



Test Files Package for SUPL

Candidate Version 2.0.2 – 03 Dec 2015

Open Mobile Alliance
OMA-TFP-SUPL_TTCN-V2_0_2-20151203-C

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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

- [ERELED] “Enabler Release Document for SUPL”, Version 2.0.2, Open Mobile Alliance™, OMA-ERELED-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/)
- [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)
- [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

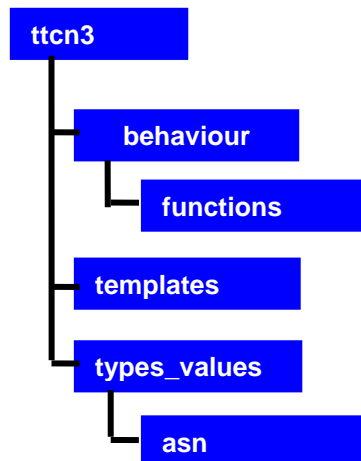


Figure 1: Directory Hierarchy for the SUPL 2.0.2 Enabler Test Files

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_TypeDefinitions.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	PTCRB	GC F	TTCN	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 Addresses - Auto configuration of H-SLP address following authentication failure	Yes		Yes	20120713		
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	No		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	No		Yes			

SUPL 2.0.2 ETS TC number	TC Title	PTCRB	GC F	TTCN	Verified in Version	Outstanding CRs	Comments
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	No	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-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 2.0.2 ETS TC number	TC Title	PTCRB	GC F	TTCN	Verified in Version	Outstanding CRs	Comments
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			
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			
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-030 Test 15	Positioning method - A-GANSS SET assisted –GPS and GLONASS	Yes	Yes	Yes			
SUPL-2.0-con-030 Test 16	Positioning method - A-GANSS SET based –GPS and GLONASS	Yes		Yes			
SUPL-2.0-con-030 Test 17	Positioning method - A-GANSS SET assisted –Beidou			No	-		
SUPL-2.0-con-030 Test 18	Positioning method - A-GANSS SET based – Beidou			No	-		
SUPL-2.0-con-030 Test 19	Positioning method - A-GANSS SET assisted –GPS and			No	-		

SUPL 2.0.2 ETS TC number	TC Title	PTCRB	GC F	TTCN	Verified in Version	Outstanding CRs	Comments
	Beidou						
SUPL-2.0-con-030 Test 20	Positioning method - A-GANSS SET based -GPS and Beidou			No	-		
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 - Interaction with normal SUPL session	No	Yes	Yes	20141008		
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	20141008		
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	No		Yes	20141008		
SUPL-2.0-con-051 Test 2	Area ID - A-GPS SET based	No	Yes	Yes	20141008		
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 2.0.2 ETS TC number	TC Title	PTCRB	GC F	TTCN	Verified in Version	Outstanding CRs	Comments
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-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	20141008		
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			
SUPL-2.0-con-110 Test 8	Positioning method - A-GANSS SET based – Galileo			No	-		

SUPL 2.0.2 ETS TC number	TC Title	PTCRB	GC F	TTCN	Verified in Version	Outstanding CRs	Comments
SUPL-2.0-con-110 Test 9	Positioning method - A-GANSS SET based – GLONASS			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-110 Test 15	Positioning method - A-GANSS SET assisted –GPS and GLONASS	Yes	Yes	Yes			
SUPL-2.0-con-110 Test 16	Positioning method - A-GANSS SET based –GPS and GLONASS	Yes	Yes	Yes			
SUPL-2.0-con-110 Test 17	Positioning method - A-GANSS SET assisted –Beidou			No	-		
SUPL-2.0-con-110 Test 18	Positioning method - A-GANSS SET based – Beidou			No	-		
SUPL-2.0-con-110 Test 19	Positioning method - A-GANSS SET assisted –GPS and Beidou			No	-		
SUPL-2.0-con-110 Test 20	Positioning method - A-GANSS SET based –GPS and Beidou			No	-		
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	20141008		

SUPL 2.0.2 ETS TC number	TC Title	PTCRB	GC F	TTCN	Verified in Version	Outstanding CRs	Comments
SUPL-2.0-con-130 Test 2	Geographic Target Area -A-GPS SET based	Yes	Yes	Yes	20141008		
SUPL-2.0-con-131 Test 1	Area ID - A-GPS SET assisted	No		Yes	20141008		
SUPL-2.0-con-131 Test 2	Area ID -A-GPS SET based	No	Yes	Yes	20141008		
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			
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	20141008		
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	20141008		
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].

