.
Pass-Criteria	1. Check that correct positioning method is used and that relevant signalling between H-SLP and SET is sent over a secure IP connection. 2. Check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.1.3 SUPL-2.0-int-003 - Autonomous GANSS [Includes optional features]

Test Case Id	SUPL-2.0-int-003
Test Object	H-SLP and SET
Test Case Description	To test Autonomous GANSS positioning method when SET is not roaming.
Specification Reference	TS-ULP 5.1.1, TS-ULP 9, AD 5.3.2.1, AD 5.3.2.2, AD 5.3.2.3
SCR Reference	ULP-PRO-S-016-O, ULP-PRO-C-014-O
ETR Reference	NPP - Negotiation of Positioning method, Proxy mode and Protocol NB1 – Basic Network Initiated Flows – Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • GNSS-simulator State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation. • The H-SLP is configured to use the Autonomous GANSS positioning method. The GANSS or GANSSs to be used depend on the SET capabilities and the available GANSS signals. • The H-SLP is configured to indicate no notification and no verification to the SET user. Note this test case is intended to test GANSS systems e.g. Galileo, SBAS, Modemized GPS, QZSS, GLONASS, Beidou and not A-GPS Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The network resident MLS application requests the current position of the SET 2. The H-SLP initiates a location session with the SET. 3. The H-SLP and the SET complete a secure positioning session using the selected positioning method or methods and including a SUPL POS session with no Assistance Data 4. The H-SLP returns position and timestamp to the SUPL Agent, which in turn returns position and timestamp to the network resident MLS application.
Pass-Criteria	1. Check that correct positioning method is used and that relevant signalling between H-SLP and SET is sent over a secure IP connection. This shall include a SUPL POS session with no Assistance Data. 2. Check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.1.4 SUPL-2.0-int-004 - Emergency Services: Successful Case

Test Case Id	SUPL-2.0-int-004
Test Object	E-SLP and SET

Test Case Description	To test Network Initiated Emergency Services Proxy-Mode in case emergency services location request
Specification Reference	TS-ULP 5.1.15.1
SCR Reference	ULP-PRO-S-036-M, ULP-PRO-C-034-M
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 MLS Client, 1 SET, 1 E-SLP, 1 PPG, 1 SMS-C, Home PLMN with either GSM, WCDMA or LTE access network or combination thereof. • Equipment for CDMA implementations: o 1 MLS Client, 1 SET, 1 E-SLP, Home PLMN with CDMA access network. • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to the tester. o E-SLP has access to cell data from the Home PLMN. o SET and E-SLP support the same mode of operation: Proxy Mode • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o None
Test Procedure	1. The network resident MLS application requests the current position of the SET and the SUPL Agent issues a MLP-ELIR request containing the following optional parameter to the E-SLP: • The loc_type parameter is set to "CURRENT " 2. The E-SLP returns position and timestamp in MLP-ELIA to the SUPL Agent, which in turn returns position and timestamp to the network resident MLS application.
Pass-Criteria	1. Check that correct positioning method is used and that relevant signalling between E-SLP and SET is sent over a secure IP connection. 2. At step 2, check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.1.5 SUPL-2.0-int-005 - Emergency Services: Non-emergency request comes when there is ongoing Emergency session

Test Case Id	SUPL-2.0-int-005
Test Object	E-SLP and SET
Test Case Description	To test Emergency Service in case non-emergency request comes when there is ongoing Emergency session
Specification Reference	TS-ULP 6.1.5
SCR Reference	ULP-PRO-S-036-M, ULP-PRO-C-034-M
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.

Test code	-
Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 MLS Client, 1 SET, 1 E-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • Equipment for CDMA implementations: o 1 MLS Client, 1 SET, 1 E-SLP, Home PLMN with CDMA access network. • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to the tester. o E-SLP has access to cell data from the Home PLMN. o SET and E-SLP support the same mode of operation: Proxy Mode. • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o None
Test Procedure	1. The network resident MLS application requests the current position of the SET and the SUPL Agent issues a MLP-ELIR request containing the following optional parameter to the E-SLP: • The loc_type parameter is set to "CURRENT " 2. Before the emergency positioning is finished, the network resident MLS application requests the current position of the same SET and the SUPL Agent issues a MLP-SLIR request containing the following optional parameter to the H-SLP: • The loc_type parameter is set to "CURRENT " 3. The E-SLP returns position and timestamp in MLP-ELIA to the SUPL Agent, which in turn returns position and timestamp to the network resident MLS application. 4. The H-SLP returns no position but error response in MLP-SLIA to the SUPL Agent, which in turn returns error response to the network resident MLS application.
Pass-Criteria	1. At step 3, check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated. 2. At step 2 and 4, check the SUPL INIT for non-emergency request is discarded by SET and SET doesn't respond any ULP message when there is ongoing Emergency session.

7.1.6 SUPL-2.0-int-006 - Emergency Services: Emergency request comes when there is ongoing non-emergency session

Test Case Id	SUPL-2.0-int-006
Test Object	E-SLP and SET
Test Case Description	To test Emergency Service in case Emergency Request comes when there is ongoing non-emergency session
Specification Reference	TS-ULP 6.1.5
SCR Reference	ULP-PRO-S-036-M, ULP-PRO-C-034-M

Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 MLS Client, 1 SET, 1 E-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • Equipment for CDMA implementations: o 1 MLS Client, 1 SET, 1 E-SLP, Home PLMN with CDMA access network. • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to the tester. o E-SLP has access to cell data from the Home PLMN. o SET and E-SLP support the same mode of operation: Proxy Mode. • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o None
Test Procedure	1. The network resident MLS application requests the current position of the SET and the SUPL Agent issues a MLP-SLIR request containing the following optional parameter to the H-SLP: • The loc_type parameter is set to "CURRENT " 2. Before the Non-Emergency positioning is finished, the network resident MLS application requests the current position of the same SET and the SUPL Agent issues a MLP-ELIR request containing the following optional parameter to the E-SLP: • The loc_type parameter is set to "CURRENT " 3. The E-SLP returns position and timestamp in MLP-ELIA to the SUPL Agent, which in turn returns position and timestamp to the network resident MLS application. 4. The H-SLP returns no position but error response in MLP-SLIA to the SUPL Agent, which in turn returns error response to the network resident MLS application.
Pass-Criteria	1. At step 3, check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated. 2. At step 4, check the processes for ongoing non-emergency request are aborted by SET when Emergency Request comes.

7.1.7 SUPL-2.0-int-007 - Periodic Triggers (Real time reporting) [Includes optional features]

Test Case Id	SUPL-2.0-int-007
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test network initiated Periodic triggered services with real time reporting.
Specification Reference	TS-ULP 5.1.7

SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-046-O , , ULP-PRO-S-034-O, ULP-PRO-S-048-O
ETR Reference	NPT1 - Network Initiated– Triggered Services: Periodic Triggers Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP is configured to use the Enhanced Cell ID positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The network resident MLS application requests periodic location of the SET with real time reporting and a reasonable number of fixes and intervals between fixes 2. The H-SLP initiates the periodic trigger session with the SET using the SUPL INIT message. 3. Each time the periodic trigger in the SET indicates that a position fix has to be performed the SET initiates a secure session with the H-SLP. 4. The H-SLP and the SET complete a secure positioning session using the selected positioning method. 5. The H-SLP returns the position to the SUPL Agent, which in turn returns the position to the network resident MLS application.
Pass-Criteria	1. For all the SUPL sessions check that correct positioning method is used and that relevant signaling between H-SLP and SET is sent over a secure IP connection. 2. For all the positioning sessions, check that the returned position is acceptable and that the current position of the SET has been received. 3. Check the number of sessions is correct and the interval between the sessions is acceptable

7.1.8 SUPL-2.0-int-008 - Periodic Triggers (Quasi Real time reporting) [Includes optional features]

Test Case Id	SUPL-2.0-int-008
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test network initiated Periodic triggered services with quasi real time reporting.
Specification Reference	TS-ULP 5.1.7
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-047-O, ULP-PRO-S-034-O, ULP-PRO-S-049-O

ETR Reference	NPT1 - Network Initiated– Triggered Services: Periodic Triggers Proxy Mode
Tool	Protocol analyzer to monitor signaling between SET and SLP. If a protocol analyzer is not available, log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • GNSS simulator State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation. • The H-SLP is configured to use the A-GPS SET Based positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The network resident MLS application requests periodic location of the SET with quasi real time reporting and a reasonable number of fixes and intervals between fixes. 2. The H-SLP initiates the periodic trigger session with the SET using the SUPL INIT message. 3. The SET and the H-SLP follow the standard call flow procedure used for periodic trigger SUPL sessions. 4. After a reasonable number of periodic fixes (and well before the end of the triggered session is reached) were determined and reported to the H-SLP, the SET's connection to the H-SLP is artificially interrupted. 5. While the connection to the H-SLP is interrupted, the SET continues to determine its position periodically and – since real time reporting of the determined positions is not possible – stores the position results in internal memory. This condition remains in place for the duration of a few times the interval between fixes. 6. The connection between the SET and the H-SLP is restored. 7. When the next interval for determining and reporting a position is reached, the SET determines its position and reports the position together with the buffered position results (i.e. the position results which could not be reported to the H-SLP due to lack of connectivity) in one batch to the H-SLP. The H-SLP reports the position results to the MLS application. 8. The SET and the H-SLP continue their triggered periodic session. 9. The connection between the SET and the H-SLP may be artificially interrupted a few more times. In this case steps 5 to 8 are repeated accordingly. 10. The H-SLP and the SET complete the triggered periodic SUPL session.

Pass-Criteria	1. Check that the correct positioning method is used throughout the triggered periodic SUPL session and that ULP message exchange between the H-SLP and the SET takes place over a secure IP connection. 2. For all reported positions, check that the returned positions are acceptable and that the positions of the SET have been received correctly by the H-SLP (and the MLS Application). 3. Check that all reported "missed" position fixes (i.e. position results which the SET was unable to report to the H-SLP in real time and which were stored in internal memory of the SET) are reported correctly. 4. Check that the SET and the H-SLP terminate the triggered SUPL session successfully.

7.1.9 SUPL-2.0-int-009 - Periodic Triggers (Batch reporting) [Includes optional features]

Test Case Id	SUPL-2.0-int-009
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test network initiated Periodic triggered services with batch reporting.
Specification Reference	TS-ULP 5.1.7
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-048-O , , ULP-PRO-S-034-O, ULP-PRO-S-050-O
ETR Reference	NPT1 - Network Initiated– Triggered Services: Periodic Triggers Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP is configured to use the Enhanced Cell ID positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None

Test Procedure	1. The network resident MLS application requests periodic location of the SET with batch reporting and a reasonable number of fixes, intervals between fixes and batch reporting conditions 2. The H-SLP initiates the periodic trigger session with the SET using the SUPL INIT message. 3. Each time the periodic trigger in the SET indicates that a position fix has to be performed the SET initiates a secure session with the H-SLP. 4. The H-SLP and the SET complete a secure positioning session using the selected positioning method. 5. Each time, or when, the batch reporting conditions are fulfilled; the SET initiates a secure session with the H-SLP and sends the stored positions in SUPL REPORT. 6. The H-SLP returns the reported positions to the SUPL Agent, which in turn returns the positions to the network resident MLS application.
Pass-Criteria	1. For all the SUPL sessions check that correct positioning method is used and that relevant signaling between H-SLP and SET is sent over a secure IP connection. 2. For all the positioning results, check that the returned position is acceptable and that the current position of the SET has been received. 3. Check the number of sessions is correct, the interval between the sessions is acceptable and the batch reporting conditions are acceptable.

7.1.10 SUPL-2.0-int-013 - Area Event Trigger [Includes optional features]

Test Case Id	SUPL-2.0-int-013
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test network initiated area event triggered services.
Specification Reference	TS-ULP 5.1.8
SCR Reference	ULP-PRO-S-035-O, ULP-PRO-C-033-O
ETR Reference	NET1 - Network Initiated– Triggered Services: Event Triggers Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP is configured to use the Enhanced Cell ID positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None

Test Procedure	1. The network resident MLS application requests the area event triggered service with conditions that can easily be realised in the test network, e.g. “Inside” or “Outside”. The trigger resides in the SET and the SET makes the decision if an area event occurred based on continuously repeated position determinations. 2. The SUPL Agent issues a MLP-TLRR message to the H-SLP. 3. The H-SLP initiates the event trigger session with the SET using the SUPL INIT message. 4. The H-SLP and the SET complete a secure positioning session using the selected positioning method 5. The SET compares the calculated position estimate with the area event and determines that the trigger condition has been met. 6. The SET sends the position estimate to the H-SLP in SUPL REPORT. 7. The H-SLP returns the position to the SUPL Agent, which in turn returns the position to the network resident MLS application.
Pass-Criteria	1. Check that correct trigger type is used and that relevant signalling between H-SLP and SET is sent over a secure IP connection. 2. Check that the area event trigger condition has been met correctly and check that the returned position is acceptable

7.1.11 SUPL-2.0-int-014 - Retrieval of Historical Positions [Includes optional features

Test Case Id	SUPL-2.0-int-014
Test Object	H-SLP (Server) and SET (Client)
Test Case Description	To test retrieval of historical positions.
Specification Reference	TS-ULP 5.1.13
SCR Reference	ULP-PRO-C-035-O, ULP-PRO-S-037-O
ETR Reference	HP - Retrieval of Historical Positions and/or Enhanced Cell Sector Measurements
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home • PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET’s position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • Small amount of Historical data collected

Test Procedure	1. The network resident MLS application requests small amount of historical positions of the SET and the SUPL Agent issues a MLP HLIR request to the H-SLP 2. The H-SLP initiates the retrieval of historical positions with the SET using the SUPL INIT message. 3. The H-SLP returns historic positions in MLP HLIA to the SUPL Agent, which in turn returns historic positions to the network resident MLS application.
Pass-Criteria	1. The SUPL INIT message contains “posmethod=historical data retrieval” 2. Check that the returned historical data is acceptable and is consistent with the amount of data requested

7.1.12 SUPL-2.0-int-015 - Cancellation of Triggered Session by the Network [Includes optional features]

Note that this test case can be run with either a Network Initiated session or a SET Initiated session

Test Case Id	SUPL-2.0-int-015
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test successful cancellation of an ongoing triggered session by the Network
Specification Reference	TS-ULP 5.1.17.2
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-033-O, ULP-PRO-S-034-O, ULP-PRO-S-035-O
ETR Reference	NCT - Network cancels the triggered location request,
Tool	Protocol analyzer to monitor signaling between SET and SLP. If a protocol analyzer is not available, log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET’s position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation. • The H-SLP is configured to use the Enhanced Cell ID positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None

