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Technical Specification

Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Malicious Communication Identification (MCID); 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 Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

The present document is part 2 of a multi-part deliverable covering the Malicious Communication Identification (MCID) service, related to PSTN/ISDN simulation services, as identified below:

- Part 1: "Protocol Implementation Conformance Statement (PICS)";
- Part 2: "Test Suite Structure and Test Purposes (TSS&TP)";**
- Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

1 Scope

The present document specifies the test suite structure and test purposes of the Malicious Communication Identification (MCID) service based on the stage three of IMS MCID simulation service. Within the Next Generation Network (NGN) the stage 3 description is specified using the IP-Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP). The MCID service will store session related information independent of the service requested.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

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2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ETSI TS 183 016: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Malicious Communication Identification (MCID); Protocol Specification".
- [2] ETSI TS 186 018-1: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Malicious Communication Identification (MCID); Part 1: Protocol Implementation Conformance Statement (PICS)".
- [3] ETSI TS 181 002: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Multimedia Telephony with PSTN/ISDN simulation services".
- [4] ETSI TS 181 006: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Direct Communication Service in NGN; Service Description [Endorsement of OMA-ERELED-PoC-V1]".
- [5] ETSI TR 180 000: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); NGN Terminology".

2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TS 181 002 [3], TS 181 006 [4], TR 180 000 [5] and the following apply:

communication information: information collected and registered by the MCID service

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

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

trusted identity: network generated user address information

untrusted identity: user generated user address information

NOTE: This may contain additional information.

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

AS	Application Server
ID	user IDentification
IM	IP Multimedia
IMS	IP Multimedia Subsystem
IP	Internet Protocol
ISC	IP multimedia subsystem Service Control
ISDN	Integrated Services Digital Network
MCID	Malicious Call Identification
MIME	Multipurpose Internet Mail Extensions
NGN	Next Generation Network
NNI	Network Network Interface
PSTN	Public Switched Telephone Network
S-CSCF	Service - Call Session Control Function
SDP	Session Description Protocol
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)

MCID		
	terminating_S-CSCF	MCID_N01_xxx
	terminating_AS	MCID_N02_xxx
	destination_UE	MCID_U01_xxx

4.1 Configuration

The scope of the current specification is to test the signalling and procedural aspects of the stage 3 requirements as described in TS 183 016 [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.

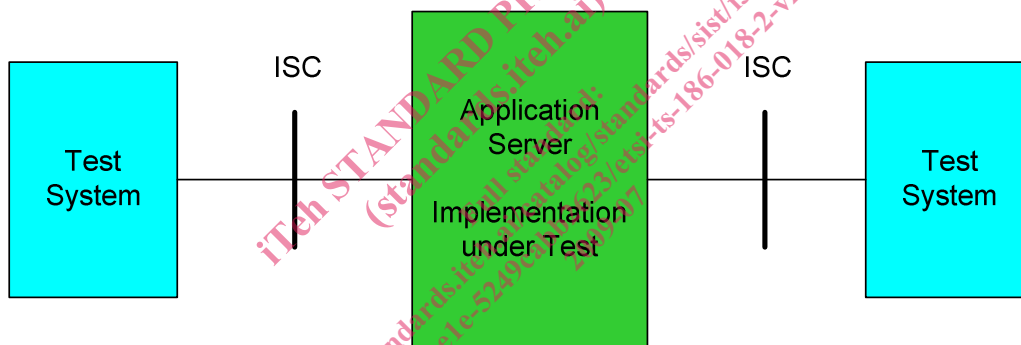


Figure 1: Applicable interface to test AS functionalities

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 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.

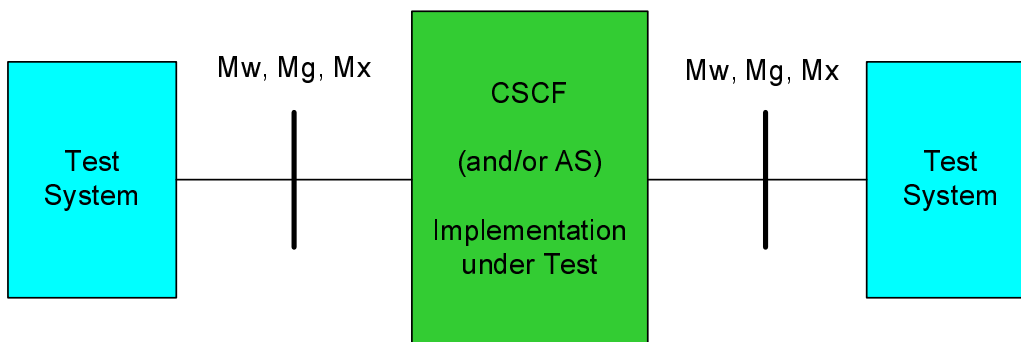


Figure 2: Applicable interfaces for tests using a (generic) NNI interface

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.

