



Test Files Package for SUPL

Candidate Version 2.0.2 – 03 Sep 2013

Open Mobile Alliance
OMA-TFP-SUPL_TTCN-V2_0_2-20130903-C

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Contents

| | |
|--|----|
| 1. SCOPE..... | 4 |
| 2. REFERENCES..... | 5 |
| 3. TERMINOLOGY AND CONVENTIONS..... | 6 |
| 3.1 CONVENTIONS..... | 6 |
| 3.2 DEFINITIONS..... | 6 |
| 3.3 ABBREVIATIONS..... | 6 |
| 4. INTRODUCTION..... | 7 |
| 4.1 DESCRIPTION OF DIRECTORY HIERARCHY..... | 7 |
| 4.2 DESCRIPTION OF FILE DISTRIBUTION AND VERSIONING FOR TESTING..... | 7 |
| 5. SCRIPT FILES FOR CLIENT CONFORMANCE..... | 8 |
| 5.1 SCRIPT GROUP – TYPES_VALUES..... | 8 |
| 5.2 SCRIPT GROUP – TEMPLATES..... | 8 |
| 5.3 SCRIPT GROUP – BEHAVIOURS..... | 9 |
| 5.4 TEST CASE STATUS..... | 9 |
| 6. OMA SUPL CONFORMANCE TESTING FRAMEWORK..... | 15 |
| 6.1 TTCN-3 TEST SYSTEM ARCHITECTURE..... | 15 |
| 6.1.1 SUPL Protocol Data Units and Service Primitives..... | 15 |
| 6.1.2 PDUs..... | 15 |
| 6.1.3 Service Primitives..... | 16 |
| 6.1.4 Upper Tester Primitives..... | 16 |
| 6.2 PLATFORM ADAPTER REQUIREMENTS..... | 16 |
| 6.3 TTCN-3 COMPILER REQUIREMENTS..... | 17 |
| 7. TEST SUITE EXECUTION..... | 18 |
| 7.1 GENERAL..... | 18 |
| 7.2 PIXIT..... | 18 |
| CHANGE HISTORY..... | 19 |
| APPROVED VERSION HISTORY..... | 19 |
| DRAFT/CANDIDATE VERSION 2.0.2 HISTORY..... | 19 |

Figures

| | |
|--|----|
| Figure 1: Directory Hierarchy for the SUPL 2.0.2 Enabler Test Files..... | 7 |
| Figure 2: Conceptual SUPL CON Test Architecture..... | 15 |

Tables

| | |
|---|----|
| Table 1: Listing of unchanged versions of TTCN-3..... | 7 |
| Table 2: Listing of Scripts of types_values..... | 8 |
| Table 3: Listing of Scripts of templates..... | 9 |
| Table 4: Listing of Scripts of behaviour..... | 9 |
| Table 5: Listing of Test Case Status..... | 14 |
| Table 6: Synchronization Primitives..... | 16 |
| Table 7: Upper Tester Primitives..... | 16 |
| Table 8: TTCN-3 External Functions..... | 17 |

1. Scope

This document describes in detail the structure of TTCN-3 files in the SUPL 2.0.2 Client Conformance Abstract Test Suite (ATS).

2. References

- [RFC2119] “Key words for use in RFCs to Indicate Requirement Levels”, S. Bradner, March 1997, [URL:http://www.ietf.org/rfc/rfc2119.txt](http://www.ietf.org/rfc/rfc2119.txt)
- [ERELD] “Enabler Release Document for SUPL”, Version 2.0.2, Open Mobile Alliance™, OMA-ERELD-SUPL-V2_0_2, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [IOPPROC] “OMA Interoperability Policy and Process”, Version 1.11, Open Mobile Alliance™, OMA-ORG-IOP_Process-V1_11, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [OMADICT] “Dictionary for OMA Specifications”, Version 2.9, Open Mobile Alliance™, OMA-ORG-Dictionary-V2_9, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [OMA-ULP] “UserPlane for Location Protocol”, Version 2.0.2, Open Mobile Alliance™, OMA-TS-ULP-Spec-V2.0.2, [URL:http://www.openmobilealliance.org/](http://www.openmobilealliance.org/)
- [RFC2234] “Augmented BNF for Syntax Specifications: ABNF”. D. Crocker, Ed., P. Overell. November 1997, [URL:http://www.ietf.org/rfc/rfc2234.txt](http://www.ietf.org/rfc/rfc2234.txt)

3. Terminology and Conventions

3.1 Conventions

This is an informative document, which is not intended to provide testable requirements for implementations.

3.2 Definitions

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

3.3 Abbreviations

| | |
|-------------|-----------------------------------|
| ATS | Abstract Test Suite |
| LPP | LTE Positioning Protocol |
| OMA | Open Mobile Alliance |
| RRC | Radio Resource Control (protocol) |
| RRLP | Radio Resource LCS Protocol |

4. Introduction

This document provides details of the files needed to support Client Conformance testing of the SUPL Enabler Release version 2.0.2.

4.1 Description of Directory Hierarchy

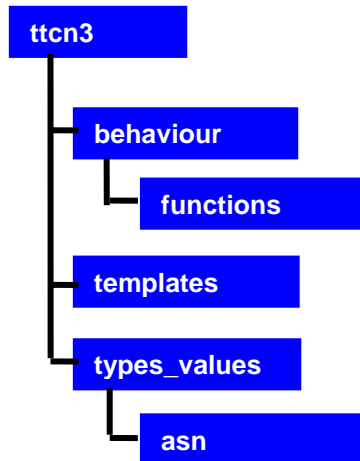


Figure 1: Directory Hierarchy for the SUPL 2.0.2 Enabler Test Files

4.2 Description of File Distribution and Versioning for Testing

The complete ATS will be made available on the OMA portal in the zip file containing this document.