Test Procedure	Case 1 - Network cancels the ongoing triggered session (SET can be reached): 1. The SET and the H-SLP are engaged in a triggered SUPL session. 2. The H-SLP receives a triggered session cancellation request message from the MLS client. 3. If there is an open data connection with the SET the H-SLP initiates the cancellation of the triggered session with the SET by sending a SUPL TRIGGERED STOP message. 4. The SET responds with a SUPL END message and the triggered session ends. 5. The H-SLP informs the MLS client that the triggered session has been successfully cancelled. 6. If there is not an open data connection with the SET, the H-SLP initiates a data connection by sending SUPL INIT and a Session Info Query 7. The SET responds with SUPL REPORT and the H-SLP initiates the cancellation of the triggered session with the SET by sending a SUPL TRIGGERED STOP message. 8. The SET responds with a SUPL END message and the triggered session ends. 9. The H-SLP informs the MLS client that the triggered session has been successfully cancelled. Case 2 – Network cancels the ongoing triggered session (no data connection): 10. The SET and the H-SLP are engaged in a triggered SUPL session. 11. Ensure there is no data connection between the H-SLP and the SET by, for example, blocking the cellular signal for sufficient time that the data connection drops. 12. Restore the cellular signal so that a data connection can be set up again. 13. The H-SLP receives a triggered session cancellation request message from the MLS client. 14. As there is no open data connection the H-SLP initiates the cancellation of the triggered session with the SET by initiating a data connection by sending SUPL INIT and a Session Info Query. 15. The SET responds with SUPL REPORT and the H-SLP initiates the cancellation of the triggered session with the SET by sending a SUPL TRIGGERED STOP message. 16. The SET responds with a SUPL END message and the triggered session ends. 17. The H-SLP informs the MLS client that the triggered session has been successfully cancelled. Case 3 – Network cancels the ongoing triggered session (SET cannot be reached): 18. The SET and the H-SLP are engaged in a triggered SUPL session. 19. Ensure the H-SLP cannot reach the SET by, for example, blocking the cellular signal for sufficient time that the data connection drops. 20. The H-SLP receives a triggered session cancellation request message from the MLS client. 21. As there is no open data connection the H-SLP initiates the cancellation of the triggered session with the SET by attempting to initiate a data connection by sending SUPL INIT and a Session Info Query. 22. The SET is not reachable and therefore does not respond to the SUPL INIT message. 23. After an adequate amount of time has passed, the SET continues the triggered SUPL session by sending a SUPL POS INIT message. 24. The H-SLP sends a SUPL END message with cause code “session stopped” to the SET and the triggered session is stopped.

Pass-Criteria	1. Check that a triggered SUPL session is in progress. 2. Check that the SET and the H-SLP terminate the triggered SUPL session successfully.

7.1.13 SUPL-2.0-int-016 - Cancellation of Triggered Session by the SET [Includes optional features]

Note that this test case can be run with either a Network Initiated session or a SET Initiated session

Test Case Id	SUPL-2.0-int-016
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test successful cancellation of an ongoing triggered session by the SET.
Specification Reference	TS-ULP 5.1.17.3
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-033-O, ULP-PRO-S-034-O, ULP-PRO-S-035-O
ETR Reference	SCT - SET cancels the triggered location request
Tool	Protocol analyzer to monitor signaling between SET and SLP. If a protocol analyzer is not available, log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation. • The H-SLP is configured to use the Enhanced Cell ID positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The SET and the H-SLP are engaged in a triggered SUPL session. 2. The SET initiates the cancellation of the triggered session with the H-SLP by sending a SUPL TRIGGERED STOP message. 3. The H-SLP responds with a SUPL END message and the triggered session ends.
Pass-Criteria	1. Check that a triggered SUPL session is in progress. 2. Check that the SET and the H-SLP terminate the triggered SUPL session successfully.

7.1.14 SUPL-2.0-int-017 - V-SLP to V-SLP handover [Includes optional features]

Test Case Id	SUPL-2.0-int-017
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test V-SLP to V-SLP handover

Specification Reference	TS-ULP 5.1.11 and 5.2.12
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-C-046-O, ULP-PRO-S-034-O, ULP-PRO-S-048-O
ETR Reference	HR1 - V-SLP to V-SLP Handover - Proxy mode
Tool	Protocol analyzer to monitor signaling between SET and SLP. If a protocol analyzer is not available, log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, V-SLP1, V-SLP2, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the Home PLMN via one or more radio cells (cell set1) which are associated with the V-SLP 1 (i.e. roaming with H-SLP where SUPL coverage is provided by V-SLP1). • SET is idle. • There are one or more radio cells (cell set2) which are associated with V-SLP2 (i.e. roaming with H-SLP where SUPL coverage is provided by V-SLP2). • SET and H-SLP support the Proxy mode of operation. • The H-SLP is configured to use the A-GPS SET Assisted positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • Two (non overlapping) sets of radio cells (i.e. cell set1 and cell set2) associated with two separate V-SLPs: V-SLP1 and V-SLP2. • SET must be able to SUPL roam from V-SLP1 SUPL coverage to V-SLP2 SUPL coverage.
Test Procedure	1. The network resident MLS application requests periodic location of the SET with real time reporting. 2. The H-SLP initiates the periodic trigger session with the SET using the SUPL INIT message. 3. The SET and the H-SLP follow the standard call flow procedures to establish and maintain a periodic SUPL session while roaming with H-SLP with V-SLP1. 4. After a reasonable number of periodic fixes (and well before the end of the triggered session is reached) the SET roams from cell set1 to cell set2 (i.e. the SET 'SUPL roams' from V-SLP1 to V-SLP2). 5. When after roaming from cell set1 to cell set2 the SET sends its first SUPL POS INIT message to the H-SLP, the H-SLP responds with SUPL END with status code 'no SUPL coverage'. 6. The SET sends a SUPL TRIGGERED START message with cause code 'no SUPL coverage'. 7. The H-SLP sends a SUPL TRIGGERED RESPONSE message. 8. The SET and the H-SLP continue their triggered periodic session (on cell set2 i.e. roaming with H-SLP with V-SLP2). 9. The H-SLP and the SET complete the triggered periodic SUPL session.
Pass-Criteria	1. At step 5 the H-SLP shall respond with SUPL END with status code 'no SUPL coverage'. 2. At step 6 the SET shall respond with SUPL TRIGGERED START with cause code 'no SUPL coverage'. 3. At step 8 the SET and the H-SLP continue their triggered periodic session

7.1.15 SUPL-2.0-int-018 - Capabilities Change [Includes optional features]

Note that this test case can be run with either a Network Initiated session or a SET Initiated session

Test Case Id	SUPL-2.0-int-018
Test Object	H-SLP (Server) and SET (Client)
Test Case Description	To test Network Change for Area Event Triggered Scenarios, when the network changes.
Specification Reference	TS-ULP 5.1.14
SCR Reference	ULP-PRO-C-046-O, ULP-PRO-S-048-O
ETR Reference	CAT - Network / SET Capabilities Change for Area Event Triggered Scenarios
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET supporting, if a single PLMN is used in the test, at least two Radio Access Network e.g. GSM and WCDMA, or, if multiple PLMNs are used in the test, supporting handover between the PLMNs • 1 H-SLP, 1 V-SLP if necessary, 1 PPG, 1 SMS-C • A single PLMN with at least two Radio Access Networks e.g. GSM and WCDMA, or two PLMNs each supporting one or more of GSM, WCDMA or LTE access. State: • SET is attached to the home PLMN. • SET is monitoring serving network identity. • The SET's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation Continuation of / Can be tested at the same time as: • An Area Event session Prerequisite for this test: • An Area Event session is ongoing and area id lists are based on the used network
Test Procedure	1. The SET monitors the serving network identity. The Network changes from e.g. WCDMA to GSM, or between PLMNs. 2. When the SET detects that the new serving network is not part of any original downloaded area lists the SET attaches itself to the new network. 3. The SET then sends a SUPL TRIGGERED START message to request new event trigger parameters. 4. The H-SLP sends SUPL TRIGGERED RESPONSE message to the SET. 5. Area event session continues
Pass-Criteria	1. The SUPL TRIGGERED START message contains at least session-id, SET capabilities, Location ID (lid) and cause for re-sending the SUPL TRIGGERED START message. The SET capabilities include the supported positioning methods (e.g. SET Assisted A-GPS, SET-Based A-GPS) and associated positioning protocols (e.g. RRLP, RRC, TIA-801, LPP) 2. SUPL TRIGGERED RESPONSE message includes session-id, the positioning method to be used for the area event triggered session and area event trigger parameters. It may also contain the area ids of the specified area based on the e.g. GSM network for the area event triggered session. 3. Area event session does not discontinue because of capabilities has changed

7.1.16 SUPL-2.0-int-020 - Session Info Query [Includes optional features]

Test Case Id	SUPL-2.0-int-020
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test successful session info query
Specification Reference	TS-ULP 5.1.18
SCR Reference	ULP-PRO-C-049-O, ULP-PRO-S-051-O
ETR Reference	N/A
Tool	Protocol analyzer to monitor signaling between SET and SLP. If a protocol analyzer is not available, log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET has at least one session – not including the session info query session itself - active (preferably more than one session is active at the SET and preferably the active sessions are triggered SUPL sessions). • SET and H-SLP support the Proxy mode of operation. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The H-SLP initiates a session info query session with the SET by sending a SUPL INIT message with posmethod “sessioninfoquery” to the SET. 2. The SET replies with a SUPL REPORT message containing a list of all SUPL sessions the SET deems active. 3. The H-SLP sends the SUPL END message to the SET and the session info query session ends.
Pass-Criteria	1. Check that in step 2 the H-SLP receives a list of session ids which are active at the time of sending the SUPL REPORT message. 2. Check that after the SET sends the SUPL REPORT message, the H-SLP sends the SUPL END message and the SET then releases all resources related to this Session Info Query session.

7.1.17 SUPL-2.0-int-021 - Notification based on Location [Includes optional features]

Test Case Id	SUPL-2.0-int-021
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test successful Notification based on Location
Specification Reference	TS-ULP 5.1.12
SCR Reference	ULP-PRO-C-029-O, ULP-PRO-S-031-O
ETR Reference	N1 - Notification/Verification based on current location. Proxy mode
Tool	Protocol analyzer to monitor signaling between SET and SLP. If a protocol analyzer is not available, log files in SLP and SET can be used instead.
Test code	-

Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle • The SET's position is known to the tester • H-SLP has access to cell data from the Home PLMN • SET and H-SLP support proxy mode of operation. • The H-SLP and SET are configured to use the Cell ID positioning method • The H-SLP is configured for notification based on current location and therefore includes the Notification Mode element in the SUPL INIT message and does not include the notification element in the SUPL INIT message • The H-SLP is configured to set the notification element in the SUPL NOTIFY message to "notification and verification, allowed on no answer" Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. Set up the conditions in the H-SLP such that the H-SLP deems the SET to be in a location which requires the selected notification/verification procedure i.e. notification/verification is invoked (i.e. SUPL NOTIFY is sent). 2. The network resident MLS application requests the current position of the SET and the SUPL Agent issues an MLP-SLIR request with loc_type parameter set to "CURRENT" 3. The H-SLP and the SET successfully execute the call flow (including the selected notification/verification procedure) and the H-SLP returns position and timestamp in MLP-SLIA to the SUPL Agent. 4. Set up the conditions in the H-SLP such that the H-SLP deems the SET not to be in a location which requires the selected notification/verification procedure i.e. notification/verification is not invoked (i.e. SUPL NOTIFY is not sent and a SUPL END message is sent instead) 5. The network resident MLS application requests the current position of the SET and the SUPL Agent issues an MLP-SLIR request with loc_type parameter set to "CURRENT" 6. The H-SLP and the SET successfully execute the call flow (without invoking the notification/verification procedure) and the H-SLP returns position and timestamp in MLP-SLIA to the SUPL Agent.
Pass-Criteria	1. Check that the correct positioning method is used and that relevant signalling between H-SLP and SET is sent over a secure IP connection 2. Check that the "silent" position determination was performed successfully 3. Check that the selected notification/verification procedures in step 3 and 5 are executed properly 4. Check that the H-SLP sends the position result to the requesting MLS client in line with SET user consent or objection.

7.1.18 SUPL-2.0-int-022 - SET-assisted OTDOA in LTE [Includes optional features]

Test Case Id	SUPL-2.0-int-022
Test Object	H-SLP and SET
Test Case Description	To test SET-assisted OTDOA in LTE positioning method when SET is not roaming.
Specification Reference	TS-ULP 5.1.1, TS-ULP 9, AD 5.3.2.1, AD 5.3.2.2, AD 5.3.2.3
SCR Reference	ULP-PRO-S-022-O, ULP-PRO-C-020-O
ETR Reference	NPP - Negotiation of Positioning method, Proxy mode and Protocol NB1 – Basic Network Initiated Flows – Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with LTE access network supporting OTDOA. Multiple neighbour LTE cells supporting OTDOA must be hearable to the SET in order to make OTDOA measurements possible. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP is configured to use the SET-assisted OTDOA positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The network resident MLS application requests the current position of the SET 2. The H-SLP initiates a location session with the SET. 3. The H-SLP and the SET complete a secure positioning session using the selected positioning method or methods 4. The H-SLP returns position and timestamp to the SUPL Agent, which in turn returns position and timestamp to the network resident MLS application.
Pass-Criteria	1. Check that correct positioning method is used and that relevant signalling between H-SLP and SET is sent over a secure IP connection. 2. Check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.1.19 SUPL-2.0-int-023 - Session Info Query with Active Session Termination [Includes optional features]

Test Case Id	SUPL-2.0-int-0XX
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test successful session info query with active session termination
Specification Reference	TS-ULP 5.1.18

SCR Reference	ULP-PRO-C-049-O, ULP-PRO-S-051-O
ETR Reference	N/A
Tool	Protocol analyzer to monitor signaling between SET and SLP. If a protocol analyzer is not available, log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET has at least one session – not including the session info query session itself - active (preferably more than one session is active at the SET and at least one of active sessions shall be a triggered SUPL session). • SET and H-SLP support the Proxy mode of operation. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The H-SLP initiates a session info query session with the SET by sending a SUPL INIT message with posmethod “sessioninfoquery” to the SET. 2. The SET replies with a SUPL REPORT message containing a list of all SUPL sessions the SET deems active. 3. The H-SLP sends the SUPL TRIGGERED STOP message to cancel one active triggered SUPL session among active SUPL sessions addressed in the received SUPL REPORT message. The session id of the SUPL TRIGGERED STOP message is the session id used in the triggered SUPL session to be canceled. 4. The SET responds with a SUPL END message and the triggered session ends. The session id of the SUPL END messaged is the session id used in the triggered SUPL session to be canceled. 5. The H-SLP sends the SUPL END message to the SET and the session info query session ends.
Pass-Criteria	1. Check that in step 2 the H-SLP receives a list of session ids which are active at the time of sending the SUPL REPORT message. 2. Check that after the SET sends the SUPL END message for the triggered SUPL session, the SET and the H-SLP terminate the triggered SUPL session successfully. 3. Check that after the SET sends the SUPL END message for the triggered SUPL session, the H-SLP sends the SUPL END message and the SET then releases all resources related to this Session Info Query session.

