

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Q.4012.3

(08/2016)

SERIES Q: SWITCHING AND SIGNALLING

Testing specifications – Testing specifications for SIP-IMS

Anonymous communication rejection and communication barring using IP multimedia core network subsystem; Conformance test specification – Part 3: Test suite structure and test purposes; User side

Recommendation ITU-T Q.4012.3

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Anonymous communication rejection and communication barring using IP multimedia core network subsystem; Conformance test specification – Part 3: Test suite structure and test purposes; User side

Summary

Recommendation ITU-T Q.4012.3 provides the testing requirements for the supplementary service "Anonymous communication rejection (ACR) and communication barring (CB) using IP multimedia (IM) core network (CN) subsystem; Conformance test specification – Part 3: Test suite structure and test purposes (TSS&TP) for the user side" (based on Recommendation ITU-T Q.3628 v.1).

The version number, v.1, indicates that this is version one of Recommendation ITU-T Q.4012.3, and that it relates to Release 10 of the relevant 3GPP/ETSI standard.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T Q.4012.3 v.1	2016-08-29	11	11.1002/1000/13009

Keywords

ACR, anonymous communication rejection, IMS, IP multimedia subsystem, testing, test suite structure and test purposes, TSS&TP

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

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Recommendation ITU-T Q.4012.3

Anonymous communication rejection and communication barring using IP multimedia core network subsystem; Conformance test specification – Part 3: Test suite structure and test purposes; User side

1 Scope

This Recommendation is Part 3 of a multi-part deliverable covering anonymous communication rejection (ACR) and communication barring (CB) using IP multimedia (IM) core network (CN) subsystem; Conformance test specification – Part 3: Test suite structure and test purposes (TSS&TP); User side, as identified below:

Part 1: "Protocol implementation conformance statement (PICS)";

Part 2: "Test suite structure and test purposes (TSS&TP), network side";

Part 3: "Test suite structure and test purposes (TSS&TP), user side".

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.3628 v.1] ITU-T Q.3628 v.1 (2016), *Anonymous communication rejection and communication barring using IP multimedia core network subsystem – Protocol specification*.

[ITU-T Q.4012.1] ITU-T Q.4012.1 (2016), *Anonymous communication rejection and communication barring using IP multimedia core network subsystem; Conformance testing specification – Part 1: Protocol implementation conformance statement*.

[ETSI TS 124 623] ETSI TS 124 623 (2012-03), *Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Extensible Markup Language (XML) Configuration Access Protocol (XCAP) over the Ut interface for Manipulating Supplementary Services (3GPP TS 24.623 version 10.3.0 Release 10)*.

3 Definitions

3.1 Terms defined elsewhere

None.

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

ACR	Anonymous Communication Rejection
CB	Communication Barring
CN	Core Network
ICB	Incoming Communication Barring
IM	IP Multimedia
IMS	IP Multimedia Subsystem
IP	Internet Protocol
PICS	Protocol Implementation Conformance Statement
SIP	Session Initiation Protocol
TP	Test Purpose
TSS	Test Suite Structure
XCAP	Extensible Markup Language Configuration Access Protocol
XML	Extensible Markup Language

5 Conventions

None.

6 Test suite structure

Table 6-1 – Test suite structure

ACR-CB			
	User	Destination_UE	ACR-CB_U01_xxx

6.1 Configuration

The scope of this Recommendation is to test the signalling and procedural aspects of the stage 3 requirements as described in [ITU-T Q.3628 v.1]. Stage 3 describes the requirements for several network entities and terminal devices. Consequently, several interfaces (reference points) are addressed to satisfy the test of the different entities.

In order to test the appropriate entities the configurations below are applicable.

6.1.1 Testing of the user equipment

There are special clauses in the protocol standard describing the procedures that apply at the originating and terminating user equipment (UE) as shown in the test configuration in Figure 1.

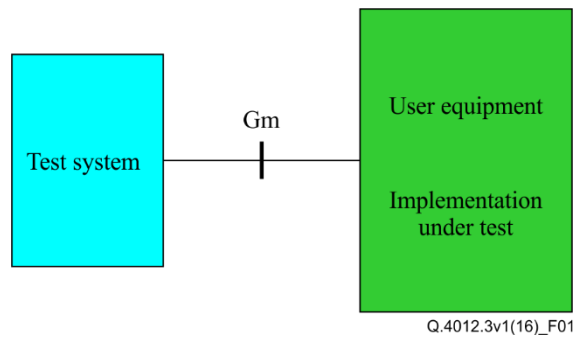


Figure 1 – Applicable configuration to test UE functionalities

7 Test Purposes

7.1 Introduction

For each test requirement a test purpose (TP) is defined.

7.1.1 TP naming convention

Test purposes (TPs) are numbered, starting at 001, within each group. Groups are organized according to the test suite structures (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. "ACR-CB"	
<iut>	= type of IUT:	U	User equipment
		N	Network
<group>	= group	2 digit field representing group reference according to TSS	
<nnn>	= sequential number	(001-999)	

7.1.2 Test strategy

As the base standard [ITU-T Q.3628 v.1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the protocol implementation conformance statement (PICS) specification [ITU-T Q.4012.1]. The criteria applied include the following:

- Whether or not a test case can be built from the TP is not considered.