The version of the TTCN-3 script files is identified by the date in the TFP document name. Thus the version of TTCN-3 script files contained in OMA-TFP-SUPL_TTCN-V2_0-20110216-D is “20110216”. Any version of TTCN-3 that remains unchanged from a previous version is noted in the table below.

| New unchanged version of TTCN-3 | Old version of TTCN-3 |
|---------------------------------|-----------------------|
| 20110216 | 20110201 |
| 20110706 | 20110623 |
| | |
| | |
| | |

Table 1: Listing of unchanged versions of TTCN-3

5. Script Files for Client Conformance

This section describes the script files for Client Conformance testing included in the zip package.

5.1 Script Group – types_values

The script files in the subsection cover the type definitions.

| Script File Path | Script Description | Comments |
|---|--------------------|--|
| types_values\asn\RRCTypes.asn | RRC Types | |
| types_values\asn\v5\RRLPV5Types.asn | RRLP Types | |
| types_values\asn\v10\RRLPV10Types.asn | RRLP Types | Also other .asn files |
| types_values\asn\SUPLTypes.asn | SUPL Types | Modified in version 20110623 |
| types_values\asn\LPP.asn | | Added in version 20120307 |
| types_values\BSF_XML_TypeDefinitions.ttcn3 | | |
| types_values\GeoInformation_TypeDefinitions.ttcn3 | | |
| types_values\HTTP_TypeDefinitions.ttcn3 | | |
| types_values\LibCommon_BasicTypesAndValues.ttcn3 | | |
| types_values\LibCommon_DataStrings.ttcn3 | | |
| types_values\LibSip_SIPTypesAndValues.ttcn | | |
| types_values\OMA_SUPL_V2_CDMA_Types.ttcn | | |
| types_values\OMA_SUPL_V2_UDP_Types.ttcn | | |
| types_values\SMS_TypeDefinitions.ttcn3 | | |
| types_values\SUPL_Configuration.ttcn3 | | Modified in version 20110623, 20111125, 20120307 |
| types_values\SUPL_Parameters.ttcn3 | | Modified in version 20120307 |
| types_values\SUPL_SMS_TypeDefinitions.ttcn3 | | |
| types_values\SUPL_TypeDefinitions.ttcn3 | | Modified in version 20120307 |
| types_values\SUPL_V2_Parameters.ttcn3 | | Modified in version 20110623, 20111125, 20120307, 20120423 |
| types_values\SUPL_V2_TypeDefinitions.ttcn3 | | Modified in version 20111125 |
| types_values\TIA_IS_801_Types.ttcn3 | | |
| types_values\Tokyo_TypesDefinitions.ttcn3 | | |

Table 2: Listing of Scripts of types_values

5.2 Script Group – Templates

The script files in the subsection cover the templates of the SUPL ATS.

| Script File Path | Script Description | Comments |
|--------------------------------------|--------------------|--|
| templates\Tokyo_Templates_RRLP.ttcn3 | | |
| templates\LibSip_Templates.ttcn | | Modified in version 20110623, 20111125 |
| templates\RRLP_CommonTypes.ttcn3 | | Modified in version 20111125 |
| templates\RRLP_Templates.ttcn3 | | Modified in version 20111125 |
| templates\LPP_Templates.ttcn3 | | Added in version 20120307 |
| templates\SUPL_HTTP_Templates.ttcn3 | | |
| templates\SUPL_Templates.ttcn3 | | Modified in version 20111125 |

| | | |
|--------------------------------------|--|--|
| templates\SUPL_V2_Templates.ttcn3 | | Modified in version 20110623, 20111125, , 20120423 |
| templates\Tokyo_Templates_RRLP.ttcn3 | | |
| templates\Tokyo_Templates_LPP.ttcn3 | | Added in version 20120307 |

Table 3: Listing of Scripts of templates

5.3 Script Group – Behaviours

The script files in the subsection cover the behaviours of the SUPL ATS.

| Script File Path | Script Description | Comments |
|--|--------------------|--|
| behaviour\Make_all.ttcn3 | | |
| behaviour\SUPL_V2_SET_INITIATED_Tests.ttcn3 | | Modified in version 20110401, 20111125, 20120307, 20120423 |
| behaviour\SUPL_V2_SLP_INITIATED_Tests.ttcn3 | | Modified in version 20110401, 20110623, 20111125, 20120307, 20120423 |
| behaviour\SUPL_V2_COMMON_Tests.ttcn3 | | Modified in version 20110623, 20110815, 20111125 |
| behaviour\functions\SUPL_CommonSteps.ttcn3 | | Modified in version 20110623, , 20120423 |
| behaviour\functions\SUPL_DHCP_DNS_Steps.ttcn3 | | Modified in version 20110401, 20111125 |
| behaviour\functions\SUPL_ExternalSteps.ttcn3 | | Modified in version 20111125 |
| behaviour\functions\SUPL_HTTP_Steps.ttcn3 | | |
| behaviour\functions\SUPL_Postambles.ttcn3 | | |
| behaviour\functions\SUPL_Preambles.ttcn3 | | |
| behaviour\functions\SUPL_V2_CommonSteps.ttcn3 | | Modified in version 20110401, 20111125, 20120307 |
| behaviour\functions\SUPL_V2_DHCP_DNS_Steps.ttcn3 | | |
| behaviour\functions\SUPL_V2_ExternalSteps.ttcn3 | | |
| behaviour\functions\SUPL_V2_TCFfunctions.ttcn3 | | Modified in version 20110623, 20111125 |
| behaviour\functions\Tokyo_Steps.ttcn3 | | Modified in version 20120307 |