7.1.20 SUPL-2.0-int-024 - Session Info Query with Re-notification for Active Triggered Session [Includes optional features]

Test Case Id	SUPL-2.0-int-0XX
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test successful session info query with re-notification and verification for active triggered session
Specification Reference	TS-ULP 5.1.18
SCR Reference	ULP-PRO-C-049-O, ULP-PRO-S-051-O

ETR Reference	N/A
Tool	Protocol analyzer to monitor signaling between SET and SLP. If a protocol analyzer is not available, log files in SLP and SET can be used instead.
Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET has at least one session – not including the session info query session itself - active (preferably more than one session is active at the SET and at least one of active sessions shall be a triggered SUPL session configured to indicate notification and verification). • SET and H-SLP support the Proxy mode of operation. • The H-SLP is configured to indicate no notification and no verification to the SET user for session info query procedure. • The H-SLP is configured to set the notification parameter in the SUPL NOTIFY message to “notification and verification, allowed on no answer”. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The H-SLP initiates a session info query session with the SET by sending a SUPL INIT message with posmethod “sessioninfoquery” to the SET. 2. The SET replies with a SUPL REPORT message containing a list of all SUPL sessions the SET deems active. 3. The H-SLP sends the SUPL NOTIFY message to perform re-notification and verification for one active triggered SUPL session among active SUPL sessions addressed in the received SUPL REPORT message. In this message, the value of the session id is the session id used in the triggered SUPL session and the Notification type is set to ‘notificationAndVerficationAllowedNA’. 4. The SET responds with the SUPL NOTIFY RESPONSE message. In this message, the value of the session id is the session id used in the triggered SUPL session and the Notification response is set to ‘notAllowed’. 5. The H-SLP sends the SUPL TRIGGERED STOP message to cancel the triggered SUPL session. The session id of the SUPL TRIGGERED STOP message is the session id used in the step 3 and 4. 6. The SET responds with a SUPL END message and the triggered session ends. The session id of the SUPL END messaged is the session id used in step 3 and 4. 7. The H-SLP sends the SUPL END message to the SET and the session info query session ends.
Pass-Criteria	1. Check that in step 2 the H-SLP receives a list of session ids which are active at the time of sending the SUPL REPORT message. 2. Check that in the step 3 the H-SLP receives the SUPL NOTIFY RESPONSE message with the correct Notification response value successfully. 3. Check that after the SET sends the SUPL END message for the triggered SUPL session, the SET and the H-SLP terminate the triggered SUPL session successfully. 4. Check that after the SET sends the SUPL END message for the triggered SUPL session, the H-SLP sends the SUPL END message and the SET then releases all resources related to this Session Info Query session.

7.2 SUPL Interoperability: SET Initiated

The following SET Initiated SUPL 1.0 test cases from [SUPL 1.0 ETS] test features that have not changed since SUPL 1.0. Where indicated these test cases (and features) have been tested sufficiently in various TestFests and therefore these test cases do not require retesting for SUPL 2.0.2. In addition most of the features indicated will be tested implicitly in some of the new test cases for SUPL 2.0.2. Where the test cases have not been run during SUPL 1.0 TestFests, they may be considered for SUPL 2.0.2 testing

SUPL 2.0 ETR reference	SUPL 1.0 Test Case	Tested in SUPL 1.0 TestFests
SB1 Basic SET Initiated flows – Proxy mode SB2 Basic SET Initiated flows – Non-Proxy mode NPP: Negotiation of Positioning method, Proxy mode and Protocol	SUPL-1.0-int-500 - Cell ID	Yes
	SUPL-1.0-int-600 - SET-assisted A-GPS	Yes
	SUPL-1.0-int-601 - SET-based A-GPS	Yes
	SUPL-1.0-int-602 - Autonomous GPS	No
	SUPL-1.0-int-603 - AFLT	No
	SUPL-1.0-int-604 - Enhanced Cell ID	No
	SUPL-1.0-int-605 - E-OTD	No
	SUPL-1.0-int-606 - OTDOA	No
ACA: Alternative Client Authentication (ACA) Mechanisms - ACA Procedures	SUPL-1.0-int-510 - Alternative authentication model for GSM/WCDMA	Yes
QOP: QoP ALT: Altitude	SUPL-1.0-int-610 - Horizontal accuracy	Yes
	SUPL-1.0-int-611 - Response time	Yes
	SUPL-1.0-int-612 - Vertical accuracy (Altitude)	Yes
	SUPL-1.0-int-613 - Max location age, previously computed position returned	Yes
	SUPL-1.0-int-614 - Max location age, current position returned	Yes
VEL: Velocity	SUPL-1.0-int-630 - SET-assisted A-GPS	Yes

7.2.1 SUPL-2.0-int-100 - SET-assisted A-GANSS [Includes optional features]

Test Case Id	SUPL-2.0-int-100
Test Object	H-SLP and SET
Test Case Description	To test SET-assisted A-GANSS positioning method when SET is not roaming.
ETR Reference	NPP - Negotiation of Positioning method, Proxy mode and Protocol SB1 – Basic SET Initiated Flows – Proxy Mode
Specification Reference	TS-ULP 5.2.1, TS-ULP 9, AD 5.3.2.1, AD 5.3.2.2, AD 5.3.2.3
SCR Reference	ULP-PRO-S-017-O, ULP-PRO-C-015-O
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 SET, 1 H-SLP, Home PLMN with GSM, WCDMA or LTE access network or combination thereof, or both, GNSS-simulator • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to tester. o H-SLP has access to cell data from the Home PLMN. o SET and H-SLP support the same mode of operation: Proxy. o The H-SLP is configured to use the SET-assisted GANSS positioning method. The GANSS or GANSSs to be used depend on the SET capabilities and the available GANSS signals. Note this test case is intended to test GANSS systems e.g. Galileo, SBAS, Modernized GPS, QZSS, GLONASS, Beidou and not GPS • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o None
Test Procedure	1. The SET resident MLS application requests its current position. 2. The SET initiates a secure session with the H-SLP. 3. The H-SLP and the SET complete a secure positioning session using the selected positioning method or methods. 4. The H-SLP returns position and timestamp to the SUPL Agent, which in turn returns position and timestamp to the SET resident MLS application.
Pass-Criteria	1. Check that correct positioning method is used and that all signalling between H-SLP and SET is sent over a secure IP connection. 2. Check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.2.2 SUPL-2.0-int-101 - SET-based A-GANSS [Includes optional features]

Test Case Id	SUPL-2.0-int-101
Test Object	H-SLP and SET
Test Case Description	To test SET-based A-GANSS positioning method when SET is not roaming.
Specification Reference	TS-ULP 5.2.1, TS-ULP 9, AD 5.3.2.1, AD 5.3.2.2, AD 5.3.2.3
SCR Reference	ULP-PRO-S-018-O, ULP-PRO-C-016-O
ETR Reference	NPP - Negotiation of Positioning method, Proxy mode and Protocol SB1 – Basic SET Initiated Flows – Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 SET, 1 H-SLP, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. o GNSS-simulator • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to tester. o H-SLP has access to cell data from the Home PLMN. o SET and H-SLP support the same mode of operation: Proxy. o The H-SLP is configured to use the SET-based GANSS positioning method. The GANSS or GANSSs to be used depend on the SET capabilities and the available GANSS signals. Note this test case is intended to test GANSS systems e.g. Galileo, SBAS, Modernized GPS, QZSS, GLONASS, Beidou and not GPS • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o None
Test Procedure	1. The SET resident MLS application requests its current position 2. The SET initiates a secure session with the H-SLP. 3. The H-SLP and the SET complete a secure positioning session using the selected positioning method or methods. 4. The SUPL Agent returns position and timestamp to the SET resident MLS application.
Pass-Criteria	1. Check that correct positioning method is used and that all signalling between H-SLP and SET is sent over a secure IP connection. 2. Check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.2.3 SUPL-2.0-int-102 - Autonomous GANSS [Includes optional features]

Test Case Id	SUPL-2.0-int-102
Test Object	H-SLP and SET
Test Case Description	To test Autonomous GANSS positioning method when SET is not roaming.
Specification Reference	TS-ULP 5.2.1, TS-ULP 9, AD 5.3.2.1, AD 5.3.2.2, AD 5.3.2.3
SCR Reference	ULP-PRO-S-016-O, ULP-PRO-C-014-O
ETR Reference	NPP - Negotiation of Positioning method, Proxy mode and Protocol SB1 – Basic SET Initiated Flows – Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	• Equipment for GSM/WCDMA/LTE implementations:
	  • 1 SET, 1 H-SLP, Home PLMN with GSM, WCDMA or LTE access network or combination thereof, GNSS-simulator
	• State:
	  o SET is attached to the home PLMN.
	  o SET is idle.
	  o The SET's position is known to tester.
	  o H-SLP has access to cell data from the Home PLMN.
	  o SET and H-SLP support the same mode of operation: Proxy.
	  o The H-SLP is configured to use the Autonomous GANSS positioning method. The GANSS or GANSSs to be used depend on the SET capabilities and the available GANSS signals.
	Note this test case is intended to test GANSS systems e.g. Galileo, SBAS, Modernized GPS, QZSS, GLONASS, Beidou and not GPS
	• Continuation of / Can be tested at the same time as:
	  o None
	• Prerequisite for this test:
	  o The SET supports other positioning methods than just Autonomous GANSS. In the case the SET only supports Autonomous GANSS this test case is not applicable since the SET calculates its own position without connecting to the H-SLP.

Test Procedure	1. The SET resident MLS application requests its current position 2. The SET initiates a secure session with the H-SLP. 3. The H-SLP and the SET complete a secure positioning session using the selected positioning method or methods including a SUPL POS session with no Assistance Data. 4. The SUPL Agent returns position and timestamp to the SET resident MLS application.
Pass-Criteria	1. Check that correct positioning method is used and that all signalling between H-SLP and SET is sent over a secure IP connection. This shall include a SUPL POS session with no Assistance Data. 2. Check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.2.4 SUPL-2.0-int-103 - Transfer to third party [Includes optional features]

Test Case Id	SUPL-2.0-int-103 - Transfer to third party [Includes optional features]
Test Object	H-SLP (Server) and SET (Client)
Test Case Description	To test SET-initiated Location Request of Transfer Location to Third Party
Specification Reference	TS-ULP 5.2.15
SCR Reference	ULP-PRO-C-040-O, ULP-PRO-S-042-O
ETR Reference	STT - SET-Initiated Location Request of Transfer Location to Third Party
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.

Test code	-
Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 UE, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • SET is not roaming Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The SUPL Agent on SET initiates a SET Initiated location request with Transfer to third party (i.e. the UE). The SET takes required action establishing or resuming a secure connection. 2. The SUPL Agent on SET uses the default address provisioned by the Home Network to establish a secure connection to the H-SLP and sends a SUPL START message to start a positioning session with the H-SLP. The Third Party ID (i.e. the ID of UE) is contained in the SUPL START message. 3. The H-SLP and the SET collaborate to determine the position of the SET and the H-SLP obtains the result of the position determination. 4. The H-SLP sends a SUPL END message to SET to stop the session. 5. Check the H-SLP attempts to transfer the position result to the correct third party address. (This can be done by checking the debug log in the H-SLP).
Pass-Criteria	1. The SUPL START message contains session ID, Third Party ID. 2. Check that the returned position estimate is acceptable

7.2.5 SUPL-2.0-int-110 - Periodic Triggers [Includes optional features]

Test Case Id	SUPL-2.0-int-110
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test SET initiated Periodic triggered services.
Specification Reference	TS-ULP 5.1.7
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-S-034-O
ETR Reference	SPT1 - SET Initiated– Triggered Services: Periodic Triggers Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP and/or SET are configured to use the Enhanced Cell ID positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The SET resident MLS application requests its periodic location with a reasonable number of fixes and intervals between fixes 2. The SUPL Agent issues a SUPL TRIGGERED START message to the H-SLP. The SUPL TRIGGERED START message shall contain trigger_type=periodic and appropriate trigger_params. 3. Each time the periodic trigger in the SET indicates that a position fix has to be performed the SET initiates a secure session with the H-SLP. 4. The H-SLP and the SET complete a secure positioning session using the selected positioning method. 5. The H-SLP returns position in SUPL REPORT to the SUPL Agent, which in turn returns position to the SET resident MLS application.
Pass-Criteria	1. For all the SUPL sessions check that correct positioning method is used and that relevant signalling between H-SLP and SET is sent over a secure IP connection. 2. For all the positioning sessions, check that the returned position is acceptable and that the current position of the SET has been received. 3. Check the number of sessions is correct and the interval between the sessions is acceptable

7.2.6 SUPL-2.0-int-111 - Periodic transfer to third party [Includes optional features]

Test Case Id	SUPL-2.0-int-111 - Periodic Transfer to third party [Includes optional features]
Test Object	H-SLP (Server) and SET (Client)
Test Case Description	To test SET-initiated Periodic Location Request with Transfer to Third Party
Specification Reference	TS-ULP 5.2.14.1
SCR Reference	ULP-PRO-C-032-O, ULP-PRO-S-034-O, ULP-PRO-C-040-O, ULP-PRO-S-042-O
ETR Reference	STP - SET-Initiated Periodic Location Request with Transfer to Third Party
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 UE, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • SET is not roaming Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The SUPL Agent on SET initiates a SET Initiated location periodic request with Transfer to third party (i.e. the UE) with a reasonable number of fixes and intervals between fixes. The SET takes required action establishing or resuming a secure connection. 2. The SUPL Agent on SET uses the default address provisioned by the Home Network to establish a secure connection to the H-SLP and sends a SUPL TRIGGERED START message to start a periodic trigger positioning session with the H-SLP. The Third Party ID (i.e. the ID of UE) is contained in the SUPL TRIGGERED START message. 3. Each time the periodic trigger in the SET indicates that a position fix has to be performed the SET initiates a secure session with the H-SLP. 4. The H-SLP and the SET complete a secure positioning session using the selected positioning method. 5. Check the H-SLP attempts to transfer the position results to the correct third party address. (This can be done by checking the debug log in the H-SLP).
Pass-Criteria	1. The SUPL TRIGGERED START message contains session ID, Third Party ID. 2. Check that the returned position estimates are acceptable

