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SERIES Q: SWITCHING AND SIGNALLING

Testing specifications – Testing specifications for SIP-IMS

**Malicious communication identification using
IP multimedia core network subsystem;
Conformance test specification – Part 3: Test
suite structure and test purposes; User side**

Recommendation ITU-T Q.4008.3

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Recommendation ITU-T Q.4008.3

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

Summary

Recommendation ITU-T Q.4008.3 v.1 (2016) provides the test suite structure and test purposes for the malicious communication identification (MCID) using IP multimedia (IM) core network (CN) subsystem conformance test specification for the user side (based on Recommendation ITU-T Q.3624 v.1).

The version number, v.1, indicates that this is version one of Recommendation ITU-T Q.4008.3, 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.4008.3 v.1	2016-08-29	11	11.1002/1000/12998

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IMS, IP multimedia subsystem, malicious communication identification, MCID, 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.4008.3

Malicious communication identification 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 malicious communication identification (MCID) using IP multimedia (IM) core network (CN) subsystem; conformance test specification, 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.3624 v.1] Recommendation ITU-T Q.3624 v.1 (2016), *Malicious communication identification using IP multimedia core network subsystem – Protocol specification*.

[ITU-T Q.4008.1] Recommendation ITU-T Q.4008.1 (2016), *Malicious communication identification using IP multimedia core network subsystem; Conformance test specification – Part 1: Protocol implementation conformance statement*.

3 Definitions

3.1 Terms defined elsewhere

For the purposes of this Recommendation, the terms and definitions given in [ITU-T Q.3624 v.1] and the following apply:

3.1.1 communication information: Information collected and registered by the MCID service.

3.1.2 identity information: Includes all the information identifying a user, including trusted (network generated) and/or untrusted (user generated) identities.

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

CN Core Network

IM	IP Multimedia
IMS	IP Multimedia Subsystem
IP	Internet Protocol
MCID	Malicious Communication Identification
MIME	Multipurpose Internet Mail Extensions
PICS	Protocol Implementation Conformance Statement
SIP	Session Initiation Protocol
TP	Test Purpose
TSS	Test Suite Structure
UE	User Equipment
XML	extensible Markup Language

5 Conventions

None.

6 Test suite structure

Table 6-1 – Test suite structure

MCID		
	destination_UE	MCID_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.3624 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 6.1.1-1.

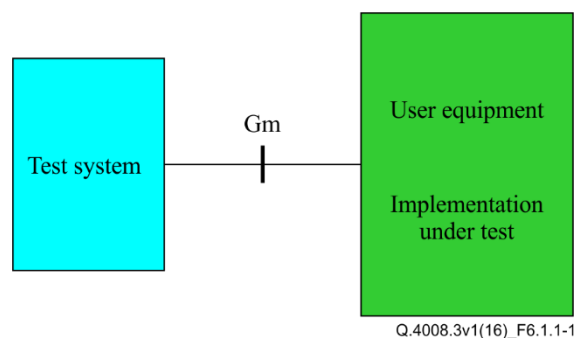


Figure 6.1.1-1 – Applicable configuration to test UE functionalities

7 Test purpose

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 structure (TSS). Additional references are added to identify the actual test suite and whether it applies to the network or the user (see Table 7.1.1-1).

Table 7.1.1-1 – TP identifier naming convention scheme

Identifier: <ss>_<iut><group>_<nnn>			
<ss>	= supplementary service:	e.g., "MCID"	
<iut>	= type of IUT:	U	User equipment
		N	Network entity
<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.3624 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.4008.1 v.1]. The criteria applied include the following:

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

7.2 TPs for malicious communication identification

7.2.1 Actions at the destination UE

TSS	TP	MCID reference	Selection expression
MCID/destination_UE	MCID_U01_001	Clause 4.5.2.12 of [ITU-T Q.3624 v.1]	PICS 4.5.1/1 AND PICS 4.6.1/1
Test purpose <i>The UE sends a MCID request in the confirmed state</i> Ensure that the UE is able to invoke MCID in the confirmed state. The UE sends a Re-INVITE without session modification and no 'mcid' XML element is present.			
Preconditions:			
SIP header values: Re-INVITE without session modification			
Comments:			
Test equipment			
	←	INVITE	→ User equipment
	←	100 Trying	
	←	180 Ringing	
	←	200 OK INVITE	
		ACK	→
	←	Re-INVITE requesting MCID	
		200 OK INVITE	
	←	ACK	←
Apply post test routine			

TSS MCID/destination_UE	TP MCID_U01_002	MCID reference Clause 4.5.2.12 of [ITU-T Q.3624 v.1]	Selection expression PICS 4.5.1/1 AND PICS 4.6.1/1
Test purpose <i>The UE sends a MCID request in the early dialogue</i> Ensure that the UE is able to invoke MCID in the early dialogue. The UE sends a Re-INVITE without session modification and no 'mcid' XML element is present.			
Preconditions:			
SIP header values: Re-INVITE without session modification			
Comments: <div> <div>Test equipment</div> <div> <div>←</div> <div>INVITE</div> <div>→</div> </div> <div> <div>←</div> <div>100 Trying</div> <div></div> </div> <div> <div>←</div> <div>180 Ringing</div> <div></div> </div> <div> <div>←</div> <div>Re-INVITE requesting MCID</div> <div></div> </div> <div> <div>←</div> <div>200 OK INVITE</div> <div></div> </div> <div> <div>←</div> <div>ACK</div> <div>←</div> </div> <div>Apply post test routine</div> </div>			

TSS MCID/destination_UE	TP MCID_U01_003	MCID reference Clause 4.5.2.12 of [ITU-T Q.3624 v.1]	Selection expression PICS 4.5.1/1 AND PICS 4.6.1/2
Test purpose <i>The UE sends a MCID request using the XML McidRequestIndicator in the confirmed state</i> Ensure that the UE is able to invoke MCID in the confirmed state. The UE sends a Re-INVITE without session modification. Ensure that the UE is able to send a 'mcid' XML MIME body with the McidRequestIndicator set to 1.			
Preconditions:			
SIP header values: Re-INVITE without session modification XML mcid request McidRequestIndicator = '1'			
Comments: <div> <div>Test equipment</div> <div> <div>←</div> <div>INVITE</div> <div>→</div> </div> <div> <div>←</div> <div>100 Trying</div> <div></div> </div> <div> <div>←</div> <div>180 Ringing</div> <div></div> </div> <div> <div>←</div> <div>200 OK INVITE</div> <div></div> </div> <div> <div>←</div> <div>ACK</div> <div>→</div> </div> <div> <div>←</div> <div>Re-INVITE requesting MCID</div> <div></div> </div> <div> <div>←</div> <div>200 OK INVITE</div> <div>→</div> </div> <div> <div>←</div> <div>ACK</div> <div></div> </div> <div>Apply post test routine</div> </div>			

TSS MCID/destination_UE	TP MCID_U01_004	MCID reference Clause 4.5.2.12 of [ITU-T Q.3624 v.1]	Selection expression PICS 4.5.1/1 AND PICS 4.6.1/2
Test purpose <i>The UE sends a MCID request using the XML McidRequestIndicator in the early dialogue</i> Ensure that the UE is able to invoke MCID in the early dialogue. The UE sends a Re-INVITE without session modification. Ensure that the UE is able to send a 'mcid' XML MIME body with the McidRequestIndicator set to 1.			
Preconditions:			
SIP header values: Re-INVITE without session modification XML mcid request McidRequestIndicator = '1'			
Comments: Test equipment <div style="display: flex; justify-content: space-between; align-items: flex-start; padding: 10px;"> <div style="text-align: right;"> ← ← ← ← </div> <div style="text-align: center;"> INVITE 100 Trying 180 Ringing Re-INVITE requesting MCID 200 OK INVITE ACK Apply post test routine </div> <div style="text-align: left;"> → → </div> <div style="text-align: left;"> User equipment </div> </div>			

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