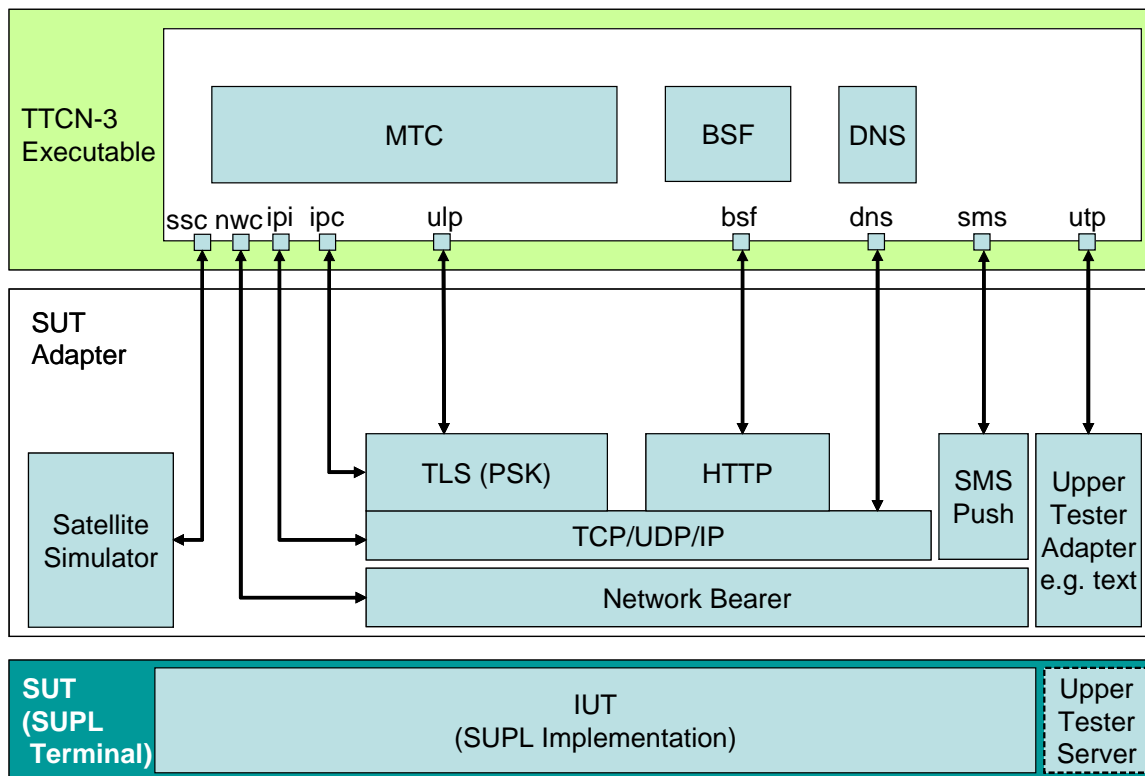


Figure 2: Conceptual SUPL CON Test Architecture

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
n/a	n/a	No prior version

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
	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

Document Identifier	Date	Sections	Description
Candidate Version OMA-TFP-SUPL_TTCN-V2_0	24 Jan 2012	n/a	Candidate approved by TP : OMA-TP-2012-0013-INP_SUPL_2.0_TFP_for_Candidate_approval
Draft Versions OMA-TFP-SUPL_TTCN-V2_0	07 Mar 2012	5	Incorporated CRs: OMA-IOP-TTCN-2012-0012- CR_SUPL_TFP_addition_of_LPP_functionality OMA-IOP-TTCN-2012-0008-CR_SUPL_2.0_TFP_cover_update OMA-IOP-TTCN-2012-0007-CR_Assisted_data_reset_over_NWC OMA-IOP-TTCN-2012-0006- CR_SUPL_V2.0_TTCN_3_verifications_one_device OMA-IOP-TTCN-2012-0005R01- CR_SUPL_V2.0_TTCN_3_verifications_061_070_4_071_2 OMA-IOP-TTCN-2012-0002R01-CR_Correction_TC_007_2 OMA-IOP-TTCN-2012-0001- CR_Update_of_SUPL_2.0_TFP_cover_document
	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_Prefered_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