7.2.7 SUPL-2.0-int-112 - Area Event Triggers [Includes optional features]

Test Case Id	SUPL-2.0-int-112
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test SET initiated area event triggered services.
Specification Reference	TS-ULP 5.2.9
SCR Reference	ULP-PRO-S-035-O, ULP-PRO-C-033-O
ETR Reference	SET1 - SET Initiated– Triggered Services: Event Triggers Proxy Mode
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SET is attached to the home PLMN. • SET is idle. • The SET's position is known to tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • The H-SLP is configured to use the Enhanced Cell ID positioning method. • The H-SLP is configured to indicate no notification and no verification to the SET user. Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The SET resident MLS application requests an area event triggered service with conditions that can easily be realised in the test network, e.g. "Inside" or "Outside". 2. The SET initiates a secure session with the H-SLP and issues a SUPL TRIGGERED START message to the H-SLP. 3. The SET determines that the trigger condition has been met. 4. The SET initiates a secure session and the H-SLP and the SET complete a secure positioning session using the selected positioning method 5. The H-SLP returns the position in SUPL REPORT to the SUPL Agent, which in turn returns the position to the SET resident MLS application.
Pass-Criteria	1. Check that correct trigger type is used and that relevant signaling between H-SLP and SET is sent over a secure IP connection. 2. Check that the area event trigger condition has been met correctly and check that the returned position is acceptable

7.2.8 SUPL-2.0-int-120 - Location of another SET [Includes optional features]

Test Case Id	SUPL-2.0-int-120 - Location of another SET [Includes optional features]
Test Object	H-SLP (Server) and SET (Client)
Test Case Description	To test SET-initiated location request of another SET.
Specification Reference	TS-ULP 5.2.7
SCR Reference	ULP-PRO-C-038-O, ULP-PRO-S-040-O ULP-MES-S-014-O, ULP-MES-C-014-O
ETR Reference	SAS - SET-Initiated Location Request of another SET
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	Equipment for GSM/WCDMA/LTE implementations: • 2 SETs, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. State: • SETs are attached to the same home PLMN. SETs have the same H-SLP. • SETs are idle. • The SET2's position is known to the tester. • H-SLP has access to cell data from the Home PLMN. • SET and H-SLP support the Proxy mode of operation • SETs are not roaming Continuation of / Can be tested at the same time as: • None Prerequisite for this test: • None
Test Procedure	1. The SUPL Agent on SET1 receives a request for position of Target SET2. The SET1 takes required action establishing or resuming a secure connection. 2. The SUPL Agent on SET1 uses the default address provisioned by the Home Network to establish a secure connection to the H-SLP and sends a SUPL SET INIT message to start a positioning session of the Target SET2. The Target SET id is the identity of the Target SET2 that will be used by the SLP to identify the home network (H-SLP) of SET2. 3. The H-SLP determines the location of SET2. 4. The H-SLP sends a SUPL END message containing the position estimate to the SET1. The SET1 sends the position estimate back to the SUPL Agent.
Pass-Criteria	1. The SUPL SET INIT message contains session ID, Target SET id. It MAY also contain the desired QoP. 2. Check that the returned position estimate is acceptable

7.2.9 SUPL-2.0-int-121 - SET-assisted OTDOA in LTE [Includes optional features]

Test Case Id	SUPL-2.0-int-121
Test Object	H-SLP and SET
Test Case Description	To test SET-assisted OTDOA positioning method when SET is not roaming.
ETR Reference	NPP - Negotiation of Positioning method, Proxy mode and Protocol SB1 – Basic SET Initiated Flows – Proxy Mode
Specification Reference	TS-ULP 5.2.1, TS-ULP 9, AD 5.3.2.1, AD 5.3.2.2, AD 5.3.2.3
SCR Reference	ULP-PRO-S-022-O, ULP-PRO-C-020-O
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	• Equipment for LTE implementations: 1 SET, 1 H-SLP, Home PLMN with LTE access network supporting OTDOA. Multiple neighbour LTE cells supporting OTDOA must be hearable to the SET in order to make OTDOA measurements possible. • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to tester. o H-SLP has access to cell data from the Home PLMN. o SET and H-SLP support the same mode of operation: Proxy. o The H-SLP is configured to use the SET-assisted OTDOA positioning method. • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o None
Test Procedure	5. The SET resident MLS application requests its current position. 6. The SET initiates a secure session with the H-SLP. 7. The H-SLP and the SET complete a secure positioning session using the selected positioning method or methods. 8. The H-SLP returns position and timestamp to the SUPL Agent, which in turn returns position and timestamp to the SET resident MLS application.
Pass-Criteria	3. Check that correct positioning method is used and that all signalling between H-SLP and SET is sent over a secure IP connection. 4. Check that the returned position is acceptable and that the timestamp indicates that the current position of the SET has been calculated.

7.3 Cross version Compatibility

7.3.1 SUPL-2.0-int-200 - Cross version Compatibility: H-SLP V2.0 and SET V2.0

Note that this test case tests a feature that is tested inherently in most other Interoperability test cases, however this test case is used as part of the minimum entry criteria for TestFests and is therefore included here.

Test Case Id	SUPL-2.0-int-200
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test ULP version Negotiation function in case H-SLP supports ULP 2.0 and SET supports ULP 2.0 version
Specification Reference	TS-ULP 7
SCR Reference	ULP-PRO-S-027-M , ULP-PRO-C-025-M
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • Equipment for CDMA implementations: o 1 MLS Client, 1 SET, 1 H-SLP, Home PLMN with CDMA access network. • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to the tester. o H-SLP has access to cell data from the Home PLMN. o SET and H-SLP support the same mode of operation: Proxy or Non-Proxy. • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o Both SLP and SET support ULP 2.0.
Test Procedure	Test 1: 1. The network resident MLS application requests the position of the SET and the SUPL Agent issues a MLP-SLRR request to H-SLP. 2. H-SLP send the SUPL INIT (version = 2.0, minimum = 2) or (version = 2.0, minimum = 1) to SET. (Note 1) 3. SET responds with SUPL POS INIT and the Location Session completes successfully. Test 2: 4. SET send the SUPL START (version = 2.0) to H-SLP. 5. H-SLP response with SUPL RESPONSE to SET and the location session completes successfully. Note 1: If SLP supports both ULP 2.0 and 1.0, SUPL INIT (version = 2.0, minimum = 1) will be sent, if SLP supports only ULP 2.0, SUPL INIT (version = 2.0, minimum = 2.0) will be sent.
Pass-Criteria	1. At step 3 the SET shall respond with SUPL POS INIT with the correct version number (2.0) supported by the SET. 2. At step 5 the H-SLP shall respond with SUPL RESPONSE with the correct version number (2.0) supported by the H-SLP.

7.3.2 SUPL-2.0-int-201 - Cross version Compatibility: H-SLP V2.0 and SET V1.0

Test Case Id	SUPL-2.0-int-201
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test ULP version Negotiation function in case H-SLP supports ULP 2.0 only and SET supports ULP1.0 version
Specification Reference	TS-ULP 7
SCR Reference	ULP-PRO-S-027-M , ULP-PRO-C-025-M
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.

Test code	-
Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • Equipment for CDMA implementations: o 1 MLS Client, 1 SET, 1 H-SLP, Home PLMN with CDMA access network. • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to the tester. o H-SLP has access to cell data from the Home PLMN. o SET and H-SLP support the same mode of operation: Proxy or Non-Proxy. • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o H-SLP supports ULP 2.0 only and SET supports ULP 1.0
Test Procedure	Test 1: 1. The network resident MLS application requests the position of the SET and the SUPL Agent issues a MLP-SLRR request to H-SLP. 2. H-SLP send the SUPL INIT (version = 2.0, minimum = 2) to SET. 3. SET responds with SUPL END (version = 1.0 and status code = versionNotSupported) and the location session fails. Test 2: 4. SET send the SUPL START (version = 1.0) to H-SLP. 5. H-SLP response with SUPL END (version = 2.0 and status code = versionNotSupported) to SET and the location session fails.
Pass-Criteria	1. At step 3 the SET shall respond with SUPL END with the correct version number (1.0) supported by the SET. 2. At step 5 the H-SLP shall respond with SUPL END with the correct version number (2.0) supported by the H-SLP.

7.3.3 SUPL-2.0-int-202 - Cross version Compatibility: H-SLP V2.0 and V1.0 and SET V1.0

Test Case Id	SUPL-2.0-int-202
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test ULP version Negotiation function in case H-SLP supports both ULP 2.0 and ULP1.0 , SET supports ULP1.0 version
Specification Reference	TS-ULP 7
SCR Reference	ULP-PRO-S-027-M , ULP-PRO-C-025-M
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.
Test code	-

Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • Equipment for CDMA implementations: o 1 MLS Client, 1 SET, 1 H-SLP, Home PLMN with CDMA access network. • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to the tester. o H-SLP has access to cell data from the Home PLMN. o SET and H-SLP support the same mode of operation: Proxy or Non-Proxy. • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o H-SLP supports ULP 2.0 and ULP1.0 and SET supports ULP 1.0
Test Procedure	Test 1: 1. The network resident MLS application requests the position of the SET and the SUPL Agent issues a MLP-SLIR request to H-SLP. 2. H-SLP send the SUPL INIT (version = 2.0, minimum = 1) to SET. 3. SET responds with SUPL END (version = 1.0) 4. H-SLP send the SUPL INIT (version = 1.0) to SET and the location session completes successfully. Test 2: 5. SET send the SUPL START (version = 1.0) to H-SLP. 6. H-SLP response with SUPL RESPONSE (version = 1.0) to SET and the location session completes successfully.
Pass-Criteria	1. At step 3 the SET shall respond with SUPL END with the correct version number (1.0) supported by the SET. 2. At step 4 the H-SLP shall send the SUPL INIT with the correct version number (1.0). 3. At step 6 the H-SLP shall respond with SUPL RESPONSE with the correct version number (1.0).

7.3.4 SUPL-2.0-int-203 - Cross version Compatibility: H-SLP V1.0 and SET V 2.0

Test Case Id	SUPL-2.0-int-203
Test Object	Client (SET) and Server (H-SLP)
Test Case Description	To test ULP version Negotiation function in case H-SLP supports ULP 1.0 only , SET supports ULP 2.0 version
Specification Reference	TS-ULP 7
SCR Reference	ULP-PRO-S-027-M , ULP-PRO-C-025-M
Tool	Protocol analyser to monitor signalling between SET and SLP. If a protocol analyser is not available log files in SLP and SET can be used instead.

Test code	-
Preconditions	• Equipment for GSM/WCDMA/LTE implementations: o 1 MLS Client, 1 SET, 1 H-SLP, 1 PPG, 1 SMS-C, Home PLMN with GSM, WCDMA or LTE access network or combination thereof. • Equipment for CDMA implementations: o 1 MLS Client, 1 SET, 1 H-SLP, Home PLMN with CDMA access network. • State: o SET is attached to the home PLMN. o SET is idle. o The SET's position is known to the tester. o H-SLP has access to cell data from the Home PLMN. o SET and H-SLP support the same mode of operation: Proxy or Non-Proxy. • Continuation of / Can be tested at the same time as: o None • Prerequisite for this test: o H-SLP supports ULP 1.0 only and SET supports ULP 2.0
Test Procedure	Test 1: 1. The network resident MLS application requests the position of the SET and the SUPL Agent issues a MLP-SLIR request to H-SLP. 2. H-SLP send the SUPL INIT (version = 1.0) to SET. 3. SET responds with SUPL END (version = 2.0 and status code = versionNotSupported). The parameter "ver" will (probably) be calculated using SHA-256 so the H-SLP will discard the SUPL END as invalid and timer ST2 will then expire. The H-SLP will then abandon the location session. Test 2: 4. SET send the SUPL START (version = 2.0) to H-SLP. 5. H-SLP responds with SUPL END (version = 1.0 and status code = versionNotSupported) and the location session fails.
Pass-Criteria	1. At step 3 the SET shall respond with SUPL END with the correct version number (2.0) supported by the SET 2. At step 5 the H-SLP shall respond with SUPL END with the correct version number (1.0) supported by the H-SLP.

Appendix A. Change History (Informative)

A.1 Approved Version History

Reference	Date	Description
n/a	n/a	No prior version

A.2 Draft/Candidate Version 2.0.2 History

Document Identifier	Date	Sections	Description
Draft Versions OMA-ETS-SUPL-V2_0	24 Jun 2008	All	Initial empty draft
	19 Nov 2008	5, App B	CR incorporated: OMA-IOP-MEC-2008-0198
	06 Jan 2009	5, App B	CR incorporated: OMA-IOP-MEC-2008-0208
	15 Jan 2009	5, App B	CR incorporated: OMA-IOP-MEC-2008-0241R01 OMA-IOP-MEC-2008-0242R01
	17 Feb 2009		CRs incorporated: OMA-IOP-MEC-2009-0009 OMA-IOP-MEC-2009-0010
	26 Feb 2009	All	CR incorporated: OMA-IOP-MEC-2009-0024 OMA-IOP-MEC-2009-0023R01 OMA-IOP-MEC-2009-0027 OMA-IOP-MEC-2009-0028
	19 Mar 2009	All	CRs incorporated: OMA-IOP-MEC-2009-0035 OMA-IOP-MEC-2009-0036
	26 Mar 2009	App C,	CRs incorporated: OMA-IOP-MEC-2009-0022R02 OMA-IOP-MEC-2009-0025R02 OMA-IOP-MEC-2009-0031R01 OMA-IOO-MEC-2009-0032R01 OMA-IOP-MEC-2009-0033R01 OMA-IOP-MEC-2009-0034R02 OMA-IOP-MEC-2009-0038R02 OMA-IOP-MEC-2009-0039R01
	08 Apr 2009	5	Incorporated CR: OMA-IOP-MEC-2009-0049
	05 May 2009		Incorporated CRs: OMA-IOP-MEC-2009-0061 OMA-IOP-MEC-2009-0063R01 OMA-IOP-MEC-2009-0065 OMA-IOP-MEC-2009-0067 OMA-IOP-MEC-2009-0068 OMA-IOP-MEC-2009-0070 OMA-IOP-MEC-2009-0071
	15 May 2009	7.3 5	Incorporated CR: OMA-IOP-MEC-2009-0080 OMA-IOP-MEC-2009-0081
	29 May 2009	5.1.4, App B	Incorporated CR: OMA-IOP-MEC-2009-0051R01 OMA-IOP-MEC-2009-0053R01 OMA-IOP-MEC-2009-0060R01 OMA-IOP-MEC-2009-0062R02 OMA-IOP-MEC-2009-0087R01 OMA-IOP-MEC-2009-0089R01
	03 Jun 2009	7.1	Incorporated CRs: OMA-IOP-MEC-2009-0088R03 OMA-IOP-MEC-2009-0091R02