7.1.3 Actions at the destination user equipment

TSS	TP	Reference	Selection expression
ACR-CB/User/Destination_UE	ACR-CB_U01_001	Clause 4.5.0 of [ITU-T Q.3628 v.1]	PICS 4.5.1/1 AND PICS 4.6.1/4 [ITU-T Q.4012.1]
Test purpose <i>The user equipment is able to send an INVITE request including a SSC command to use session initiation protocol (SIP) based user configuration.</i> Ensure that a user equipment is able to send an INVITE request including a SSC command to use SIP based user configuration.			
SIP header values: INVITE: Request line sip:<service code>;phone-context=<any domain>;user=dialstring SIP/2.0			
Comments: UE (Gm#1) INVITE		→ Test equipment (Gm#2) INVITE	
Apply post test routine			

TSS ACR-CB/User/Destination_UE	TP ACR-CB_U01_002	Reference Clause 4.5.2.13 of [ITU_T Q.3628 v.1]	Selection expression PICS 4.5.1/1 AND PICS 4.6.1/1 [ITU-T Q.4012.1]
Test purpose <i>The user equipment is able to send a 603 Decline to indicate incoming call barring.</i> Ensure that a user equipment is able to send a 603 Decline containing a Reason header set to SIP the cause parameter set to '603' and the text parameter set to 'Decline' to indicate incoming call barring.			
SIP header values: 603: Reason: SIP;cause=603;text="Decline"			
Comments: UE (Gm#1) INVITE 180 Ringing 603 Decline ACK			
		← → Apply procedure to indicate incoming communication barring → ←	Test equipment (Gm#2) INVITE 180 Ringing 603 Decline ACK

TSS ACR-CB/User/Destination_UE	TP ACR-CB_U01_003	Reference Clause 4.5.2.13 of ITU_T Q.3628 v.1	Selection expression PICS 4.5.1/1 AND PICS 4.6.1/2 [ITU-T Q.4012.1]
Test purpose <i>The user equipment is able to send a BYE request to indicate incoming call barring.</i> Ensure that a user equipment is able to send a BYE request containing a Reason header set to SIP the cause parameter set to '603' and the text parameter set to 'Decline' to indicate incoming call barring.			
SIP header values: BYE: Reason: SIP;cause=603;text="Decline"			
Comments: UE (Gm#1) INVITE 180 Ringing 200 OK INVITE ACK BYE 200 OK BYE			
		← → → ← Apply procedure to indicate incoming communication barring in BYE → ←	Test equipment (Gm#2) INVITE 180 Ringing 200 OK INVITE ACK BYE 200 OK BYE

TSS ACR-CB/User/Destination_UE	TP ACR-CB_U01_004	Reference Clause 4.5.2.13 of ITU_T Q.3628 v.1	Selection expression PICS 4.5.1/1 AND PICS 4.6.1/3 [ITU-T Q.4012.1]
Test purpose <i>The user equipment is able to send an INVITE request in the early dialogue to indicate incoming call barring.</i> Ensure that a user equipment is able to send an INVITE request in the early dialogue including a SSC command to indicate incoming call barring.			
SIP header values: INVITE 2: Request line sip:<service code>;phone-context=<any domain>;user=dialstring SIP/2.0			
Comments: UE (Gm#1) INVITE 180 Ringing INVITE 2 200 OK INVITE ACK BYE 2 200 OK BYE			
		← → Apply procedure to indicate incoming communication barring in INVITE → ← → → ← Apply post test routine	Test equipment (Gm#2) INVITE 1 180 Ringing INVITE 200 OK INVITE ACK BYE 200 OK BYE

TSS ACR-CB/User/Destination_UE	TP ACR-CB_U01_005	Reference Clause 4.5.2.13 of ITU_T Q.3628 v.1	Selection expression PICS 4.5.1/1 AND PICS 4.6.1/3 [ITU-T Q.4012.1]
Test purpose <i>The user equipment is able to send an INVITE request in the confirmed dialogue to indicate incoming call barring.</i> Ensure that a user equipment is able to send an INVITE request in the confirmed dialogue including a SSC command to indicate incoming call barring.			
SIP header values: INVITE: Request line sip:<service code>;phone-context=<any domain>;user=dialstring SIP/2.0			
Comments:			
UE (Gm#1)			Test equipment (Gm#2)
INVITE	←		INVITE 1
180 Ringing	→		180 Ringing
	→		200 OK INVITE
	←		ACK
Apply procedure to indicate incoming communication barring in INVITE			
INVITE 2	→		INVITE
200 OK INVITE	←		200 OK INVITE
ACK	→		ACK
BYE 2	→		BYE
200 OK BYE	←		200 OK BYE
Apply post test routine			

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