ETSITS 102 790-2 V2.1.1 (2013-02)



IMS Network Testing (INT);
IMS specific use of Session Initiation Protocol (SIP) and
Session Description Protocol (SDP);
Conformance Testing;

Part 2: Test Suite Structure (TSS) and Test Purposes (TP)

Reference

RTS/INT-00067-2

Keywords

IMS, network, SIP, testing, TSS&TP

ETSI

650 Route des Lucioles F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C Association à but non lucratif enregistrée à la Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from: http://www.etsi.org

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

http://portal.etsi.org/tb/status/status.asp

If you find errors in the present document, please send your comment to one of the following services: <u>http://portal.etsi.org/chaircor/ETSI_support.asp</u>

Copyright Notification

No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2013.
All rights reserved.

DECTTM, **PLUGTESTS**TM, **UMTS**TM and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members. **3GPP**TM and **LTE**TM are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intelle	ectual Property Rights	5
Forew	vord	5
1	Scope	6
2	References	6
2.1	Normative references	
2.2	Informative references.	
2		
3	Definitions and abbreviations	
3.1 3.2	Definitions	
3.2	Abbreviations	/
4	Test configurations	
4.1	Test configurations using Gm interface only	8
4.2	Test configurations using the Mw interface	
4.3	Test configurations using the Ic interface	
4.4	Test configurations using the ISC interface	10
5	Test Suite Structure (TSS)	10
5.1	TP structure	
5.2	TP naming convention.	
5.3	The tabular symbolic TPLan presentation format	
<i>c</i>	Test Purposes (TP)	1.4
6 6.1	Test purposes (TP)	
0.1 6.1.1	General	
6.1.1	Registration procedures	
6.1.3	Initial request procedures	
6.1.4	Standalone requests procedures	
6.1.5	Subsequent requests procedures	
6.1.6	Target refresh request procedures	
6.1.7	Emergency procedures	
6.1.8	Exceptional procedures.	
6.1.9	SDP procedures	
6.1.10	•	
6.2	Test purposes for the Mw interface	
6.2.1	General	67
6.2.2	Registration procedures	80
6.2.3	Initial request procedures	105
6.2.4	Standalone requests procedures	
6.2.5	Subsequent requests on a dialogue procedures	
6.2.6	Target refresh request procedures	
6.2.7	Emergency procedures	
6.2.8	SDP procedures	
6.3	Test purposes for the Ic interface	
6.3.1	General	
6.3.2	Registration procedures	
6.3.3	Initial request procedures	
6.3.4	Standalone requests procedures	
6.3.5 6.3.6	Target refresh request procedures	
6.3.6 6.4	Test purposes for the ISC interface	
6.4.1	General	
6.4.2	Registration procedures	
6.4.3	Initial request procedures	
6.4.4	Standalone requests procedures	
6.3.5	Subsequent requests on a dialogue procedures	
6.4.6	Target refresh request procedures	

Annex A (normative):	TPLan code	216
Annex B (informative):	Bibliography	217
History		218

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://ipr.etsi.org).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

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

The present document is part 2 of a multi-part deliverable covering the IMS specific use of Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Conformance Testing, as identified below:

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

1 Scope

The present document provides the Test Suite Structure (TSS) and Test Purposes (TP) for the IP Multimedia core network Subsystem (IMS) equipment supporting the Internet Protocol (IP) multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP) as specified in TS 124 229 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [4] and ETS 300 406 [5].

2 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 reference document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

2.1 Normative references

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

[1]	ETSI TS 124 229 (V10.7.0): "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 (3GPP TS 24.229 version 10.7.0 Release 10)".
[2]	ISO/IEC 9646-1: "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 1: General concepts".
[3]	Void
[4]	ISO/IEC 9646-7: "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 7: Implementation Conformance Statements".
[5]	ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
[6]	ETSI ES 202 553: "Methods for Testing and Specification (MTS); TPLan: A notation for expressing Test Purposes".
[7]	ETSI TS 102 790-1: "IMS Network Testing (INT); IMS specific use of Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Conformance Testing; Part 1: Protocol Implementation Conformance Statement (PICS)".

2.2 Informative references

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.

IETF RFC 4028: "Session Timers in the Session Initiation Protocol (SIP)".

[i.1] Void

[8]

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

abstract Selection Expression: Refer to ISO/IEC 9646-1 [2].

Abstract Test Method (ATM): Refer to ISO/IEC 9646-1 [2].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [2].

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [2].

Lower Tester (LT): Refer to ISO/IEC 9646-1 [2].