Document Identifier	Date	Sections	Description
	04 Jun 2009		Incorporated CR: OMA-IOP-MEC-0052R02
	08 Jun 2009	5, 7	Incorporated CR: OMA-IOP-MEC-2009-0085R01
	25 Jun 2009	5, 7, App B	Incorporated CR: OMA-IOP-MEC-2009-0098 OMA-IOP-MEC-2009-0104R01 OMA-IOP-MEC-2009-0105 OMA-IOP-MEC-2009-0107 OMA-IOP-MEC-2009-0109R01 OMA-IOP-MEC-2009-0110 OMA-IOP-MEC-2009-0111 OMA-IOP-MEC-2009-0113 OMA-IOP-MEC-2009-0115 OMA-IOP-MEC-2009-0116
	02 Jul 2009	All	Editorial clean-up
	15 Jul 2009	All	Editorial clean-up
	23 Jul 2009	5, 7	Incorporated CR: OMA-IOP-MEC-2009-0119 OMA-IOP-MEC-2009-0123 OMA-IOP-MEC-2009-0125R02
Candidate Version OMA-ETS-SUPL-V2_0	18 Aug 2009	n/a	TP approval: OMA-TP-2009-0347-INP_SUPL_2.0_ETS_for_Candidate_approval
Draft Versions OMA-ETS-SUPL-V2_0	07 Oct 2009	2, 5, 6, Appendix B	Incorporated CR: OMA-IOP-MEC-2009-0106R01 OMA-IOP-MEC-2009-0136R04 OMA-IOP-MEC-2009-0142R01 OMA-IOP-MEC-2009-0145
	27 Oct 2009	4.1, 5, 6, 7 App B	Incorporated CR: OMA-IOP-MEC-2009-0180 OMA-IOP-MEC-2009-0181 OMA-IOP-MEC-2009-0182
	21 Jan 2010	5.1.5, 5.2.4	Incorporated CR: OMA-IOP-MEC-2010-0001R01
	11 May 2010	App B 3.1	Incorporated CR: OMA-IOP-MEC-2010-0022 OMA-IOP-MEC-2010-0029R01
	01 Jun 2010	4, App B	Incorporated CR: OMA-IOP-MEC-2010-43
	30 Jul 2010	2.1, 3.3 4.4, 4.5 5.1, 5.2 7.1, App B, App C,	Incorporated CRs: OMA-IOP-MEC-2010-0054R02 OMA-IOP-MEC-2010-0055R02 OMA-IOP-MEC-2010-0056R02 OMA-IOP-MEC-2010-0060 OMA-IOP-MEC-2010-0066
Candidate Version OMA-ETS-SUPL-V2_0	14 Sep 2010	n/a	Status changed to Candidate by TP TP ref#: OMA-TP-2010-0378R01- INP_SUPL_20_for_Candidate_re_approval
Draft Versions OMA-ETS-SUPL-V2_0	23 Sep 2010	7.1.15	Incorporated CR: OMA-IOP-MEC-2010-0069- CR_SUPL_V2.0_ETS_Capabilities_Change_Interoperability_test_case _clarification Editorial changes
	29 Nov 2010	5.1.3.3, 5.1.7, 5.2.2.3	Incorporated CR: OMA-IOP-MEC-2010-0106-CR_SUPL_2.0_ETS_cleanup
	17 Jan 2011	5.1.4 5.2.3.1	Incorporated CR: OMA-IOP-MEC-2010-0121- CR_SUPL_2.0_correction_Interval_Between_Fixes

Document Identifier	Date	Sections	Description
	16 Feb 2011	5.1.4 5.1.5, 5.2.4 App B3, B4	Incorporated CR: OMA-IOP-MEC-2011-0005R01-CR_SUPL_V2.0_ETS_Conformance_Area_Event_corrections OMA-IOP-MEC-2011-0006-CR_SUPL_V2.0_ETS_Conformance_Timeout_UT7_applicability_change OMA-IOP-MEC-2011-0007-CR_SUPL_V2.0_ETS_Conformance_Periodic_test_cases_corrections
	10 Mar 2011	5.1.4	Incorporated CR: OMA-IOP-MEC-2011-0021-CR_SUPL_V2.0_ETS_Conformance_Periodic_test_cases_corrections
	16 Mar 2011	5.1.5 5.2.4	Incorporated CR: OMA-IOP-MEC-2011-0022-CR_SUPL_V2.0_ETS_Area_Events_clarifications
	21 Mar 2011	5.2.4.1	Incorporated CR: OMA-IOP-MEC-2011-0025-CR_SUPL_V2.0_ETS_Area_Events_clarification
Candidate Version OMA-ETS-SUPL-V2_0	30 Mar 2011	n/a	Status changed to Candidate by TP TP ref: OMA-TP-2011-0124-INP_SUPL_20_ETS_For_notification
Draft Version OMA-ETS-SUPL-V2_0	26 Apr 2011	5.1.5 5.2.4	Incorporated CR: OMA-IOP-MEC-2011-0039-CR_SUPL_V2.0_ETS_Area_Events_clarifications
Candidate Version OMA-ETS-SUPL-V2_0	05 May 2011	n/a	Status changed to Candidate by TP TP ref: OMA-TP-2011-0160-INP_SUPL_20_ETS_For_TP_notification
Draft Version OMA-ETS-SUPL-V2_0	17 May 2011	5.1.5 5.2.4 7.1.16 App B3.1, B4	Incorporated CRs: OMA-IOP-MEC-2011-0044-CR_SUPL_V2.0_ETS_ICS_corrections OMA-IOP-MEC-2011-0045-CR_SUPL_V2.0_ETS_INT_020_corrections
Candidate Version OMA-ETS-SUPL-V2_0	06 Jul 2011	n/a	Status changed to Candidate by TP TP ref: OMA-TP-2011-0236-INP_SUPL_20_ETS_For_notification
Draft Versions OMA-ETS-SUPL-V2_0	21 Sep 2011	5.1.4.3, 5.1.5, 5.2.3.1, 5.2.4	Incorporated CR: OMA-IOP-MEC-2011-0081-CR_SUPL_V2.0_SET_based_test_case_clarifications
	18 Nov 2011	5.1.1.7, 5.3.4	Incorporated CR: OMA-IOP-MEC-2011-0101-CR_SUPL_V2.0_ETS_int_203_correction OMA-IOP-MEC-2011-0102R01-CR_SUPL_2.0_TC_con_006_clarification
Candidate Version OMA-ETS-SUPL-V2_0	22 Nov 2011	n/a	Status changed to Candidate by TP TP ref: OMA-TP-2011-0420-INP_SUPL_20_ETS_TP_notification
Draft Versions OMA-ETS-SUPL-V2_0	12 Jan 2012	5.1.3.3, 5.1.3.4, App B2.1, B3.1, B4	Incorporated CR: OMA-IOP-MEC-2011-0119-CR_SUPL_V2.0_Emergency_Services_optional
	05 Mar 2012	5.1.5.2, 5.2.4.2	Incorporated CR: OMA-IOP-MEC-2012-0015R01-CR_SUPL_2.0_ETS_con_051_updates
	14 Mar 2012	5.1.3.1, 5.1.5.2, 5.2.2.1, 5.2.4.2, App B	Incorporated CR: OMA-IOP-MEC-2012-0023-CR_SUPL_2.0_ETS_add_LTE_to_con__051_con_131 OMA-IOP-MEC-2012-0024-CR_SUPL_2.0_ETS_corrections_con_030_con_110
	26 Mar 2012	5.1.1.10, App B	Incorporated CR: OMA-IOP-MEC-2012-0025-CR_SUPL_2.0_ETS_correction_con_011_LTE
	27 Mar 2012	5, App B	Incorporated CR: OMA-IOP-MEC-2012-0028-CR_SUPL_V2.0_Emergency_Services_mandatory_again
Candidate Version OMA-ETS-SUPL-V2_0	27 Mar 2012	n/a	Status changed to Candidate by TP TP ref#: OMA-TP-2012-0143-INP_SUPL_2.0_ETS_for_notification
Draft Versions OMA-ETS-SUPL-V2_0	19 Jul 2012	5.1.3, 5.2.2,	Incorporated CR: OMA-IOP-MEC-2012-0061R01-CR_SUPL_ETS_changes_con_030_con_110_ECID_tests
	27 Aug 2012	5.2.2.1, 5.1.4.2	Incorporated CR: OMA-IOP-MEC-2012-0078R01-CR_SUPL_V2.0_SET_based_test_case_clarifications

Document Identifier	Date	Sections	Description
	20 Sep 2012	5.1.1, 5.1.6, 5.1.7, 5.2.1, 5.2.6, App B	Incorporated CRs: OMA-IOP-MEC-2012-0095-CR_SUPL_V2.0_ETS_ICS_corrections OMA-IOP-MEC-2012-0096R01-CR_SUPL_V2.0_ETS_ICS_corrections
Candidate Version OMA-ETS-SUPL-V2_0	25 Sep 2012	n/a	Status changed to Candidate by TP TP ref#: OMA-TP-2012-0359-INP_SUPL_2.0_ETS_for_notification
Draft Versions OMA-ETS-SUPL-V2_0	08 Nov 2012	App B	Incorporated CR: OMA-IOP-MEC-2012-0121-CR_SUPL_2.0_ETS_missing_ICS_changes_con_030_con_110_Cell_ID_tests
	22 Jan 2013	2.1, 4.3, 4.4, 4.5 (new)	Incorporated CR: OMA-IOP-MEC-2013-0002-CR_SUPL_2.0_ETS_updates_scenario_assistance_data
Draft Version OMA-ETS-SUPL-V2_0_1	26 Feb 2013	All	Incorporated CRs OMA-IOP-MEC-2013-0009R02-CR_SUPL_2.0_ETS_additions_con_070 OMA-IOP-MEC-2013-0021-CR_SUPL_2.0_ETS_update_to_V_2.0.1 OMA-IOP-MEC-2013-0031R01-CR_SUPL_2.0_test_case_mapping_update
Candidate Version OMA-ETS-SUPL-V2_0_1	12 Mar 2013	n/a	Status changed to Candidate by TP TP ref#: OMA-TP-2013-0089-INP_SUPL_V2_0_1_ETS_for_notification
Draft Version OMA-ETS-SUPL-V2_0_1	12 Apr 2013	5.1.5, App B	Incorporated CRs: OMA-IOP-MEC-2013-0040-CR_SUPL_2.0.1_ETS_ics_errors OMA-IOP-MEC-2013-0050-CR_SUPL_2_0_ETS_fixing_SetAssisted_SetBased_ICS
Draft Versions OMA-ETS-SUPL-V2_0_2	08 Aug 2013	5.1.7.4	Incorporated CR: OMA-IOP-MEC-2013-0087R01-CR_SUPL_2.0_ETS_improvements_con_073
	11 Oct 2013	5.1.3.1, 5.1.6.2, 5.2.2.1,	Incorporated CRs: OMA-IOP-MEC-2013-0090-CR_SUPL_2.0_ETS_corrections_con_061 OMA-IOP-MEC-2013-0098-CR_SUPL_Hybrid_TC_addition
	11 Feb 2014	5.1.5.2, 5.1.7.1, 5.2.3.1, 5.2.4.1, 5.2.4.2	Incorporated CR: OMA-IOP-2014-0004-CR_SUPL_2.0_ETS_corrections_clarifications_Event_test_cases Editorial changes
	26 Mar 2014	3.3, 5.1.3.1, 5.2.2.1, 7.1.1, 7.1.2, 7.1.3, 7.2.1, 7.2.2, 7.2.3, B.3.1, B.3.2, B.4	Incorporated CR: OMA-IOP-2014-0030-CR_SUPL_2.0.2_ETS_Add_Beidou
	17 Apr 2014	7.1.16, 7.1.19, 7.1.20	Incorporated CRs: OMA-IOP-MEC-2014-0012-CR_SUPL2_0_ETS_Session_Info_Query_Correction OMA-IOP-MEC-2014-0013-CR_SUPL2_0_ETS_Test_Case_Session_Info_Query_Termination OMA-IOP-MEC-2014-0014-CR_SUPL2_0_ETS_Test_Case_Session_Info_Query_Re_notification
	20 May 2014	5.1.7.1, 5.2.6.2, B.3.1, B.4	Incorporated CR: OMA-IOP-2014-0054-CR_SUPL_2.0.2_ETS_UT2_ICS_clarification
	23 Jun 2014	1, 4.1, 5.1.1.9, 5.2.1.4, 7.3.1, 7.3.4	Incorporated CR: OMA-IOP-2014-0106-CR_Missing_2.0.2_updates_SUPL_V2_0_2_ETS
Candidate Version OMA-ETS-SUPL-V2_0_2	22 Jul 2014	n/a	Status changed to Candidate by TP: OMA-TP-2014-0158-INP_SUPL_V2_0_2_ETS_for_Candidate_re_approval

Document Identifier	Date	Sections	Description
Draft Versions OMA-ETS-SUPL-V2_0_2	19 Aug 2014	2.1, 3.2, 3.3, 4.4, 4.5, 4.6, 5.1.3.1, 5.1.4, 5.1.5.1, 5.1.5.2, 5.1.6.2, 5.1.7.1, 5.1.7.2, 5.2.2.1, 5.2.3.1, 5.2.4, 5.2.5.1, 5.2.6.2, 5.2.6.3, B.3.1, B.4,	Incorporated CRs: OMA-IOP-2014-0109-CR_WLAN_AP_TestCase_Updates OMA-IOP-2014-0124-CR_SUPL_2.0.2_ETS_action_after_SUPL_REPORT OMA-IOP-2014-0134-CR_SUPL_2.0.2_ETS_Simplify_Network_cancels_Triggered_Location_tests OMA-IOP-2014-0135-CR_SUPL_2.0.2_ETS_Update_Triggered_Location_tests_Tokyo_2012 Editorial changes
	15 Sep 2014	5.1.3.1, 5.2.2.1	Incorporated CR: OMA-IOP-2014-0113-CR_SUPL_2.0.2_ETS_Cell_ID_test_improvements
	08 Oct 2014	5.1.6, 5.1.7.1, 5.1.7.2, 5.2.4, 5.2.6.2, 5.2.6.3, 5.3.1.1, B.2, B.3.1, B.3.2, B.4	Incorporated CRs: OMA-IOP-2014-0133R02-CR_SUPL_2.0.2_ETS_Clarification_cancelling_triggered_sessions OMA-IOP-2014-0170-CR_SUPL_2.0.2_ETS_Correction_Applicability_con_007_Test_1
	05 Nov 2014	5.3.1.1, B.4	Incorporated CR: OMA-IOP-2014-0193-CR_SUPL_2.0.2_ETS_Correction_Applicability_con_007
Candidate Version OMA-ETS-SUPL-V2_0_2	05 Nov 2014	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2014-0256-INP_SUPL_V2_0_2_ETS_for_Notification

Appendix B. Client Conformance Test Case applicability

B.1 Introduction

This section allows implementers of the client SUPL Enabler to select appropriate Client Conformance test cases from section 5 that are applicable to the features implemented in the client-under-test.

Section B.2 of this appendix lists all the test cases testing only mandatory features.

Section B.3 of this appendix provides the applicabilities of the Client Conformance test cases for optional features. It lists all the possible optional features in the client in the form of an ICS (Implementation Conformance Statement) table. It also provides an IXIT (Implementation eXtra Information for Testing) table to note any extra information necessary to run the test cases.

B.2 Test Cases testing only mandatory features

These Conformance test cases are independent from any applicability and are testing only mandatory features (SCRs) and SHALL be run with every client implementation.