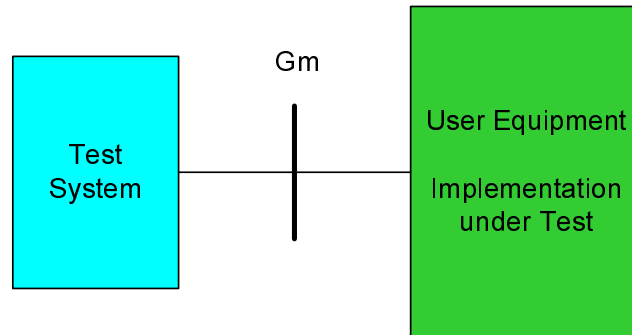


Figure 3: Applicable configuration to test UE functionalities

4.1.3 Testing of the S-CSCF

This entity is responsible for handling the initial filter criteria and for passing messages to the relevant AS. For testing both the Mw and the ISC interface are involved.

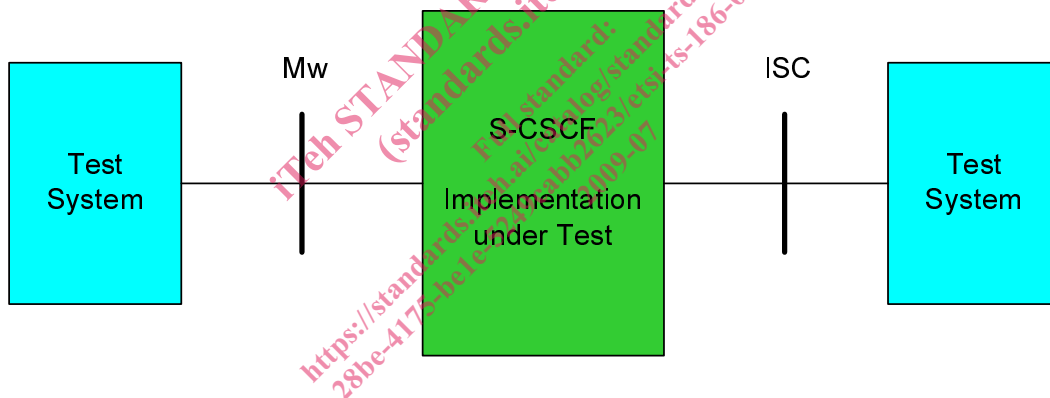


Figure 4: Applicable interfaces to test S-CSCF functionalities

If the either the ISC or the Mw interface is not accessible, it is also possible to perform the test of the S-CSCF using any NNI (Mw, Mg, Mx) interface (see figure 4). 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.

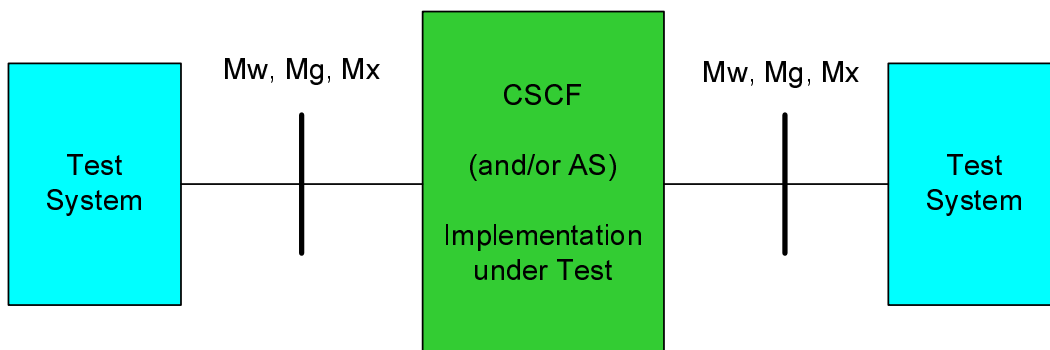


Figure 5: Applicable interfaces for tests using a (generic) NNI interface

5 Test Purposes (TP)

5.1 Introduction

For each test requirement a TP is defined.

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 1).

Table 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 TS 183 016 [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 TS 186 018-1 [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 terminating S-CSCF

TSS	TP	MCID reference	Selection expression
MCID/terminating_S-CSCF	MCID_N01_001	clause 4.5.2.4	PICS 1/3
Test purpose Ensure that the S-CSCF forwards the INVITE request to the AS if the called subscriber has a permanent MCID subscription.			
Preconditions: Called user has MCID subscription with mode permanent			
SIP header values:			
Comments:			
Test equipment (Mw) INVITE		S-CSCF	Test equipment (ISC, Mw) INVITE
	→		→