Document Identifier	Date	Sections	Description
Draft Version OMA-TFP-SUPL_TTCN-V2_0_2	07 Aug 2013	1, 2, 3, 4, 5	Updated to V2.0.2 Incorporated CRs: OMA-IOP-TTCN-2013-0017R01- CR_SUPL_V2.0_TTCN_updates_bug_fixes OMA-IOP-TTCN-2013-0008R01- CR_SUPL_2.0_TC_verification_TCs_012_and_030_5 OMA-IOP-TTCN-2013-0007- CR_Minor_Bug_fix_in_TC_004_1_and_TC_100_1 OMA-IOP-TTCN-2013-0005- CR_Compliance_with_TTCN_Specv4.4.1 OMA-IOP-TTCN-2013-0001R02- CR_SUPL_2.0_TFP_AT_commands_bug_fixes
Candidate Version OMA-TFP-SUPL_TTCN-V2_0	03 Sep 2013	N/A	Status changed to Candidate by TP TP Ref# OMA-TP-2013-0239- INP_SUPL_2_0_2_TFP_for_Candidate_re_approval
Draft Versions OMA-TFP-SUPL_TTCN-V2_0_2	04 Nov 2013	Ttcn code	Incorporated CR: OMA-IOP-TTCN-2013-0026- CR_SUPL_TTCN_GPS_scenario_update_to_2012
	19 Feb 2014	5.4, Ttcn code	Incorporated CRs: OMA-IOP-TTCN-2013-0030-CR_SUPL_2.0_regression_corrections OMA-IOP-TTCN-2013-0031R01- CR_SUPL_2.0_SSC_hybrid_preparation OMA-IOP-TTCN-2013-0032R01- CR_SUPL_2.0_GNSS_parametrization_and_new_hybrid_test_cases OMA-IOP-TTCN-2013-0033R01- CR_SUPL_2.0_remove_scaling_from_TTCN_3 OMA-IOP-TTCN-2013-0035- CR_SUPL_2.0_Send_requested_assistance_data OMA-IOP-TTCN-2013-0036-CR_SUPL_2.0_Glonass_fixes OMA-IOP-TTCN-2013-0037R01- CR_SUPL_2.0_MNC_MCC_correction_for_OTDOA OMA-IOP-TTCN-2013-0038- CR_SUPL_2.0_Correct_PICS_usage_for_OTDOA
	26 Mar 2014	5.4	Incorporated CR: OMA-IOP-2014-0033-CR_SUPL_2.0.2_TFP_update Editorial changes
	23 Jun 2014	TTCN code	Incorporated CRs: OMA-IOP-2014-0104-CR_SUPL_2.0.2_TTCN_SV_ID_correction OMA-IOP-2014-0101-CR_SUPL_Fix_sessionID_reestablishment OMA-IOP-2014-0100-CR_SUPL_Fix_area_event_TCs OMA-IOP-2014-0099-CR_SUPL_Fix_Verdict_handling OMA-IOP-2014-0096-CR_Use_local_timer_for_doPause OMA-IOP-2014-0095R03-CR_Fix_GNSS_ionospheric_model OMA-IOP-2014-0094R01-CR_OTDOA_ICS_clean_up OMA-IOP-2014-0093- CR_Support_for_SUPL_POS_during_waittime OMA-IOP-2014-0092-CR_Use_PIXIT_for_NWC_wait_time OMA-IOP-2014-0091R01-CR_Correct_svHealth_flags_for_Glonass OMA-IOP-2014-0085-CR_Fix_MNC_MCC_values_for_LTE OMA-IOP-2014-0084-CR_Fix_GLONASS_RRLP_templates OMA-IOP-2014-0083-CR_Fix_RRLP_enumeration OMA-IOP-2014-0081-CR_OTDOA_measurement_corrections OMA-IOP-2014-0080-CR_Number_of_sessions_fix_for_42_series OMA-IOP-2014-0079-CR_Same_ref_time_for_all_RRLP_messages OMA-IOP-2014-0078-CR_Add_SSL_re_establishment OMA-IOP-2014-0077- CR_LPP_support_for_autonomous_fix_test_cases