Test Case
SUPL-2.0-con-007-3 - Alternative H-SLP Addresses. Test 3: Auto configuration of H-SLP address
SUPL-2.0-con-007-4 - Alternative H-SLP Addresses. Test 4: Auto configuration of H-SLP address following authentication failure
SUPL-2.0-con-007-5 - Alternative H-SLP Addresses. Test 5: Clearing of old H-SLP address following change of IMSI

B.2.1 Test Cases testing only mandatory features for Network Initiated call flows

These test cases are testing only mandatory features (SCRs) for Network Initiated call flows and SHALL be run with every client implementation supporting Network Initiated call flows.

Applicability	Test Cases
ics_NetworkInitiated	SUPL-2.0-con-000-1 - SUPL INIT delivery. Test 1: OMA Push SUPL-2.0-con-001 - Incorrect OMA Push message content SUPL-2.0-con-004 - Correct Session ID SUPL-2.0-con-005 - Invalid SET Session ID SUPL-2.0-con-006 - Missing or invalid SLP Session ID SUPL-2.0-con-010-1 - Compatible Versions. Test 1: Support for higher versions of SUPL 2.X.X SUPL-2.0-con-010-3 - Compatible Versions. Test 3: Correct support with SLP supporting SUPL V3.0 and V2.0 SUPL-2.0-con-011-1 Unsupported Versions. Test 1: Higher Version not supported SUPL-2.0-con-020 - No notification & no verification SUPL-2.0-con-021 - Notification only SUPL-2.0-con-022 - Notification and verification

	SUPL-2.0-con-023 - Privacy override SUPL-2.0-con-024 - Requestor ID and Client Name SUPL-2.0-con-030-5 - Positioning method. Test 5: Cell ID SUPL-2.0-con-031 - No Position SUPL-2.0-con-033 - Emergency Services Location Requests SUPL-2.0-con-034 - Emergency Services Location Request – Interaction with normal SUPL session SUPL-2.0-con-070-3 - Timeout UT2. Test 3: No SUPL POS session (Immediate session)

B.2.2 Test Cases testing only mandatory features for SET Initiated call flows

These test cases are testing only mandatory features (SCRs) for SET Initiated call flows and SHALL be run with every client implementation supporting SET Initiated call flows.

Applicability	Test Cases
ics_SETInitiated	SUPL-2.0-con-100 - Correct Session ID SUPL-2.0-con-101 - Invalid SET Session ID SUPL-2.0-con-102 - Invalid SLP Session ID SUPL-2.0-con-103-1 - Compatible Versions. Test 1: Support for higher versions of SUPL 2.X.X SUPL-2.0-con-110-5 - Positioning method. Test 5: Cell ID SUPL-2.0-con-140-1 - Timeout UT1. Test 1: Immediate session SUPL-2.0-con-141-3 - Timeout UT2. Test 3: No SUPL POS session (Immediate session)

B.3 Client Test Case Applicability

B.3.1 Client ICS

This section provides the applicabilities of the Client Conformance test cases for optional features. It lists all the possible optional features in the client in the form of an ICS (Implementation Conformance Statement) table, including a reference to the relevant SCRs defined in the core specifications.

ICS	*Description*	SCR Reference(s)	Supported *(yes/no)*
ics_NetworkInitiated	Any Network Initiated call flow supported	ULP-PRO-C-007-O	
ics_SETInitiated	Any SET Initiated call flow supported	ULP-PRO-C-009-O	
ics_PSK_TLS	PSK-TLS with GBA supported	ULP-PRO-C-004-O, ULP-PRO-C-037-O	
ics_MT_SMS	MT SMS supported	ULP-PIN-C-005-M	

ics_SIP_Push	SIP Push supported	ULP-PIN-C-006-O	
ics_UDP	UDP supported	ULP-PIN-C-007-O	
ics_HSLP_stored_in_UICC	H-SLP address stored in UICC		
ics_HSLP_stored_in_SET	H-SLP address stored in SET		
ics_TLS_add_cipher	TLS additional cipher suite supported		
ics_PSKTLS_add_cipher	PSK-TLS additional cipher suite supported		
ics_support_SUPLV1.0	SUPL V1.0 supported		
ics_SETassisted_AreaEvent	SET assisted positioning for Area Event supported		
ics_SETbased_AreaEvent	SET based positioning for Area Event supported		
ics_transfer_thirdParty	Transfer Location to Third Party supported	ULP-PRO-C-040-O	
ics_notification_currentLocation	Notification based on current location supported	ULP-PRO-C-029-O	
ics_real_time	Real time reporting supported	ULP-PRO-C-046-O	
ics_quasi_real_time	Quasi real time reporting supported	ULP-PRO-C-047-O	
ics_batch	Batch reporting supported	ULP-PRO-C-048-O	
ics_periodic_Network_initiated	Periodic trigger in Network initiated call flows supported	ULP-PRO-C-032-O	
ics_periodic_SET_initiated	Periodic trigger in SET initiated call flows supported	ULP-PRO-C-032-O	
ics_SETbased_in_quasi_real_time	SET based positioning in quasi real time reporting supported	-	
ics_AGPSSETassisted_Network_initiated	A-GPS SET assisted mode in Network initiated call flows supported	ULP-PRO-C-012-O	
ics_AGPSSETassisted_SET_initiated	A-GPS SET assisted mode in SET initiated call flows supported	ULP-PRO-C-012-O	See note 1.
ics_AGPSSETbased_Network_initiated	A-GPS SET based mode in Network initiated call flows supported	ULP-PRO-C-013-O	
ics_AGPSSETbased_SET_initiated	A-GPS SET based mode in SET initiated call flows supported	ULP-PRO-C-013-O	See note 1.
ics_autonomousGPS_Network_initiated	Autonomous GPS mode in Network initiated call flows supported	ULP-PRO-C-014-O	
ics_autonomousGPS_SET_initiated	Autonomous GPS mode in SET initiated call flows supported	ULP-PRO-C-014-O	See note 1.
ics_eCID_Network_initiated	Enhanced Cell ID mode in Network initiated	ULP-PRO-C-	See note 1.

	call flows supported, unless the only form of Enhanced Cell ID supported is Enhanced Cell ID using LPP	018-O	
ics_eCID_SET_initiated	Enhanced Cell ID mode in SET initiated call flows supported, unless the only form of Enhanced Cell ID supported is Enhanced Cell ID using LPP	ULP-PRO-C-018-O	See note 1.
ics_IWLAN_Network_initiated	I-WLAN Network initiated call flows supported		See note 1.
ics_IWLAN_SET_initiated	I-WLAN SET initiated call flows supported		See note 1.
ics_AGANSSSETassisted_Galileo_Network_initiated	A-Galileo SET assisted mode in Network initiated call flows supported	ULP-PRO-C-015-O	
ics_AGANSSSETassisted_Galileo_SET_initiated	A- Galileo SET assisted mode in SET initiated call flows supported	ULP-PRO-C-015-O	See note 1.
ics_AGANSSSETassisted_GLONASS_Network_initiated	A- GLONASS SET assisted mode in Network initiated call flows supported	ULP-PRO-C-015-O	
ics_AGANSSSETassisted_GLONASS_SET_initiated	A- GLONASS SET assisted mode in SET initiated call flows supported	ULP-PRO-C-015-O	See note 1.
ics_AGANSSSETassisted_BDS_Network_initiated	A- Beidou SET assisted mode in Network initiated call flows supported		
ics_AGANSSSETassisted_BDS_SET_initiated	A- Beidou SET assisted mode in SET initiated call flows supported		See note 1.
ics_AGANSSSETbased_Galileo_Network_initiated	A- Galileo SET based mode in Network initiated call flows supported	ULP-PRO-C-016-O	
ics_AGANSSSETbased_Galileo_SET_initiated	A- Galileo SET based mode in SET initiated call flows supported	ULP-PRO-C-016-O	See note 1.
ics_AGANSSSETbased_GLONASS_Network_initiated	A- GLONASS SET based mode in Network initiated call flows supported	ULP-PRO-C-016-O	
ics_AGANSSSETbased_GLONASS_SET_initiated	A- GLONASS SET based mode in SET initiated call flows supported	ULP-PRO-C-016-O	See note 1.
ics_AGANSSSETbased_BDS_Network_initiated	A- Beidou SET based mode in Network initiated call flows supported		
ics_AGANSSSETbased_BDS_SET_initiated	A- Beidou SET based mode in SET initiated call flows supported		See note 1.
ics_autonomousGANSS_Network_initiated	Autonomous GANSS mode in Network initiated call flows supported	ULP-PRO-C-014-O	
ics_autonomousGANSS_SET_initiated	Autonomous GANSS mode in SET initiated call flows supported	ULP-PRO-C-014-O	See note 1.
ics_AGNSSSETassisted_preferred	SET declares A-GNSS SET-assisted preferred in Pref Method in SUPL START		See note 1.
ics_AGNSSSETbased_preferred	SET declares A-GNSS SET-based preferred in Pref Method in SUPL START		See note 1.
ics_OTDOA_Network_initiated	OTDOA mode in Network initiated call flows supported	ULP-PRO-C-020-O	See note 1.

ics_OTDOA_SET_initiated	OTDOA mode in SET initiated call flows supported	ULP-PRO-C-020-O	See note 1.
ics_event_Network_initiated	Area Event Triggered Service in Network initiated call flows supported	ULP-PRO-C-033-O	
ics_event_SET_initiated	Area Event Triggered Service in SET initiated call flows supported	ULP-PRO-C-033-O	
ics_GeoTargetArea	Geographic Target Area supported		
ics_AreaId	Area Id supported		
ics_silr_another_SET	SET Initiated Location Request of another SET supported	ULP-PRO-C-038-O	
ics_historic_reporting	Retrieval of historical positions and/or enhanced cell/sector measurements supported	ULP-PRO-C-035-O	
ics_stop_triggered_session	Ability to stop Triggered Location Session supported		
ics_ecidlpp_Network_initiated	Enhanced Cell ID mode using LPP in Network initiated call flows supported		
ics_ecidlpp_SET_initiated	Enhanced Cell ID mode using LPP in SET initiated call flows supported		
ics_support_GSM_WCDMA	GSM and/or WCDMA supported as bearer		
ics_SUPL_POS_in_SUPL_POS_INIT	SET sends the first SUPL POS element within the SUPL POS INIT message		See note 2.

Note 1: Support for this ICS may vary, depending on the test case being run.

Note 2: UT2 is not needed if the SUPL POS INIT message contains the first SUPL POS element (see OMA-TS-ULP Appendix D). Therefore if this ics is supported, certain UT2 test cases are not applicable.

B.3.2 Client IXIT

This section provides an IXIT (Implementation eXtra Information for Testing) table to note any extra information necessary to run the test cases.

IXIT *Description*	**Unit** **<(Range of values)>**	**Value**
ixit_verification_timeout Value of Verification timeout	seconds (30 to 50. Recommended value: 40)	
ixit_timer_UT1 Value of Timer UT1	seconds (10 to 20)	
ixit_timer_UT2 Value of Timer UT2	seconds (10 to 20)	
ixit_timer_UT3 Value of Timer UT3	seconds (8 to 20)	
ixit_timer_UT5 Value of Timer UT5	seconds (8 to 20)	
ixit_timer_UT7 Value of Timer UT7	seconds (8 to 20)	

ixit_timer_UT8	Value of Timer UT8	seconds (8 to 20)	
ixit_timer_UT9	Value of Timer UT9	seconds (50 to 120)	
ixit_gANSS	GANSS technology supported	-(Galileo, GLONASS, Beidou)	
ixit_emergency_call_required	Emergency call required to be in progress for an Emergency Services Location Request	- (Yes/No)	
ixit_start_time_SI_areaEvent	Start Time supported in SET Initiated Area Event sessions	- (Yes/No)	
ixit_stop_time_SI_areaEvent	Stop Time supported in SET Initiated Area Event sessions	- (Yes/No)	
ixit_SUPLV2.X	Minor version number of SUPL V2.X	- (0 to Maximum minor version number)	
ixit_session_info_query	Session Info Query procedure supported	- (Yes/No)	

B.3.3 Server ICS

ICS	*Description*	**SCR Reference(s)**	**Supported** *(yes/no)*

B.3.4 Server IXIT

IXIT	*Description*	**Unit** **<(Range of values)>**	**Value**

B.4 Client ICS to test case mapping

This section provides a mapping from the optional client applicabilities (Client ICS) in section B.3.1 to the applicable test cases from section 5, so that by using the Client ICS described above the applicable optional test cases can be derived from the following table.

Applicability	Test Cases
ics_PSK_TLS AND ics_NetworkInitiated	SUPL-2.0-con-009 - Basic SUPL INIT protection
ics_MT_SMS	SUPL-2.0-con-000 - SUPL INIT delivery. Test 2 : MT SMS SUPL-2.0-con-002 - Incorrect MT SMS message content
ics_SIP_Push	SUPL-2.0-con-000 - SUPL INIT delivery. Test 3: SIP Push SUPL-2.0-con-003 - Incorrect SIP Push message content
ics_UDP	SUPL-2.0-con-000 - SUPL INIT delivery. Test 4 : UDP SUPL-2.0-con-012 - Incorrect UDP message content

ics_HSLP_stored_in_UICC OR NOT (ics_HSLP_stored_in_SET AND ics_PSK_TLS)	SUPL-2.0-con-007-1- Alternative H-SLP Addresses. Test 1: H-SLP address stored on UICC
(ics_HSLP_stored_in_SET AND ics_PSK_TLS) OR NOT ics_HSLP_stored_in_UICC	SUPL-2.0-con-007-2 - Alternative H-SLP Addresses. Test 2: H-SLP address stored on SET
ics_TLS_add_cipher	SUPL-2.0-con-008-1 - Optional Ciphering Suites. Test 1: TLS_RSA_WITH_3DES_EDE_CBC_SHA
ics_PSKTLS_add_cipher	SUPL-2.0-con-008-2 - Optional Ciphering Suites. Test 2: TLS_PSK_WITH_3DES_EDE_CBC_SHA
ics_support_SUPLV1.0 AND ics_NetworkInitiated	SUPL-2.0-con-010-4 - Compatible Versions. Test 4: Correct support with SLP supporting SUPL V1.0 only. SUPL V1.0 supported by SET
ics_support_GSM_WCDMA AND NOT ics_support_SUPLV1.0 AND ics_NetworkInitiated	SUPL-2.0-con-011-2 - Unsupported Versions. Test 2: Lower Version not supported. SUPL V1.0 not supported by SET
ics_ notification_currentLocation	SUPL-2.0-con-025-1 - Notification and verification based on current location. Test 1: User accepts the verification SUPL-2.0-con-025-2 - Notification and verification based on current location. Test 2: User denies the verification SUPL-2.0-con-072 - Timeout UT5
ics_transfer_thirdParty AND ics_AGPSSETbased_SET_initiated	SUPL-2.0-con-113 - Transfer Location to Third Party
ics_AGPSSETassisted_Network_initiated	SUPL-2.0-con-030-1 - Positioning method. Test 1: A-GPS SET assisted
ics_AGPSSETassisted_SET_initiated	SUPL-2.0-con-110-1 - Positioning method. Test 1: A-GPS SET assisted
ics_AGPSSETbased_Network_initiated	SUPL-2.0-con-030-2 - Positioning method. Test 2: A-GPS SET based
ics_AGPSSETbased_SET_initiated	SUPL-2.0-con-110-2 - Positioning method. Test 2: A-GPS SET based
ics_autonomousGPS_Network_initiated	SUPL-2.0-con-030-3 - Positioning method. Test 3: Autonomous GPS
ics_autonomousGPS_SET_initiated	SUPL-2.0-con-110-3 - Positioning method. Test 3: Autonomous GPS
ics_AGANSSSETassisted_Galileo_Network_initiated	SUPL-2.0-con-030-6 - Positioning method. Test 6: A-GANSS SET assisted – Galileo
ics_AGANSSSETassisted_Galileo_SET_initiated	SUPL-2.0-con-110-6 - Positioning method. Test 6: A-GANSS SET assisted – Galileo
ics_AGANSSSETassisted_GLONASS_Network_initiated	SUPL-2.0-con-030-7 - Positioning method. Test 7: A-GANSS SET assisted – GLONASS

