



**Core Network and Interoperability Testing (INT);
Malicious Communication Identification (MCID)
using IP Multimedia (IM) Core Network (CN) subsystem;
Conformance Test Specification (3GPP™ Release 12);
Part 2: Test Suite Structure and Test Purposes (TSS&TP)**

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Core Network and Interoperability Testing (INT).

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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1 Scope

The present document is part 2 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)".

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 124 616 (V12.1.0): "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Malicious Communication Identification (MCID) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification (3GPP TS 24.616 version 12.1.0 Release 12)".
- [2] ETSI TS 101 595-1: "Core Network and Interoperability Testing (INT); Malicious Communication Identification (MCID) using IP Multimedia (IM) Core Network (CN) subsystem; Conformance Test Specification (3GPP™ Release 12); Part 1: Protocol Implementation Conformance Statement (PICS)".

2.2 Informative references

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The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] IETF RFC 3966: "The tel URI for Telephone Numbers".
- [i.2] IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI TS 124 616 [1] and the following apply:

communication information: information collected and registered by the MCID service

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

NOTE: See IETF RFC 3966 [i.1]/IETF RFC 3986 [i.2].

3.2 Symbols

For the purposes of the present document, the symbols given in ETSI TS 124 616 [1] apply.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 124 616 [1] and the following apply:

AS	Application Server
ID	user IDentification
IM	IP Multimedia
IMS	IP Multimedia Subsystem
IP	Internet Protocol
ISC	IP multimedia subsystem Service Control
MCID	Malicious Call Identification
MIME	Multipurpose Internet Mail Extensions
SIP	Session Initiation Protocol
TP	Test Purposes
TSS	Test Suite Structure
UE	User Equipment
URI	Uniform Resource Identifier
XML	eXtensible Markup Language

4 Test Suite Structure (TSS)

4.0 Test Suite Structure table

Table 4.0-1: Test Suite Structure (TSS)

MCID			
	terminating_AS		MCID_N01_xxx
	destination_UE		MCID_U01_xxx
	interaction	ECT	MCID_N02_xxx

4.1 Configuration

4.1.0 Introduction

The scope of the present document is to test the signalling and procedural aspects of the stage 3 requirements as described in ETSI TS 124 616 [1]. The stage 3 description describes the requirements for several network entities and also the requirements regarding for terminal devices. Therefore several interfaces (reference points) are addressed to satisfy the test of the different entities.

Therefore to test the appropriate entities the configurations below are applicable.

4.1.1 Testing of the AS

The AS entity is responsible for performing and managing services. The ISC interface is the appropriate access point for testing.

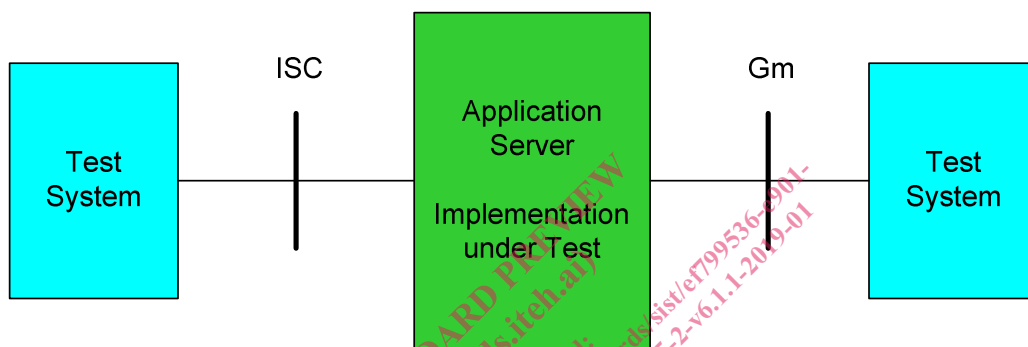


Figure 4.1.1-1: Applicable interface to test AS functionalities

If the ISC interface is not accessible it is also possible to perform the tests of the AS using any NNI (Mw, Mg, Mx) interface (see figure 4.1.1-2). In case only the Gm interface is accessible this interface can be used instead for testing, but the verification of all requirements may not be possible.