Document Identifier	Date	Sections	Description
	18 Sep 2014	TTCN code	Incorporated CRs: OMA-IOP-2014-0125-CR_SUPL_V2.0_TTCN_Cell_ID_correction OMA-IOP-2014-0126-CR_SUPL_V2.0_TTCN_missing_runs_on_SUPL_Component_ OMA-IOP-2014-0127-CR_SUPL_V2.0_TTCN_Assistance_Data_corrections OMA-IOP-2014-0128-CR_SUPL_V2.0_TTCN_SSC_improvements OMA-IOP-2014-0129-CR_SUPL_V2.0_TTCN_Correct_Notification_in_con_073 OMA-IOP-2014-0130-CR_SUPL_V2.0_TTCN_missing_bracket_in_con_042 OMA-IOP-2014-0131-CR_SUPL_V2.0_TTCN_add_restart_to_con_033 OMA-IOP-2014-0136-CR_SUPL_V2.0_TTCN_Allow_GPS_only_testing OMA-IOP-2014-0154R01-CR_SUPL_TTCN_Fix_Autonomous_GNSS OMA-IOP-2014-0155-CR_SUPL_TTCN_Fix_IPv6_for_33_series OMA-IOP-2014-0158-CR_SUPL_V2.0_TTCN_Add_LPP_support_110_test_3 OMA-IOP-2014-0164-CR_SUPL_TTCN_Fix_update_Tokyo_scenario_Omega_0 OMA-IOP-2014-0165-CR_SUPL_TTCN_Fix_SUPL_END_position OMA-IOP-2014-0166-CR_SUPL_TTCN_Fix_TC_42_series OMA-IOP-2014-0167-CR_SUPL_TTCN_Fix_TC_140_test_2 Editorial changes
	08 Oct 2014	TTCN code	Incorporated CR: OMA-IOP-2014-0163R01-CR_SUPL_V2.0_TTCN_Correct_Positioning_Method_25_1_025_2_072_073
	02 Dec 2014	5.4, TTCN code	Incorporated CRs: OMA-IOP-2014-0180R01-CR_SUPL_V2.0_TTCN_Align_OTDOA_Assistance_Data OMA-IOP-2014-0181R01-CR_SUPL_V2.0_TTCN_Improve_handling_multiple_scenarios OMA-IOP-2014-0183R01-CR_SUPL_V2.0_TTCN_Correction_con_061 OMA-IOP-2014-0194-CR_SUPL_V2.0_TTCN_3_verification_051_2 OMA-IOP-2014-0195R01-CR_SUPL_V2.0_TTCN_3_verification_130_1_130_2_131_2_141_2_141_4 OMA-IOP-2014-0196-CR_SUPL_V2.0_TTCN_3_verification_131_1 OMA-IOP-2014-0197-CR_SUPL_V2.0_TTCN_3_verification_110_5 OMA-IOP-2014-0198-CR_SUPL_V2.0_TTCN_3_verification_040_2_051_1 OMA-IOP-2014-0203-CR_SUPL_V2.0_TTCN_3_verification_034 OMA-IOP-2014-0204-CR_SUPL_V2.0_TTCN_3_PTCRB_update