Table 4: Listing of Scripts of behaviour

5.4 Test Case Status

This section describes the current status of the ETS Test Cases in the script files including the current status of Verification.

| SUPL 2.0.2 ETS TC number | TC Title | PT CR B | GC F | TTC N | Verified in Version | Outstanding CRs | Comments |
|--------------------------|---|---------|------|-------|---------------------|-----------------|----------------------|
| Common | | | | | | | |
| SUPL-2.0-con-007 Test 1 | Alternative H-SLP Addresses - H-SLP address stored on UICC | Yes | | Yes | 20111216 | | |
| SUPL-2.0-con-007 Test 2 | Alternative H-SLP Addresses - H-SLP address stored on SET | Yes | Yes | Yes | | PR 0031 | TTCN update required |
| SUPL-2.0-con-007 Test 3 | Alternative H-SLP Addresses - Auto configuration of H-SLP address | Yes | | Yes | 20111216 | | |
| SUPL-2.0-con-007 Test 4 | Alternative H-SLP | Yes | | Yes | 20120713 | | |

| SUPL 2.0.2 ETS TC number | TC Title | PT CR B | GC F | TTC N | Verified in Version | Outstanding CRs | Comments |
|--------------------------|--|---------|------|-------|---------------------|-----------------|----------|
| | Addresses - Auto configuration of H-SLP address following authentication failure | | | | | | |
| SUPL-2.0-con-007 Test 5 | Alternative H-SLP Addresses - Clearing of old H-SLP address following change of IMSI | Yes | | Yes | 20120713 | | |
| SUPL-2.0-con-008 Test 1 | Optional Ciphering Suites - TLS_RSA_WITH_3DES_EDE_CBC_SHA | Yes | | Yes | 20111216 | | |
| SUPL-2.0-con-008 Test 2 | Optional Ciphering Suites - TLS_PSK_WITH_3DES_EDE_CBC_SHA | Yes | | Yes | | | |
| Network Initiated | | | | | | | |
| SUPL-2.0-con-000 Test 1 | SUPL INIT delivery - OMA Push | Yes | | Yes | 20110401 | | |
| SUPL-2.0-con-000 Test 2 | SUPL INIT delivery - MT SMS | Yes | Yes | Yes | 20111216 | | |
| SUPL-2.0-con-000 Test 3 | SUPL INIT delivery - SIP Push | Yes | | Yes | | | |
| SUPL-2.0-con-000 Test 4 | SUPL INIT delivery - UDP | Yes | Yes | Yes | 20120713 | | |
| SUPL-2.0-con-001 | Incorrect OMA Push message content | Yes | | Yes | 20111216 | | |
| SUPL-2.0-con-002 | Incorrect MT SMS message content | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-003 | Incorrect SIP Push message content | Yes | | Yes | | | |
| SUPL-2.0-con-004 | Correct Session ID | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-005 | Invalid SET Session ID | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-006 | Missing or invalid SLP Session ID | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-009 | Basic SUPL INIT protection | Yes | Yes | Yes | | | |
| SUPL-2.0-con-010 Test 1 | Compatible Versions - Support for higher versions of SUPL 2.X.X | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-010 Test 2 | Compatible Versions - Support for lower versions of SUPL 2.X.X | Yes | | Yes | 20110401 | | |
| SUPL-2.0-con-010 Test 3 | Compatible Versions - Correct support with SLP supporting SUPL V3.0 and V2.0 | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-010 Test 4 | Compatible Versions - Correct support with SLP supporting SUPL V1.0 only. SUPL V1.0 supported by SET | Yes | | Yes | 20110201 | | |
| SUPL-2.0-con-011 Test 1 | Unsupported Versions. - Higher Version not supported | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-011 Test 2 | Unsupported Versions. - Lower Version not supported. SUPL V1.0 not supported by SET | Yes | Yes | Yes | 20110815 | | |