ics_AGANSSSETassisted_GLONASS_SET_initiated	SUPL-2.0-con-110-7 - Positioning method. Test 7: A-GANSS SET assisted – GLONASS
ics_AGANSSSETassisted_BDS_Network_initiated	SUPL-2.0-con-030-17 - Positioning method. Test 17: A-GANSS SET assisted –Beidou
ics_AGANSSSETassisted_BDS_SET_initiated	SUPL-2.0-con-110-17 - Positioning method. Test 17: A-GANSS SET assisted –Beidou
ics_AGANSSSETbased_Galileo_Network_initiated	SUPL-2.0-con-030-8 - Positioning method. Test 8: A-GANSS SET based – Galileo
ics_AGANSSSETbased_Galileo_SET_initiated	SUPL-2.0-con-110-8 - Positioning method. Test 8: A-GANSS SET based – Galileo
ics_AGANSSSETbased_GLONASS_Network_initiated	SUPL-2.0-con-030-9 - Positioning method. Test 9: A-GANSS SET based – GLONASS
ics_AGANSSSETbased_GLONASS_SET_initiated	SUPL-2.0-con-110-9 - Positioning method. Test 9: A-GANSS SET based – GLONASS
ics_AGANSSSETbased_BDS_Network_initiated	SUPL-2.0-con-030-18 - Positioning method. Test 18: A-GANSS SET based – Beidou
ics_AGANSSSETbased_BDS_SET_initiated	SUPL-2.0-con-110-18 - Positioning method. Test 18: A-GANSS SET based – Beidou
ics_autonomousGANSS_Network_initiated	SUPL-2.0-con-030-10 - Positioning method. Test 10: Autonomous GANSS
ics_autonomousGANSS_SET_initiated	SUPL-2.0-con-110-10 - Positioning method. Test 10: Autonomous GANSS
ics_OTDOA_Network_initiated	SUPL-2.0-con-030-13 - Positioning method. Test 13: OTDOA
ics_OTDOA_SET_initiated	SUPL-2.0-con-110-13 - Positioning method. Test 13: OTDOA
ics_AGPSSETassisted_Network_initiated AND ics_AGPSSETbased_Network_initiated	SUPL-2.0-con-030-11 - Positioning method. Test 11: A-GPS Preferred methods
ics_AGNSSSETassisted_preferred	SUPL-2.0-con-110-11 - Positioning method. Test 11: SET declares A-GNSS SET-assisted Preferred method
ics_AGNSSSETbased_preferred	SUPL-2.0-con-110-12 - Positioning method. Test 12: SET declares A-GNSS SET-based Preferred method
(ics_AGANSSSETassisted_Galileo_Network_initiated AND ics_AGANSSSETbased_Galileo_Network_initiated) OR (ics_AGANSSSETassisted_GLONASS_Network_initiated AND ics_AGANSSSETbased_GLONASS_Network_initiated) OR (ics_AGANSSSETassisted_BDS_Network_initiated AND ics_AGANSSSETbased_BDS_Network_initiated)	SUPL-2.0-con-030-12 - Positioning method. Test 12: A-GANSS Preferred methods
ics_ecidlpp_Network_initiated	SUPL-2.0-con-030-14 - Positioning method. Test 14: Enhanced Cell ID using LPP

ics_ecidlpp_SET_initiated	SUPL-2.0-con-110-14 - Positioning method. Test 14: Enhanced Cell ID using LPP
ics_AGANSSSETassisted_GLONASS_Network_initiated AND ics_AGPSSETassisted_Network_initiated	SUPL-2.0-con-030-15 - Positioning method. Test 15: A-GANSS SET assisted – GPS and GLONASS
ics_AGANSSSETassisted_GLONASS_SET_initiated AND ics_AGPSSETassisted_SET_initiated	SUPL-2.0-con-110-15 - Positioning method. Test 15: A-GANSS SET assisted – GPS and GLONASS
ics_AGPSSETbased_Network_initiated AND ics_AGANSSSETbased_GLONASS_Network_initiated	SUPL-2.0-con-030-16 - Positioning method. Test 16: A-GANSS SET based – GPS and GLONASS
ics_AGPSSETbased_SET_initiated AND ics_AGANSSSETbased_GLONASS_SET_initiated	SUPL-2.0-con-110-16 - Positioning method. Test 16: A-GANSS SET based – GPS and GLONASS
ics_AGANSSSETassisted_BDS_Network_initiated AND ics_AGPSSETassisted_Network_initiated	SUPL-2.0-con-030-19 - Positioning method. Test 19: A-GANSS SET assisted – GPS and Beidou
ics_AGANSSSETassisted_BDS_SET_initiated AND ics_AGPSSETassisted_SET_initiated	SUPL-2.0-con-110-19 - Positioning method. Test 19: A-GANSS SET assisted – GPS and Beidou
ics_AGPSSETbased_Network_initiated AND ics_AGANSSSETbased_BDS_Network_initiated	SUPL-2.0-con-030-20 - Positioning method. Test 20: A-GANSS SET based – GPS and Beidou
ics_AGPSSETbased_SET_initiated AND ics_AGANSSSETbased_BDS_SET_initiated	SUPL-2.0-con-110-20 - Positioning method. Test 20: A-GANSS SET based – GPS and Beidou
ics_real_time AND ics_periodic_Network_initiated AND ics_AGPSSETassisted_Network_initiated	SUPL-2.0-con-040-1 Real Time reporting. Test 1: A-GPS SET assisted
ics_real_time AND ics_periodic_Network_initiated AND ics_AGPSSETbased_Network_initiated	SUPL-2.0-con-040-2 Real Time reporting. Test 2: A-GPS SET based

ics_quasi_real_time AND ics_periodic_Network_initiated AND ics_SETbased_in_quasi_real_time AND ics_AGPSSETassisted_Network_initiated	SUPL-2.0-con-041-1 - Basic Quasi Real Time reporting. Test 1: A-GPS SET assisted
ics_quasi_real_time AND ics_periodic_Network_initiated AND ics_AGPSSETbased_Network_initiated	SUPL-2.0-con-041-2 Basic Quasi Real Time reporting. Test 2: A-GPS SET based
ics_batch AND ics_periodic_Network_initiated AND ics_AGPSSETassisted_Network_initiated	SUPL-2.0-con-042-1 - Basic Batch reporting. Test 1: A-GPS SET assisted
ics_batch AND ics_periodic_Network_initiated AND ics_AGPSSETbased_Network_initiated	SUPL-2.0-con-042-2 - Basic Batch reporting. Test 2: A-GPS SET based
ics_event_Network_initiated AND ics_GeoTargetArea AND ics_AGPSSETassisted_Network_initiated AND ics_SETassisted_AreaEvent	SUPL-2.0-con-050-1 - Geographic Target Area. Test 1: A-GPS SET assisted
ics_event_Network_initiated AND ics_GeoTargetArea AND ics_AGPSSETbased_Network_initiated AND ics_SETbased_AreaEvent	SUPL-2.0-con-050-2 - Geographic Target Area. Test 2: A-GPS SET based
ics_event_Network_initiated AND ics_AreaId AND ics_AGPSSETassisted_Network_initiated AND ics_SETassisted_AreaEvent	SUPL-2.0-con-051-1 - Area ID. Test 1: A-GPS SET assisted
ics_event_Network_initiated AND ics_AreaId AND ics_AGPSSETbased_Network_initiated AND ics_SETbased_AreaEvent	SUPL-2.0-con-051-2 - Area ID. Test 2: A-GPS SET based
ics_periodic_SET_initiated AND ics_AGPSSETassisted_SET_initiated	SUPL-2.0-con-120-1 - Periodic reporting. Test 1: A-GPS SET assisted
ics_periodic_SET_initiated AND ics_AGPSSETbased_SET_initiated	SUPL-2.0-con-120-2 - Periodic reporting. Test 2: A-GPS SET based

ics_event_SET_initiated AND ics_GeoTargetArea AND ics_AGPSSETassisted_SET_initiated	SUPL-2.0-con-130-1 - Geographic Target Area. Test 1: A-GPS SET assisted
ics_event_SET_initiated AND ics_GeoTargetArea AND ics_AGPSSETbased_SET_initiated	SUPL-2.0-con-130-2 - Geographic Target Area. Test 2: A-GPS SET based
ics_event_SET_initiated AND ics_GeoTargetArea AND ics_AreaId AND ics_AGPSSETassisted_SET_initiated	SUPL-2.0-con-131-1 - Area ID. Test 1: A-GPS SET assisted
ics_event_SET_initiated AND ics_GeoTargetArea AND ics_AreaId AND ics_AGPSSETbased_SET_initiated	SUPL-2.0-con-131-2 - Area ID. Test 2: A-GPS SET based
ics_AGPSSETassisted_Network_initiated OR ics_AGPSSETbased_Network_initiated OR ics_autonomousGPS_Network_initiated OR [others FFS] AND NOT ics_SUPL_POS_in_SUPL_POS_INIT (Any positioning method requiring a SUPL POS session)	SUPL-2.0-con-070-1 - Timeout UT2. Test 1: SUPL POS session (Immediate session)
ics_AGPSSETassisted_Network_initiated OR ics_AGPSSETbased_Network_initiated OR ics_autonomousGPS_Network_initiated OR [others FFS] (Any positioning method requiring a SUPL POS session)	SUPL-2.0-con-071-1 Timeout UT3. Test 1: Immediate session
ics_AGPSSETassisted_SET_initiated OR ics_AGPSSETbased_SET_initiated OR [others FFS] AND NOT ics_SUPL_POS_in_SUPL_POS_INIT (Any positioning method requiring a SUPL POS session)	SUPL-2.0-con-141-1 - Timeout UT2. Test 1: SUPL POS session (Immediate session)
ics_AGPSSETassisted_SET_initiated OR ics_AGPSSETbased_SET_initiated OR [others FFS] (Any positioning method requiring a SUPL POS session)	SUPL-2.0-con-142-1 - Timeout UT3. Test 1: Immediate session

(ics_AGPSSETassisted_Network_initiated OR ics_AGPSSETbased_Network_initiated OR [others FFS]) AND (ics_periodic_Network_initiated OR ics_event_Network_initiated) AND NOT ics_SUPL_POS_in_SUPL_POS_INIT	SUPL-2.0-con-070-2 - Timeout UT2. Test 2: SUPL POS session (Triggered session)
(ics_AGPSSETassisted_Network_initiated OR [others FFS]) AND ics_periodic_Network_initiated	SUPL-2.0-con-071-2 - Timeout UT3. Test 2: Triggered session
(ics_AGPSSETassisted_SET_initiated OR [others FFS]) AND ics_periodic_SET_initiated AND NOT ics_SUPL_POS_in_SUPL_POS_INIT	SUPL-2.0-con-141-2 - Timeout UT2. Test 2: SUPL POS session (Triggered session)
(ics_AGPSSETassisted_SET_initiated OR [others FFS]) AND ics_periodic_SET_initiated	SUPL-2.0-con-142-2 - Timeout UT3. Test 2: Triggered session
ics_periodic_Network_initiated OR ics_event_Network_initiated	SUPL-2.0-con-070-4 - Timeout UT2. Test 4: No SUPL POS session (Triggered session)
(ics_periodic_Network_initiated OR ics_event_Network_initiated) AND ics_stop_triggered_session	SUPL-2.0-con-073 - Timeout UT7
ics_periodic_Network_initiated OR ics_periodic_SET_initiated OR ics_event_Network_initiated OR ics_event_SET_initiated	SUPL-2.0-con-061 - Network cancels Triggered Location Request
ics_periodic_SET_initiated OR ics_event_SET_initiated	SUPL-2.0-con-140-2 - Timeout UT1. Test 2: Triggered session
ics_periodic_SET_initiated	SUPL-2.0-con-141-4 - Timeout UT2. Test 4: No SUPL POS session (Triggered session)
ics_event_Network_initiated OR ics_event_SET_initiated	SUPL-2.0-con-060 - Network Capabilities change
(ics_periodic_SET_initiated OR ics_event_SET_initiated) AND NOT (ics_periodic_Network_initiated OR ics_event_Network_initiated)	SUPL-2.0-con-143 - Timeout UT7
ics_periodic_Network_initiated	SUPL-2.0-con-074 - Timeout UT8

ics_silr_another_SET	SUPL-2.0-con-144 - Timeout UT9 SUPL-2.0-con-111 - SET Initiated Location Request of another SET
ics_historic_reporting	SUPL-2.0-con-035 - Retrieval of historical positions
(ics_periodic_Network_initiated AND ics_AGPSSETassisted_Network_initiated) OR (ics_periodic_SET_initiated AND ics_AGPSSETassisted_SET_initiated)	SUPL-2.0-con-062 - V-SLP to V-SLP Handover
ics_NetworkInitiated AND ixit_SUPLV2.X > 0	SUPL-2.0-con-010-2 - Compatible Versions. Test 2: Support for lower versions of SUPL 2.X.X
ics_SETInitiated AND ixit_SUPLV2.X > 0	SUPL-2.0-con-103-2 - Compatible Versions. Test 2: Support for lower versions of SUPL 2.X.X

Appendix C. ULP default message content for Client conformance testing

C.1 Introduction

This section defines the default message content that shall be used during Client conformance testing.

The values specified below shall be used unless overridden in the Test Procedure of a test case.

In the case of SUPL messages sent from the SLP (Conformance Test Tool) to the SET-under test, the values that shall be used for the mandatory parameters are given below. Optional information elements are normally set to "Omit".