Document Identifier	Date	Sections	Description
	22 Jan 2015	TTCN codes	Incorporated CRs: OMA-IOP-2015-0004-CR_SUPL_fix_TFP_compilation_tc_61_split OMA-IOP-2015-0005-CR_SUPL_fix_TFP_compilation_fixes_SSC_init OMA-IOP-2015-0011R01-CR_SUPL_TTCN_UE_assisted_hybrid_TCs_unfairly_PASS OMA-IOP-2015-0012R01-CR_SUPL_TTCN_remove_sending_GNSS_reposition OMA-IOP-2015-0013-CR_SUPL_TTCN_fix_gnssAuxiliaryInformation OMA-IOP-2015-0014-CR_SUPL_TTCN_TC_110_10_ OMA-IOP-2015-0015-CR_SUPL_TTCN_TC_51_2_x_fix OMA-IOP-2015-0017-CR_SUPL_TTCN_RRLP_segmentation OMA-IOP-2015-0018-CR_SUPL_TTCN_AGNSS_standalone_fix_time OMA-IOP-2015-0022-CR_SUPL_TTCN_RRLP_segmentation_latest OMA-IOP-2015-0023-CR_SUPL_TTCN_tests_con_110_Test_11_and_Test_12_applicabilities Editorial changes.
Candidate Version OMA-TFP-SUPL_TTCN-V2_0	22 Jan 2015	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2015-0041-INP_SUPL_V2_0_2_TTCN_TFP_for_Notification
Draft Versions OMA-TFP-SUPL_TTCN-V2_0_2	11 Jun 2015	TTCN codes	Incorporated CRs: OMA-IOP-2015-0024-CR_SUPL_TTCN_Introduce_triggered_IXIT OMA-IOP-2015-0025-CR_SUPL_TTCN_setverdict_clean_up OMA-IOP-2015-0027-CR_SUPL_TTCN_OTDOA_fix_for_TDD OMA-IOP-2015-0028-CR_SUPL_TTCN_OTDOA_only_fix OMA-IOP-2015-0035-CR_SUPL_TTCN_Session_ID_bugfix OMA-IOP-2015-0036-CR_SUPL_TTCN_Correct_LPP_scaling OMA-IOP-2015-0037-CR_SUPL_TTCN_Correct_TC_51.1.1 OMA-IOP-2015-0038-CR_SUPL_TTCN_Correct_TC_30.10_LPP_case OMA-IOP-2015-0041-CR_SUPL_TTCN_Fix_33_series OMA-IOP-2015-0042-CR_SUPL_TTCN_Fix_TC_30_12_for_GNSS OMA-IOP-2015-0043-CR_SUPL_TTCN_Clean_up_and_align_quasi_realtime_reporting OMA-IOP-2015-0049R01-CR_SUPL_TTCN_fix_almanac_week OMA-IOP-2015-0075R01-CR_SUPL_V2.0_TTCN_SUPL_END_handling_after_Stop_Time OMA-IOP-2015-0082R01-CR_SUPL_V2.0_TTCN_correct_template_error OMA-IOP-2015-0083R01-CR_SUPL_V2.0_TTCN_modify_setverdict_in_con_130_and_131
	01 Dec 2015	TTCN codes	Incorporated CR: OMA-IOP-2015-0210-CR_SUPL_V2.0_TTCN_3_verification_con_061
	02 Dec 2015	TTCN codes	Incorporated CRs: OMA-IOP-2015-0091-CR_TTCN_Correct_handling_of_SUPL_END_during_triggered_sessions OMA-IOP-2015-0092-CR_TTCN_TC61.1_and_61.2_send_SUPL_END_for_Session_Query OMA-IOP-2015-0095-CR_SUPL_TTCN_Almanac_correction OMA-IOP-2015-0115-CR_SUPL_2.0.2_TTCN_correct_longitude_value OMA-IOP-2015-0142-CR_SUPL_2.0.2_TTCN_Corrections_con_061_SET_based_periodic_case OMA-IOP-2015-0143-CR_SUPL_2.0.2_TTCN_Correct_SET_based_behaviour_con_073 OMA-IOP-2015-0144-CR_SUPL_2.0.2_TTCN_Con_40_2_correction_wait_time Correct last time CR information

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Candidate Version OMA-TFP-SUPL_TTCN-V2_0_2	03 Dec 2015	n/a	Status changed to Candidate by TP TP Ref # OMA-TP-2015-0209R01- INP_SUPL_V2_0_2_TTCN_TFP_for_Notification