| SUPL 2.0.2 ETS TC number | TC Title | PT CR B | GC F | TTC N | Verified in Version | Outstanding CRs | Comments |
|--------------------------|---|---------|------|--------|---------------------|-----------------|----------------------------|
| SUPL-2.0-con-012 | Incorrect UDP message content | Yes | Yes | Yes | 20121022 | | |
| SUPL-2.0-con-020 | No notification & no verification | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-021 | Notification only | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-022 | Notification and verification | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-023 | Privacy override | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-024 | Requestor ID and Client Name | Yes | Yes | Yes | 20110401 | PR 032 | Minor change |
| SUPL-2.0-con-025 Test 1 | Notification and verification based on current location - User accepts the verification | | | Yes | | | |
| SUPL-2.0-con-025 Test 2 | Notification and verification based on current location - User denies the verification | | | Yes | | | |
| SUPL-2.0-con-030 Test 1 | Positioning method - A-GPS SET assisted | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-030 Test 2 | Positioning method - A-GPS SET based | Yes | | Yes | 20110401 | | |
| SUPL-2.0-con-030 Test 3 | Positioning method - Autonomous GPS | Yes | | Yes | 20110401 | | |
| SUPL-2.0-con-030 Test 4 | Positioning method - Enhanced Cell ID | | | (Yes) | 20110401 | | Test case deleted from ETS |
| SUPL-2.0-con-030 Test 5 | Positioning method - Cell ID | Yes | Yes | Yes | 20121022 | | |
| SUPL-2.0-con-030 Test 6 | Positioning method - A-GANSS SET assisted – Galileo | | | No | | | |
| SUPL-2.0-con-030 Test 7 | Positioning method - A-GANSS SET assisted – GLONASS | Yes | Yes | Yes | | | |
| SUPL-2.0-con-030 Test 8 | Positioning method - A-GANSS SET based – Galileo | | | No | | | |
| SUPL-2.0-con-030 Test 9 | Positioning method - A-GANSS SET based – GLONASS | Yes | | Yes | | | |
| SUPL-2.0-con-030 Test 10 | Positioning method - Autonomous GANSS | | | Yes | | | |
| SUPL-2.0-con-030 Test 11 | Positioning method - A-GPS Preferred methods | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-030 Test 12 | Positioning method - A-GANSS Preferred methods | | Yes | Yes | | | |
| SUPL-2.0-con-030 Test 13 | Positioning method - OTDOA | | Yes | Yes | | | |
| SUPL-2.0-con-030 Test 14 | Positioning method - Enhanced Cell ID using LPP | Yes | Yes | No | | | New TTCN required |
| SUPL-2.0-con-031 | No Position | Yes | Yes | Yes | 20110401 | | |
| SUPL-2.0-con-033 | Emergency Services Location Requests | Yes | Yes | Yes | | | |
| SUPL-2.0-con-034 | Emergency Services Locations Request - | Yes | Yes | Yes | | | |

| SUPL 2.0.2 ETS TC number | TC Title | PT CR B | GC F | TTC N | Verified in Version | Outstanding CRs | Comments |
|--------------------------|---|---------|------|-------|---------------------|-----------------|----------------------|
| | Interaction with normal SUPL session | | | | | | |
| SUPL-2.0-con-035 | Retrieval of historical positions | | | No | | | |
| SUPL-2.0-con-040 Test 1 | Real Time reporting - A-GPS SET assisted | Yes | Yes | Yes | 20120713 | | |
| SUPL-2.0-con-040 Test 2 | Real Time reporting - A-GPS SET based | Yes | Yes | Yes | | 2012-0078R01 | TTCN update required |
| SUPL-2.0-con-041 Test 1 | Basic Quasi Real Time reporting - A-GPS SET assisted | | | No | | | |
| SUPL-2.0-con-041 Test 2 | Basic Quasi Real Time reporting - A-GPS SET based | | Yes | Yes | | 2012-0078R01 | TTCN update required |
| SUPL-2.0-con-042 Test 1 | Basic Batch reporting - A-GPS SET assisted | | | No | | | |
| SUPL-2.0-con-042 Test 2 | Basic Batch reporting - A-GPS SET based | | Yes | Yes | | 2011-0081 | TTCN update required |
| SUPL-2.0-con-050 Test 1 | Geographic Target Area - A-GPS SET assisted | Yes | | Yes | 20120713 | PR 0030 | TTCN update required |
| SUPL-2.0-con-050 Test 2 | Geographic Target Area - A-GPS SET based | Yes | Yes | Yes | 20120713 | PR 0030 | TTCN update required |
| SUPL-2.0-con-051 Test 1 | Area ID - A-GPS SET assisted | Yes | | Yes | | | |
| SUPL-2.0-con-051 Test 2 | Area ID - A-GPS SET based | Yes | Yes | Yes | | 2011-0081 | TTCN update required |
| SUPL-2.0-con-060 | Network capabilities change | | | No | | | |
| SUPL-2.0-con-061 | Network cancels Triggered Location Request | Yes | Yes | Yes | | 2010-0029R01 | TTCN update required |
| SUPL-2.0-con-062 | V-SLP to V-SLP Handover | | | No | | | |
| SUPL-2.0-con-070 Test 1 | Timeout UT2 - SUPL POS session (Immediate session) | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-070 Test 2 | Timeout UT2 - SUPL POS session (Triggered session) | Yes | Yes | Yes | 20111216 | | |
| SUPL-2.0-con-070 Test 3 | Timeout UT2 - No SUPL POS session (Immediate session) | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-070 Test 4 | Timeout UT2 - No SUPL POS session (Triggered session) | Yes | Yes | Yes | 20111216 | 2013-0009R02 | TTCN update required |
| SUPL-2.0-con-071 Test 1 | Timeout UT3 - Immediate session | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-071 Test 2 | Timeout UT3 - Triggered session | Yes | Yes | Yes | 20111216 | | |
| SUPL-2.0-con-072 | Timeout UT5 | | | Yes | | | |
| SUPL-2.0-con-073 | Timeout UT7 | Yes | Yes | Yes | | 2013-0087R01 | TTCN update required |
| SUPL-2.0-con-074 | Timeout UT8 | Yes | Yes | Yes | | | |
| SET Initiated | | | | | | | |
| SUPL-2.0-con-100 | Correct Session ID | Yes | Yes | Yes | 20110706 | | |
| SUPL-2.0-con-101 | Invalid SET Session ID | Yes | Yes | Yes | 20110706 | | |

