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SERIES Q: SWITCHING AND SIGNALLING

Signalling requirements and protocols for the NGN –
Testing for next generation networks

**Conformance tests specification for the
originating identification presentation and
originating identification restriction using the IP
multimedia core network subsystem – Part 3:
User side – Test suite structure and test
purposes**

Recommendation ITU-T Q.3943.3

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Recommendation ITU-T Q.3943.3

Conformance tests specification for the originating identification presentation and originating identification restriction using the IP multimedia core network subsystem – Part 3: User side – Test suite structure and test purposes

Summary

Recommendation ITU-T Q.3943.3 specifies the test suite structure and test purposes (TSS&TP) for the user side of the originating identification presentation (OIP) and originating identification restriction (OIR) NGN basic service (ETSI TS 124 607).

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T Q.3943.3	2013-04-29	11

FOREWORD

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Recommendation ITU-T Q.3943.3

Conformance tests specification for the originating identification presentation and originating identification restriction using the IP multimedia core network subsystem – Part 3: User side – Test suite structure and test purposes

1 Scope

This Recommendation specifies the test suite structure and test purposes (TSS&TP) for the user side of the originating identification presentation (OIP) and originating identification restriction (OIR) NGN basic service, [ETSI TS 124 607].

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T Q.3943.1] Recommendation ITU-T Q.3943.1 (2013), *Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR) Conformance Tests Specification; Part 1: Protocol Implementation Conformance Statement (PICS)*.
- [ITU-T X.290] Recommendation ITU-T X.290 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – General concepts* (twinned with ISO/IEC 9646-1).
- [ETSI TS 124 607] ETSI TS 124 607 (V8.0.4) (2010-01), *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Originating Identification Presentation (OIP) and Originating Identification Restriction (OIR) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification (3GPP TS 24.607 version 8.0.4 Release 8)*.
- [IETF RFC 3323] IETF RFC 3323 (2002), *A Privacy Mechanism for the Session Initiation Protocol (SIP)*.

3 Definitions

This Recommendation uses the following terms defined elsewhere:

- 3.1 abstract test suite (ATS):** [ITU-T X.290].
- 3.2 implementation under test (IUT):** [ITU-T X.290].
- 3.3 PICS proforma:** [ITU-T X.290].
- 3.4 point of control and observation:** [ITU-T X.290].
- 3.5 protocol implementation conformance statement (PICS):** [ITU-T X.290].
- 3.6 system under test (SUT):** [ITU-T X.290].
- 3.7 test purpose (TP):** [ITU-T X.290].

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

ATS	Abstract Test Suite
IUT	Implementation Under Test
NNI	Network-Network Interface
PICS	Protocol Implementation Conformance Statement
SUT	System Under Test
TSS	Test Suite Structure
TP	Test Purpose

5 Test suite structure (TSS)

User			
	CallingUser		OIP_U01_XXX
	CalledUser		OIP_U02_XXX

Figure 1 – Test suite structure

5.1 Configuration

The scope of this Recommendation is to test the signalling and procedural aspects of the stage 3 requirements as described in [ETSI TS 124 607]. There are special clauses in the protocol standard describing the procedures that apply at the originating and terminating user equipment. Therefore, the test configuration in Figure 2 has been chosen.

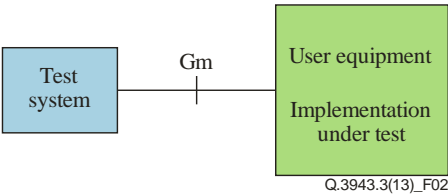


Figure 2 – Applicable configuration to test UE functionalities

6 Test purposes (TP)

6.1 Introduction

For each test requirement, a TP is defined.

6.1.1 TP naming convention

Tps are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see Table 1).

Table 1 – TP identifier naming convention scheme

Identifier:	<ss>_<iut><group>_<nnn>
<ss> = supplementary service:	e.g., "OIP"
<iut> = type of IUT:	U User – equipment
N	Network
<group> = group	2-digit field representing group reference according to TSS
<nnn> = sequential number	(001 to 999)

6.1.2 Test strategy

As the base standard [ETSI TS 124 607] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification [ITU-T Q.3943.1]. The criteria applied include the following:

- only the requirements from the point of view of the T or coincident S and T reference point are considered;
- whether or not a test case can be built from the TP is not considered.

6.2 User TPs for OIP and OIR

All PICS items referred to in this clause are as specified in [ITU-T Q.3943.1] unless indicated otherwise by another numbered reference.