In the case of SUPL messages sent from the SET-under-test to the SLP (Conformance Test Tool), optional parameters are generally marked as "Not checked or not present". Mandatory parameters have the value that must be checked by the Conformance Test Tool or are marked as "Not checked" meaning that any value is acceptable.

In some cases the message content is dependent on the context. In these cases the values is marked "Conditional" and in the Comment column the dependency is explained.

Common Part

The common part contains parameters that are present in all ULP messages.

C.1.1 SLP to SET

Parameter	Value	Comment
Message Length	Correctly calculated	
Version	2.0.2	
Session ID	Correctly formulated. In the case of the initial SLP Session ID, any value may be used	
Message Payload	Any	One of the messages defined in the following sections

Table 6: Common Part for all ULP Messages

C.1.2 SET to SLP

Parameter	Value	Comment
Message Length	Not checked	
Version	2.0.2	
Session ID	Not checked	
Message Payload	Any	One of the messages defined in the following sections

Table 7: Common Part for all ULP Messages

C.2 SUPL INIT

SUPL INIT is the initial message from the H-SLP (or E-SLP) to the SET in Network initiated cases.

Parameter	Value	Comment
Positioning Method	eCID	
Notification	Omit	
SLP Address	Omit	
QoP	Omit	
SLP Mode	Proxy mode	

MAC	Omit	For SUPL 2.0
Key Identity	Omit	
Notification Mode	Omit	
Supported Network Information	Omit	
Trigger Type	Omit	
E-SLP Address	Omit	
Historic Reporting	Omit	
Protection Level	Omit	
GNSS Positioning Technology	Omit	
Minimum Major Version	Omit	

Table 8: SUPL_INIT Message

C.3 SUPL SET INIT

The SUPL SET INIT message is the initial message where a SET can initiate location request to another target SET.

Parameter	Value	Comment
Target SET ID	Not checked	
QoP	Not checked or not present	

Table 9: SUPL_SET_INIT Message

C.4 SUPL START

SUPL START is the initial message from the SET to the SLP.

Parameter	Value	Comment
SET capabilities	According to ICS/ declared for the SET-under-test …	
Location ID	Not checked	
QoP	Not checked or not present	
Multiple Location IDs	Not checked or not present	
Third Party	Not checked or not present	
Position	Not checked or not present	

Table 10: SUPL START Message

C.5 SUPL RESPONSE

SUPL RESPONSE is the response to a SUPL START message.

Parameter	Value	Comment
Positioning Method	eCID	
SLP Address	Omit	
SET Auth key	Omit	For SUPL 2.0
Key Identity 4	Omit	For SUPL 2.0
SPC_SET_Key	Omit	
SPC-TID	Omit	
SPC_SET_Key_lifetime	Omit	
Supported Network Information	Omit	
Initial Approximate Position	Omit	

GNSS Positioning Technology	Omit	

Table 11: SUPL RESPONSE Message

C.6 SUPL POS INIT

SUPL POS INIT is the message following the SUPL INIT message in Network initiated cases or the SUPL RESPONSE message in SET initiated cases

Parameter	Value	Comment
SET Capabilities	According to ICS/ declared for the SET-under-test …	
Requested Assistance Data	Not checked or not present	
Location ID	Not checked	
Position	Not checked or not present	
SUPLPOS	Not checked or not present	
Ver	In Network initiated mode the hash of the SUPL INIT message, otherwise not present	
Multiple Location IDs	Not checked or not present	
UTRAN GPS Reference Time Result	Not checked or not present	
UTRAN GANSS Reference Time Result	Not checked or not present	

Table 12: SUPL POS INIT Message

C.7 SUPL POS

SUPL POS is the message that wraps the underlying TIA-801, RRLP or RRC element and may contain additional information such as velocity, UTRAN GPS/GANSS Reference Time Assistance or UTRAN GPS/GANSS Reference Time Result.

C.7.1 SLP to SET

Parameter	Value	Comment
Positioning Payload	The underlying TIA-801, RRLP, RRC or LPP element	FFS – we may wish to define RRLP messages
Velocity	Omit	
UTRAN GPS Reference Time Assistance	Omit	
UTRAN GPS Reference Time Result	Omit	
UTRAN GANSS Reference Time Assistance	Omit	
UTRAN GANSS Reference Time Result	Omit	

Table 13: SUPL POS Message

C.7.2 SET to SLP

Parameter	Value	Comment
Positioning Payload	Not checked	The underlying TIA-801, RRLP, RRC or LPP element.
Velocity	Not checked or not present	
UTRAN GPS Reference Time Assistance	Not present	
UTRAN GPS Reference Time Result	Not checked or not present	

UTRAN GANSS Reference Time Assistance	Not present	
UTRAN GANSS Reference Time Result	Not checked or not present	

Table 14: SUPL POS Message

C.8 SUPL END

SUPL END is the message that ends the SUPL procedure, normally or abnormally.

C.8.1 SLP to SET

Parameter	Value	Comment
Position	In the case that a position needs to be sent to the SET, otherwise omit	
>Timestamp	Time when position fix was calculated	
>Position Estimate		
>>Sign of latitude	north	
>>Latitude	2064427	
>>Longitude	5292209	
Status Code	Omit	
Ver	Omit	
SET Capabilities	Omit	

Table 15: SUPL END Message

C.8.2 SET to SLP

Parameter	Value	Comment
Position	Not checked or not present	
Status Code	Not checked or not present	
Ver	C	Need to be sent when SUPL END message is sent as a direct response to SUPL INIT. Otherwise not present.
SET Capabilities	According to ICS declared for the SET-under-test … or not present	

Table 16: SUPL END Message

C.9 SUPL AUTH REQ

Not currently used for conformance testing.

C.10 SUPL AUTH RESP

Not currently used for conformance testing.

C.11 SUPL TRIGGERED START

SUPL TRIGGERED START is the initial message from the SET to the H-SLP for establishing a triggered session or for requesting new trigger parameters during an ongoing Area event triggered session.

C.11.1 Network initiated sessions

C.11.1.1 Periodic Trigger

Parameter	Value	Comment

SET capabilities	According to ICS declared for the SET-under-test / …	
Location ID	Not checked	
Ver	Not checked	Hash of the SUPL INIT message which triggered this SUPL TRIGGERED START message (not in other cases) in Network initiated proxy mode.
QoP	Not checked or not present	
Multiple Location IDs	Not checked or not present	
Third Party	Not present	
Trigger Type	Not present	
Trigger Params	Not present	
Position	Not checked or not present	
Reporting Capability	According to ICS declared for the SET-under-test …	
Cause Code	Not present	

Table 17: SUPL TRIGGERED START Message

C.11.1.2 Event Trigger

Parameter	Value	Comment
SET capabilities	According to ICS declared for the SET-under-test …	
Location ID	Not checked	
Ver	Not checked	Hash of the SUPL INIT message which triggered this SUPL TRIGGERED START message (not in other cases) in Network initiated proxy mode. FFS.
QoP	Not checked or not present	
Multiple Location IDs	Not checked or not present	
Third Party	Not present	
Trigger Type	Not present	
Trigger Params	Not present	
Position	Not checked or not present	
Reporting Capability	Not present	
Cause Code	Not checked	

Table 18: SUPL TRIGGERED START Message

C.11.2 SET initiated sessions

C.11.2.1 Periodic Trigger

Parameter	Value	Comment
SET capabilities	According to ICS declared for the SET-under-test/ …	
Location ID	Not checked	
Ver	Not present	
QoP	Not checked or not present	

Multiple Location IDs	Not checked or not present	
Third Party	C	Only for SET Initiated location requests with transfer to Third Party.
>Third Party ID	Not checked	
Trigger Type	Periodic	
Trigger Params	Not checked	
Position	Not checked or not present	
Reporting Capability	According to ICS declared for the SET-under-test/ …	
Cause Code	Not present	

Table 19: SUPL TRIGGERED START Message

C.11.2.2 Area Event Trigger

Parameter	Value	Comment
SET capabilities	According to ICS declared for the SET-under-test / …	
Location ID	Not checked	
Ver	Not present	
QoP	Not checked or not present	
Multiple Location IDs	Not checked or not present	
Third Party	C	Only for SET Initiated location requests with transfer to Third Party.
>Third Party ID	Not checked	
Trigger Type	Area event	
Trigger Params	Not checked	
Position	Not checked or not present	
Reporting Capability	Not present	
Cause Code	Not checked	

Table 20: SUPL TRIGGERED START Message

C.12 SUPL TRIGGERED RESPONSE

SUPL TRIGGERED RESPONSE is the response to a SUPL TRIGGERED START message from the SLP to the SET

C.12.1 Network initiated sessions

C.12.1.1 Periodic Trigger

Parameter	Value	Comment
Positioning Method	eCID	
Trigger Params	Periodic Params	
>Number of fixes	3	FFS
>Interval Between Fixes	30 (see comment)	FFS If the minimum interval between fixes received from the SET in SUPL TRIGGERED START is greater than 30, use this value.
>Start Time	30	FFS
SLP Address	Omit	
Supported Network Information	Omit	

Reporting Mode	Omit	This implies real time reporting
SPC_SET_Key	Omit	
SPC-TID	Omit	
SPC_SET_Key_lifetime	Omit	
GNSS Positioning Technology	Omit	

Table 21: SUPL TRIGGERED RESPONSE Message

C.12.1.2 Area Event Trigger

Parameter	Value	Comment
Positioning Method	eCID	
Trigger Params	Area Event Params	
>Area Event Type	FFS	
>Location estimate	FFS	
>Repeated reporting	Omit FFS	
>Start Time	Omit FFS	
>Stop Time	Omit FFS	
>Geographic Target Area List	Omit FFS	
>Area Id Lists	FFS	
SLP Address	Omit	
Supported Network Information	Omit	
Reporting Mode	Omit	
SPC_SET_Key	Omit	
SPC-TID	Omit	
SPC_SET_Key_lifetime	Omit	
GNSS Positioning Technology	Omit	

Table 22: SUPL TRIGGERED RESPONSE Message

C.12.2 SET initiated sessions

C.12.2.1 Periodic Trigger

Parameter	Value	Comment
Positioning Method	eCID	
Trigger Params	Omit	
SLP Address	Omit	
Supported Network Information	Omit	
Reporting Mode	Omit	This implies real time reporting
SPC_SET_Key	Omit	

SPC-TID	Omit	
SPC_SET_Key_lifetime	Omit	
GNSS Positioning Technology	Omit	

Table 23: SUPL TRIGGERED RESPONSE Message

C.12.2.2 Area Event Trigger

Parameter	Value	Comment
Positioning Method	eCID	
Trigger Params	Omit	
SLP Address	Omit	
Supported Network Information	Omit	
Reporting Mode	Omit	
SPC_SET_Key	1. Omit	
SPC-TID	2. Omit	
SPC_SET_Key_lifetime	3. Omit	
GNSS Positioning Technology	4. Omit	

Table 24: SUPL TRIGGERED RESPONSE Message

C.13 SUPL TRIGGERED STOP

SUPL TRIGGERED STOP is used by the SLP or the SET to cancel a triggered session.

C.13.1 SLP to SET

Parameter	Value	Comment
Status Code	Omit	

Table 25: SUPL TRIGGERED STOP Message

C.13.2 SET to SLP

Parameter	Value	Comment
Status Code	Not checked or not present	

Table 26: SUPL TRIGGERED STOP Message

C.14 SUPL NOTIFY

SUPL NOTIFY is the message from the SLP to the SET in Network initiated cases.

Parameter	Value	Comment
Notification	No notification & no verification	

Table 27: SUPL NOTIFY Message

C.15 SUPL NOTIFY RESPONSE

SUPL NOTIFY RESPONSE is the response to a SUPL NOTIFY message.

Parameter	Value	Comment
Notification Response	Not checked or not present	

Table 28: SUPL NOTIFY RESPONSE Message

C.16 SUPL REPORT - FFS

The SUPL REPORT message is used in the following instances:

(1) For triggered applications, the SUPL REPORT message is used by the SLP to indicate the end of a positioning procedure (SUPL POS session) to the SET. In this case the SUPL REPORT message may or may not contain a calculated position.

Parameter	Value	Comment
SessionList	Omit	
SET capabilities	Omit	
ReportDataList	Omit	
>Report Data	Omit	
>>Position Data	Omit	A calculated position and the respective positioning mode used (optional).
>>Multiple Location Ids	FFS	Multiple Location Ids.
>>Result Code	Omit	
>>Time Stamp	C	Only used if Position Data is not present.
Ver	Omit	
More Components	Omit	

Table 29: SUPL REPORT Message

(2) For triggered applications, the SUPL REPORT message may be used to send one or more position result(s) (calculated by the SET) and/or enhanced cell/sector measurement(s) from the SET to the SLP. A result code may optionally be sent to indicate an error condition (e.g. no position available).

Parameter	Value	Comment
SessionList	Omit	
SET capabilities	Omit	
ReportDataList		
>Report Data	Not checked	
>>Position Data	Not checked	A calculated position and the respective positioning mode used (optional).
>>Multiple Location Ids	FFS	Multiple Location Ids.
>>Result Code	Not checked or not present	
>>Time Stamp	C	Only used if Position Data is not present.
Ver	Omit	

More Components	Omit	

Table 30: SUPL REPORT Message

(3) As an intermediate report within a continuing batch reporting session, the SUPL REPORT message is used as in triggered applications, but the message should only contain the position result(s). This allows the SET to dynamically manage it's memory by managing the amount of data stored in SET.

Parameter	Value	Comment
SessionList	Not present	
SET capabilities	Not present	
ReportDataList		
>Report Data	Not checked	
>>Position Data	Not checked	A calculated position and the respective positioning mode used (optional).
>>Multiple Location Ids	FFS	Multiple Location Ids.
>>Result Code	Not checked	
>>Time Stamp	C	Only used if Position Data is not present.
Ver	C	Only if the SUPL REPORT message is sent in response to a SUPL INT message.
More Components	C	This parameter is used if the report data to be sent needs to be segmented into multiple SUPL REPORT messages.

Table 31: SUPL REPORT Message

(4) For single fix notification/verification based on current location, the SUPL REPORT message is used in non-proxy mode to indicate the end of the positioning procedure (SUPL POS) session) to the SET. In this case the SUPL REPORT message may or may not contain a calculated position.

Not currently used for conformance testing.

(5) SUPL REPORT is used by the SET in response to a session info query from the H-SLP. In this case the SUPL REPORT message contains a list of session-ids of all active SUPL sessions. The SUPL REPORT message MAY also include the SET Capabilities.

Parameter	Value	Comment
SessionList	Not checked	FFS
SET capabilities	According to ICS declared for the SET-under-test or not present	FFS
ReportDataList	Not present	
>Report Data	Not present	
>>Position Data	Not present	
>>Multiple Location Ids	Not present	
>>Result Code	Not present	
>>Time Stamp	Not present	

Ver	The correctly calculated hash of the SUPL INIT message	
More Components	Not present	

Table 32: SUPL REPORT Message