| SUPL 2.0.2 ETS TC number | TC Title | PT CR B | GC F | TTC N | Verified in Version | Outstanding CRs | Comments |
|--------------------------|--|---------|------|-------|---------------------|--|----------------------|
| SUPL-2.0-con-102 | Invalid SLP Session ID | Yes | Yes | Yes | 20110706 | | |
| SUPL-2.0-con-103 Test 1 | Compatible versions - Support for higher versions of SUPL 2.X.X | Yes | Yes | Yes | 20110706 | | |
| SUPL-2.0-con-103 Test 2 | Compatible versions - Support for lower versions of SUPL 2.X.X | Yes | | Yes | | | |
| SUPL-2.0-con-110 Test 1 | Positioning method - A-GPS SET assisted | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-110 Test 2 | Positioning method - A-GPS SET based | Yes | Yes | Yes | 20110706 | 2012-0078R01 | TTCN update required |
| SUPL-2.0-con-110 Test 3 | Positioning method - Autonomous GPS | Yes | | Yes | 20111216 | | |
| SUPL-2.0-con-110 Test 4 | Positioning method - Enhanced Cell ID | | | (Yes) | | | Deleted from ETS |
| SUPL-2.0-con-110 Test 5 | Positioning method - Cell ID | Yes | Yes | Yes | | | |
| SUPL-2.0-con-110 Test 6 | Positioning method - A-GANSS SET assisted – Galileo | | | No | | | |
| SUPL-2.0-con-110 Test 7 | Positioning method - A-GANSS SET assisted – GLONASS | Yes | Yes | Yes | | | |
| SUPL-2.0-con-110 Test 8 | Positioning method - A-GANSS SET based – Galileo | | | No | | | |
| SUPL-2.0-con-110 Test 9 | Positioning method - A-GANSS SET based – GLONASS | Yes | Yes | Yes | | 2012-0078R01 | TTCN update required |
| SUPL-2.0-con-110 Test 10 | Positioning method - Autonomous GANSS | | | Yes | | | |
| SUPL-2.0-con-110 Test 11 | Positioning method - SET declares A-GNSS SET-assisted Preferred method | | Yes | Yes | | 2012-0078R01 | TTCN update required |
| SUPL-2.0-con-110 Test 12 | Positioning method - SET declares A-GNSS SET-based Preferred method | | Yes | Yes | | | |
| SUPL-2.0-con-110 Test 13 | Positioning method - OTDOA | | Yes | Yes | | | |
| SUPL-2.0-con-110 Test 14 | Positioning method - Enhanced Cell ID using LPP | Yes | Yes | No | | | New TTCN required |
| SUPL-2.0-con-111 | SET Initiated Location Request of another SET | | | No | | | |
| SUPL-2.0-con-113 | Transfer Location to Third Party | | | No | | | |
| SUPL-2.0-con-120 Test 1 | Periodic reporting - A-GPS SET assisted | | | No | | | |
| SUPL-2.0-con-120 Test 2 | Periodic reporting - A-GPS SET based | | | No | | | |
| SUPL-2.0-con-130 Test 1 | Geographic Target Area - A-GPS SET assisted | Yes | | Yes | | 2010-0066, 2011-0005R01, 2011-0039, 2011-0044, PR 0030 | TTCN update required |

| SUPL 2.0.2 ETS TC number | TC Title | PT CR B | GC F | TTC N | Verified in Version | Outstanding CRs | Comments |
|--------------------------|---|---------|------|-------|---------------------|---|----------------------|
| SUPL-2.0-con-130 Test 2 | Geographic Target Area - A-GPS SET based | Yes | Yes | Yes | | 2010-0066, 2011-0005R01, 2011-0039, 2011-0044, 2011-0081, PR 0030 | TTCN update required |
| SUPL-2.0-con-131 Test 1 | Area ID - A-GPS SET assisted | Yes | | Yes | | 2010-0066, 2011-0005R01, 2011-0039, 2011-0044, 2011-0081 | TTCN update required |
| SUPL-2.0-con-131 Test 2 | Area ID -A-GPS SET based | Yes | Yes | Yes | | 2010-0066, 2011-0005R01, 2011-0039, 2011-0044 | TTCN update required |
| SUPL-2.0-con-135 | Network cancels Triggered Location Request | | | No | | | |
| SUPL-2.0-con-140 Test 1 | Timeout UT1 - Immediate session | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-140 Test 2 | Timeout UT1 - Triggered session | Yes | | Yes | | | |
| SUPL-2.0-con-141 Test 1 | Timeout UT2 - SUPL POS session (Immediate session) | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-141 Test 2 | Timeout UT2 - SUPL POS session (Triggered session) | Yes | Yes | Yes | | | |
| SUPL-2.0-con-141 Test 3 | Timeout UT2 - No SUPL POS session (Immediate session) | Yes | Yes | Yes | 20111216 | | |
| SUPL-2.0-con-141 Test 4 | Timeout UT2 - No SUPL POS session (Triggered session) | Yes | Yes | Yes | | | |
| SUPL-2.0-con-142 Test 1 | Timeout UT3 - Immediate session | Yes | Yes | Yes | 20110815 | | |
| SUPL-2.0-con-142 Test 2 | Timeout UT3 - Triggered session | Yes | Yes | Yes | | | |
| SUPL-2.0-con-143 | Timeout UT7 | Yes | | Yes | | | |
| SUPL-2.0-con-144 | Timeout UT9 | | | No | | | |

Table 5: Listing of Test Case Status

6. OMA SUPL Conformance Testing Framework

6.1 TTCN-3 test system architecture

Figure 1 illustrates the SUPL test system architecture used for testing a real terminal implementing the OMA SUPL standards. It is based on the general TTCN test system architecture specified in [T3TRI, T3TCI].