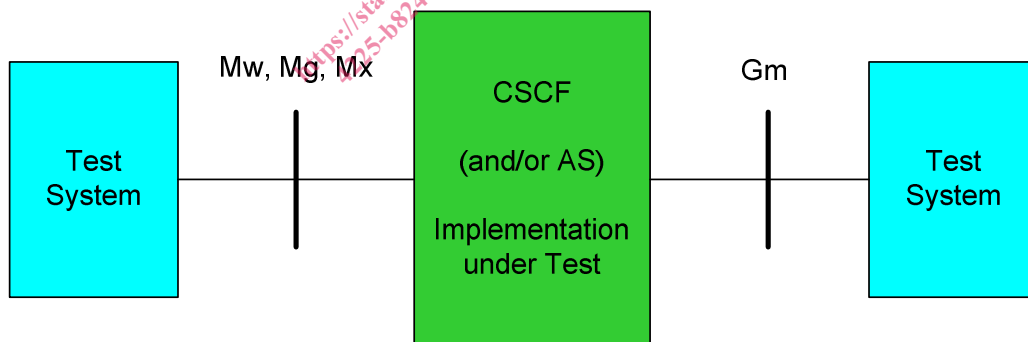


Figure 4.1.1-2: Applicable interfaces for tests using a (generic) NNI interface

4.1.2 Testing of the UE

There are special clauses in the protocol standard describing the procedures that apply at the originating and terminating user equipment. Therefore the test configuration below has been chosen.

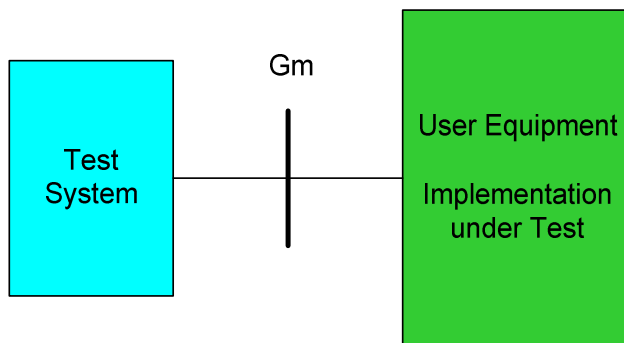


Figure 4.1.2-1: Applicable configuration to test UE functionalities

5 Test Purposes (TP)

5.1 Introduction

5.1.1 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 5.1.1-1).

Table 5.1.1-1: 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)

5.1.2 Test strategy

As the base standard ETSI TS 124 616 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification ETSI TS 101 595-1 [2]. The criteria applied include the following:

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

5.2 TPs for Malicious Communication Identification (MCID)

5.2.1 Actions at the AS of the terminating user

TSS MCID/terminating_AS	TP MCID_N01_001	MCID reference 4.5.2.5.2	Selection expression PICS 4.5.1/2 AND PICS 4.7.1/2
Test purpose <i>The AS holds the call state after a BYE from the originating UE</i> Ensure that the AS holds the confirmed call state while $T_{MCID-BYE}$ is running, if MCID is subscribed by the called user and a BYE was received from the originating user UE. When $T_{MCID-BYE}$ is expired, the BYE is forwarded to the terminating UE.			
Preconditions: Called user shall be configured with MCID subscription with Temporary Mode			
SIP header values:			
Comments:			
Test equipment (ISC)	AS		Test equipment (Gm)
INVITE	→		→ INVITE
100 Trying	←		← 100 Trying
180 Ringing	←		← 180 Ringing
200 OK INVITE	←		← 200 OK INVITE
ACK	→		→ ACK
BYE	→	$T_{MCID-BYE}$ started	
200 OK BYE	←		
		$T_{MCID-BYE}$ expires	
			→ BYE
			← 200 OK BYE

TSS MCID/terminating_AS	TP MCID_N01_002	MCID reference 4.5.2.5.2	Selection expression PICS 4.5.1/2 AND PICS 4.7.1/2
Test purpose <i>The AS holds the early dialogue state after a CANCEL from the originating UE</i> Ensure that the AS holds the early dialogue state while $T_{MCID-BYE}$ is running, if MCID is subscribed by the called user and a CANCEL was received from the originating user UE. When $T_{MCID-BYE}$ is expired, the CANCEL is forwarded to the terminating UE.			
Preconditions: Called user shall be configured with MCID subscription with Temporary Mode			
SIP header values:			
Comments:			
Test equipment (ISC)	AS		Test equipment (Gm)
INVITE	→		→ INVITE
100 Trying	←		← 100 Trying
180 Ringing	←		← 180 Ringing
CANCEL	→	$T_{MCID-BYE}$ started	
200 OK CANCEL	←		
487 Request Terminated	←		
ACK	→		
		$T_{MCID-BYE}$ expires	
			→ CANCEL
			← 200 OK CANCEL
			← 487 Request Terminated
			→ ACK