6.2.1 Calling user

TSS	TP	OIP reference	Selection expression
User/Calling_User	OIP_U01_001	clause 4.5.2.1	PICS 1/1
Test purpose: <i>Originating user sends a P-Preferred Identity.</i> Ensure that the IUT, in order to present a complete calling user identity with which is registered, sends an INVITE message containing a P-Preferred-Identity header with valid 'tel' or 'SIP' URI defined as USER_URI.			
Preconditions: The user registers the public user identity.			
Comments: <div> <div>User equipment</div> <div>INVITE</div> </div> <div>→</div> <div> <div>Test equipment</div> </div>			

TSS	TP	OIP reference	Selection expression
User/Calling_User	OIP_U01_002	clause 4.5.2.1	PICS 1/1, 2/4
Test purpose: <i>Originating user sends a P-Preferred Identity and wishes to override the default setting 'Presentation restricted'.</i> Ensure that the IUT, in order to present a complete calling user identity with which is registered and to override the OIR default settings of 'presentation restricted', sends an INVITE message containing a P-Preferred-Identity header with valid 'tel' or 'SIP' URI defined as USER_URI and a Privacy header set to "none".			

Preconditions: The user registers the public user identity. The user has subscribed to OIR temporary mode, default value 'presentation restricted'.	
Comments: <div style="display: flex; justify-content: space-between;"> <div> User equipment INVITE </div> <div>→</div> <div> Test equipment INVITE </div> </div>	

User/Calling_User	TP OIP_U01_003	OIP reference clause 4.5.2.1	Selection expression PICS 1/1, 2/3
Test purpose: <i>Originating user sends an 'anonymous' From header and wishes to override the default setting 'Presentation not restricted'.</i> Ensure that the IUT, in order to override the OIR default settings of 'presentation not restricted', sends an INVITE message not containing a P-Preferred-Identity header and containing a Privacy header set to " id " or " header " and containing an anonymous From header. The convention for configuring an anonymous From header is described in [IETF RFC 3323] and should be followed; i.e., From: "Anonymous" <sip:anonymous@anonymous.invalid>;tag= xxxxxx.			
Preconditions: The user has subscribed to OIR temporary mode, default value 'presentation restricted'.			
Comments: <div style="display: flex; justify-content: space-between;"> <div> User equipment INVITE </div> <div>→</div> <div> Test equipment INVITE </div> </div>			

See Table 2 for the values for test purposes from OIP_U02_001 to OIP_U02_003.

Table 2

Values for test purposes OIP_U02_001 to OIP_U02_003	
	USER_URI
VA_1	tel: local number
VA_2	tel: global number
VA_3	tel: local number; phone-context= particular phone prefix
VA_4	tel: local number; phone-context= domainname
VA_5	tel: local number; isub= ISDN Subadress
VA_6	SIP URI sip:user:password@host:port;uri-parameters
VA_7	sip URI: local number @host:port;uri-parameters
VA_8	sip URI: global number @host:port;uri-parameters
VA_9	sip URI: local number; phone-context= particular phone prefix @host:port;uri-parameters

6.2.2 Called user

TSS User/Called_User	TP OIP_U02_001	OIP reference	Selection expression PICS 1/2
Test purpose: <i>Terminating user receives a P-Asserted identity header field.</i> Ensure that the terminating UE, receiving a valid and compatible INVITE message containing one P-Asserted-Identity header indicating a public user identity defined as URI_USER, accepts the call following the basic call procedures.			
Comments: <div style="display: flex; justify-content: space-between;"> <div> User equipment INVITE </div> <div style="text-align: center;">←</div> <div> Test equipment INVITE </div> </div>			

TSS User/Called_User	TP OIP_U02_002	OIP reference	Selection expression PICS 1/2
Test purpose: <i>Terminating user receives a P-Asserted identity header field.</i> Ensure that the terminating UE, receiving a valid and compatible INVITE message containing two P-Asserted-Identity headers indicating public user identities defined as URI_USER accepts the call following the basic call procedures.			
Comments: <div style="display: flex; justify-content: space-between;"> <div> User equipment INVITE </div> <div style="text-align: center;">SUT ←</div> <div> Test equipment INVITE </div> </div>			

See Table 3 for the values for test purposes for OIP_U02_001 and OIP_U02_002.

Table 3

Values for test purposes OIP_U02_001 and OIP_U02_002	
	USER_URI
VA_1	tel: local number
VA_2	tel: global number
VA_3	tel: local number; phone-context= particular phone prefix.
VA_4	tel: local number; phone-context= domainname
VA_5	tel: local number; isub= ISDN Subadress
VA_6	SIP URI sip:user:password@host:port;uri-parameters
VA_7	sip URI: local number @host:port;uri-parameters
VA_8	sip URI: global number @host:port;uri-parameters
VA_9	Sip URI: local number ; phone-context= particular phone prefix @host:port;uri-parameters

7 Compliance

An ATS which complies with this TSS&TP specification shall:

- a) consist of a set of test cases corresponding to the set or to a subset of the TPs specified in clause 6;

- b) use a TSS which is an appropriate subset of the whole of the TSS specified in clause 5;
- c) use the same naming conventions for the test groups and test cases;
- d) maintain the relationship specified in clause 6 between the test groups and TPs and the entries in the PICS proforma to be used for test case deselection.

In the case of a) or b) above, a subset shall be used only where a particular abstract test method (ATM) makes some TPs untestable. All testable TPs from clause 6 shall be included in a compliant ATS.

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