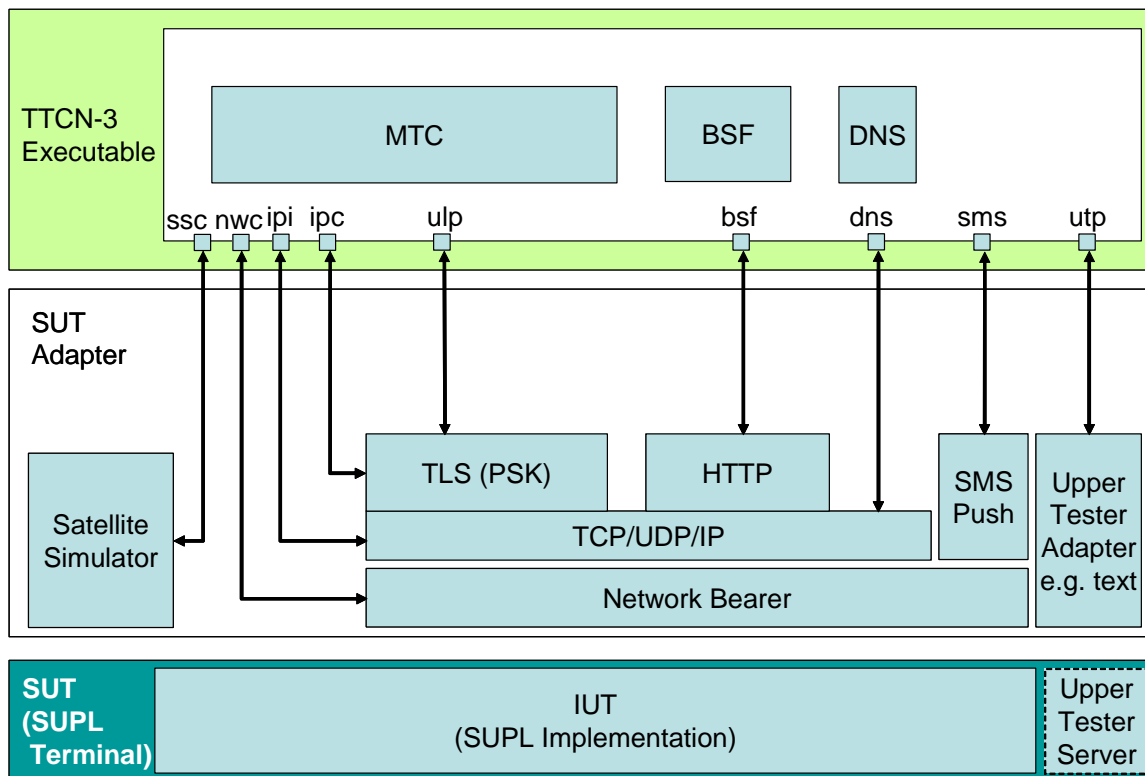


Figure 2: Conceptual SUPL CON Test Architecture

The TTCN-3 SUT Adapter (SA) shown in Figure 1 realizes the transport of SUPL data, DNS messages, SMS notifications, HTTP BSF communication, and controls the satellite simulator. Note that this is only a conceptual model for a SA implementation. Individual components of this test architecture may or even should be (for performance reasons) implemented as separate executables from the TTCN-3 test system executable. Note that the TTCN-3 Platform Adapter (PA) is not shown in Figure 1 to simplify the test architecture illustration. For more details on PA requirements see Clause 5.2.

Tbd done describe ports

The port names associated with interfaces of the upper transport layers in Figure 1 are related as follows to OMA SUPL architecture reference points:

- tbd

The tasks of the different TTCN-3 components in Figure 1 are:

- The Main Test Component (MTC) plays the role of a test coordinator, i.e., creating, synchronizing, coordinating, and terminating DNS and BSF test components used in the test cases.

6.1.1 SUPL Protocol Data Units and Service Primitives

6.1.2 PDUs

A TTCN-3 SUPL test system shall support the encoding of following SUPL PDUs: ULP, DNS, and BSF messages.

6.1.3 Service Primitives

The SUPL test cases use a number of different SA service primitives for controlling different combinations of transport layers that shall be supported by the test system. Service primitives for each component include configuration information needed for all SA layers which may need to be changed for the execution of a test in the TTCN-3 test suite.

The following tables summarize all of these service primitives. Appendix B provides a reference to detailed TTCN-3 type definitions for all service primitives and their information elements. The relevant TTCN-3 modules are `AtsSUPL_Test Configuration_TypesAndValues` and `...`. This document imposes no restrictions on the encoding of service primitives, i.e., it is left open to SA developers. PDUs carried within the service primitives shall however comply with the encoding requirements specified in the SUPL standards (see Section 5.1.2).

TBD

| Service Primitive Type(s) | Parameters | Purpose |
|---------------------------|--------------|--|
| SyncPort | Sync Message | Synchronizes DNS/BSF/BSM as parallel componenets |

Table 6: Synchronization Primitives

6.1.4 Upper Tester Primitives

The primitives used by the upper tester reflect commands and observations that are either to be issued or checked by a human during the execution of a test based on textual instructions or directly performed on the IUT by the UTS, i.e., a special software application on top of the SUPL implementation user interface and integrated in the terminal. If there is no UTS implementation available the command should result in the posing of a question and three answers to a human terminal operator, i.e., the correct observation was made, an incorrect observation was made, and no change was observed in the terminal user interface.

Table 6 lists the collection of upper test primitives and the questions they represent. Note that that this document leaves the encoding of upper tester primitives (also for the case that a UTS is used) in the test system intentionally open. It is recommended however to choose a textual encoding of primitives to ease readability of messages sent between UTC and UTS.

| Service Primitive Type(s) | Parameters | Example Command/Question to human user |
|------------------------------------|------------|--|
| PowerOnTerminalRequest/Response | - | Power on the terminal! Does is start up correctly? |
| PowerOffTerminalRequest/Response | - | Power off the terminal! Does is close down correctly? |
| RunSUPLApplicationRequest/Response | - | Run the SUPL application on the terminal. |

Table 7: Upper Tester Primitives

6.2 Platform Adapter Requirements

TBD

| Name | Parameters | Return Value |
|------|------------|--------------|
| | | |
| | | |

Table 8: TTCN-3 External Functions

6.3 TTCN-3 Compiler Requirements

The SUPL CON test suite has been implemented and analyzed with two independent TTCN-3 Edition 3.2.1 compliant TTCN-3 compilers: Telelogic Tau 2.6 and Testing Technologies TTworkbench 1.1.1. Support of version 3.2.1 of the TTCN-3 standards is needed since the test suite uses component type extension and keep-alive component concepts.

7. Test suite execution

7.1 General

There are three means how this test suite can be executed:

1. By using the TTCN-3 control part specified in the TTCN-3 TestControl module. By default all tests part of this test suite will be executed. Relevant PIXITs defined clause 7.2 should be used to narrow the selection of tests to a desired group of tests. At this point this mode of execution does not allow to run an individual test
2. By using a TTCN-3 tool proprietary means to execute one or more tests at a time based on the interface provided by the tool provider. In this case the TTCN-3 TestControl module should be excluded from the test suite compilation.
3. By integrating your own TTCN-3 Test Management (TM) entity implementation that is integrated with the TTCN-3 test system via the TCI-TM interface [T3TCI]. In this case the TTCN-3 TestControl module should be excluded from the test suite compilation. The operation of such a TM implementation, e.g., to select execution of specific tests, is beyond the scope of this document.

7.2 PIXIT

TTCN-3 allows fixing of some test suite information without recompilation of TTCN-3 code, e.g., just prior to test execution. This information is referred to as module parameters in TTCN-3 or more generally PIXIT (Partial Protocol Implementation Extra Information for Testing). This clause discusses all such parameters relevant for the SUPL ATS.

Note that TTCN-3 test systems are likely to require configuration beyond the setting of TTCN-3 module parameters, e.g., configuration specific to a test tool or SUT Adapter, prior to a test execution. Such configuration is however beyond the scope of this document. It is the responsibility of TTCN-3 SUPL test tool providers to document such configuration needs.

The following module parameters configure test case selection in the TTCN-3 control part:

- **PX_ALL_TCS**
Specifies to execute all the SUPL test cases

The following module parameters are related to SUPL Subscription Management (BSM):

- **PX_BSM_FQDN**
Specifies the SUPL Subscription Management (BSM) Server FQDN
- **PX_MCC**
Specifies the Mobile Country Code
- **PX_MNC**
Specifies the Mobile Network Code
- **PX_KEY_GROUP**
Specifies the a group of SEK/PEKs that are identified by the same Key group part of the SEK/PEK ID
- **PX_KEY_NUMBER**
Specifies within a key group, which SEK/PEK is used

Change History

Approved Version History

| Reference | Date | Description |
|-----------|------|-------------|
| | | |
| | | |
| | | |

Draft/Candidate Version 2.0.2 History

| Document Identifier | Date | Sections | Description |
|--|-------------|----------|--|
| Draft Versions OMA-TFP-SUPL_TTCN-V2_0 | 24 Oct 2010 | all | Initial version |
| | 01 Feb 2011 | ToC 4.1 | Editorial. New version of TTCN-3 code. Incorporated CR: OMA-IOP-TTCN-2010-0043-CR_SUPL_2.0_additional_test_cases |
| | 16 Feb 2011 | 5.1.4 | Incorporated CRs: OMA-IOP-TTCN-2011-0003R02- CR_SUPL_TFP_Add_Test_Case_status OMA-IOP-TTCN-2011-0005- CR_SUPL_V2.0_con_010_Test_4_TTCN_3_verification |
| | 24 Feb 2011 | All | Incorporated CR: OMA-IOP-TTCN-2011-0006-CR_SUPL_V2.0_TFP_editorial_updates. New version of TTCN-3 code to support two RRLP versions |
| | 01 Apr 2011 | 5.3, 5.4 | Identified changed scripts. Corrected Test Case Status list. New version of TTCN-3 code from OMA-IOP-TTCN-2011-0012R02- CR_DNS_IPv6_addition and OMA-IOP-TTCN-2011-0014- CR_SUPL_2.0_TFP_fix_two_ETS_CRs |
| | 23 Jun 2011 | 5 | Incorporated CR: OMA-IOP-TTCN-2011-0028R01- CR_SUPL_V2.0_TTCN_3_verifications. New version of TTCN-3 code with additional test cases and changes from OMA-IOP-TTCN-2011-0024-CR_SUPL_ASN.1_Update and OMA-IOP-TTCN-2011-0025-CR_SUPL_2.0_TFP_fix_DNS_error |
| | 06 Jul 2011 | 6, 7 | Incorporated CR: OMA-IOP-TTCN-2011-0037-CR_Adding_framework_info_to_TFP |
| | 15 Aug 2011 | 5.3, 5.4 | Incorporated CRs: OMA-IOP-TTCN-2011-0038- CR_Update_testcase_table_in_SUPL_TFP OMA-IOP-TTCN-2011-0039R01-CR_Addition_of_SUPL_TC_007_2 OMA-IOP-TTCN-2011-0040-CR_SUPL_V2.0_TTCN_3_verifications |
| | 25 Nov 2011 | 5.4 | Incorporated CRs: OMA-IOP-TTCN-2011-0041R01- CR_SUPL_2.0_positioning_robustness OMA-IOP-TTCN-2011-0045-CR_Correction_to_SUPL_TC009 OMA-IOP-TTCN-2011-0047R01- CR_SUPL_V2.0_TTCN_3_verifications_10.3_and_11.2 OMA-IOP-TTCN-2011-0048R01- CR_SUPL_V2.0_TTCN_3_bug_fixes OMA-IOP-TTCN-2011-0049- CR_SUPL_V2.0_TTCN_3_verifications_30_11 OMA-IOP-TTCN-2011-0052- CR_SUPL_V2.0_TTCN_3_verifications_002_and_007_2 OMA-IOP-TTCN-2011-0055- CR_Updates_to_SUPL_2.0_TFP_Cover_document OMA-IOP-TTCN-2011-0056- CR_SUPL_2.0_verification_TCs_022_070_071_110_14x OMA-IOP-TTCN-2011-0060-CR_SUPL_utcPort_correction Including Minor editorial changes |

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| | 16 Dec 2011 | 3.3, 4.2, 5.1, 5.2, 5.3, 5.4 | Incorporated CRs: OMA-IOP-TTCN-2011-0062R02- CR_SUPL_UDP_Push_type_correction OMA-IOP-TTCN-2011-0063- CR_Donation_of_SUPL_2.0_TTCN_3_test_cases OMA-IOP-TTCN-2011-0065-CR_SUPL_2.0_correction_con_072 OMA-IOP-TTCN-2011-0067- CR_Update_of_SUPL_2.0_TFP_cover_document |
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| | 26 Mar 2012 | 7 | Incorporated CR: OMA-IOP-TTCN-2012-0011- CR_SUPL_2.0_TFP_cover_more_updates |
| | 05 Apr 2012 | 7.1 | Incorporated CR: OMA-IOP-TTCN-2012-0015- CR_SUPL_V2.0_TTCN_3_verification_000_2 |
| | 23 Apr 2012 | 5 | Incorporated CR: OMA-IOP-TTCN-2012-0022 |
| | 05 Jul 2012 | Ttcn code | Incorporated CRs: OMA-IOP-TTCN-2012-0023 OMA-IOP-TTCN-2012-0024 |
| | 24 Jul 2012 | 5.4 | Incorporated CR: OMA-IOP-TTCN-2012-0029R01- CR_SUPL_2.0_Test_case_verification Editorial changes |
| | 12 Sep 2012 | 5.4 Ttcn code | Incorporated CRs: OMA-IOP-TTCN-2012-0032-CR_SUPL_V2.0_TFP_cover_updates OMA-IOP-TTCN-2012-0033- CR_Correction_to_SUPL_TC000_SSL_Alert OMA-IOP-TTCN-2012-0034- CR_TLS_version_and_Bearer_for_SUPL_TC011_Test_2 OMA-IOP-TTCN-2012-0035-CR_Corrections_on_SUPL_TC007 |
| | 22 Oct 2012 | 5.4, Ttcn code | Incorporated CRs: OMA-IOP-TTCN-2012-0046-CR_SUPL_V2.0_TFP_cover_updates OMA-IOP-TTCN-2012-0045-CR_Preferred_Positioning_Method OMA-IOP-TTCN-2012-0044- CR_Wrong_Pass_Criteria_in_TC_30_4_and_110_4_in_cas_of_LTE_C ell OMA-IOP-TTCN-2012-0043-CR_Split_TCs_101_and_102 OMA-IOP-TTCN-2012-0037R01- CR_Various_SUPL_2.0_TTCN_changes |
| | 11 Feb 2013 | 5.4, Ttcn code | Incorporated CRs: OMA-IOP-TTCN-2012-0049- CR_SUPL_V2.0_TTCN_3_verification_050_2 OMA-IOP-TTCN-2012-0050-CR_SUPL_2.0_Scenario_clean_up OMA-IOP-TTCN-2012-0051- CR_SUPL_2.0_adding_GLONASS_support OMA-IOP-TTCN-2012-0052-CR_SUPL_2.0_adding_OTDOA_support OMA-IOP-TTCN-2012-0054- CR_SUPL_2.0_TCs_030_5_and_110_5_correction OMA-IOP-TTCN-2012-0059-CR_SUPL_V2.0_UTCTime_correction |

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