Test Purpose (TP): Refer to ISO/IEC 9646-1 [2].

3.2 Abbreviations

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

AS Application Server

CSCF Call Session Control Function

E-CSCF Emergency CSCF

FQDN Fully Qualified Domain Name

IBCF Interconnection Border Control Function

I-CSCF Interrogating CSCF
IMS IP Multimedia Subsystem

IMS-AKA IMS-Authentication and Key Agreement

IP Internet Protocol
P-CSCF Proxy CSCF

PICS Protocol Implementation Conformance Statement

S-CSCF Serving CSCF

SDP Session Description Protocol
SIP Session Initiation Protocol
SUT System Under Test

TS Test System
UE User Equipment

4 Test configurations

Test purposes of the present document address the IMS functional entities that are accessible via the following standardized SIP interfaces: Gm, Mw, Ic, and ISC.

This clause introduces the test configurations that have been used for the definition of test purposes. Depending on the specific configuration the test system (TS) simulates the behaviour of one or more UEs or other IMS core networks communicating with the IMS core network under test. Test configurations try to cover various scenarios of IMS interworking and roaming conditions.

Some test configurations show dashed boxes to visualise the implicit presence of a UE in the TS. These dashed boxes have only been introduced to improve understanding but do not have to be reflected in a test suite implementation.

4.1 Test configurations using Gm interface only

The Gm interface is located between a UE and the IMS core network.

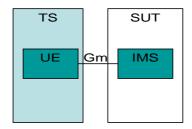


Figure 1: Test configuration CF_1Gm

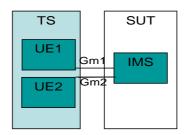


Figure 2: Test configuration CF_2Gm

4.2 Test configurations using the Mw interface

The Mw interface is used in case of interworking or roaming between two different IMS core networks. This interface is used only if no border control functions like topology hiding are required.

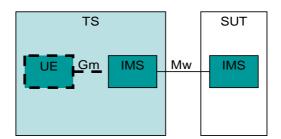


Figure 3: Test configuration CF_1Mw

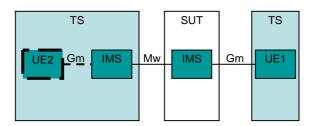


Figure 4: Test configuration CF_1Mw1Gm

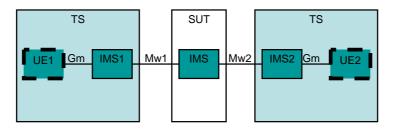


Figure 5: Test configuration CF_2Mw

4.3 Test configurations using the Ic interface

The Ic interface is used in case of interworking or roaming between two different IMS core networks. This interface is used only if border control functions like topology hiding are required.

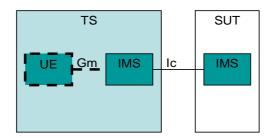


Figure 6: Test configuration CF_1lc

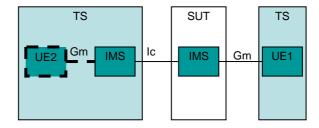


Figure 7: Test configuration CF_1lc1Gm

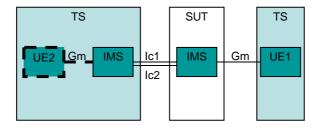


Figure 8: Test configuration CF_2lc1Gm

4.4 Test configurations using the ISC interface

The ISC interface enables the IMS core network to communicate with a AS.

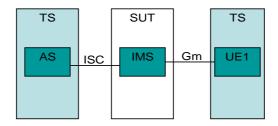


Figure 9: Test configuration CF_1ISC1Gm

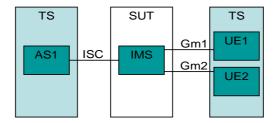


Figure 10: Test configuration CF_1ISC2Gm

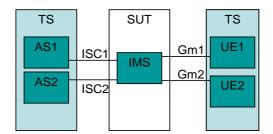


Figure 11: Test configuration CF_2ISC2Gm

5 Test Suite Structure (TSS)

5.1 TP structure

Test Purposes have been written for IMS core network functionality that is accessible via SIP based interfaces, i.e. P-, I-, E-, S-CSCF and IBCF components, as defined by TS 124 229 [1]. All test purposes in this document assess mandatory functionality unless they have been marked with the keyword "OPTIONAL" at the beginning of the TP summary.

The test purposes have been divided according to the interfaces into four major groups. Subgroups have been introduced to structure TPs further according to different procedures:

- 1) Test purposes for the Gm interface only:
 - 1.1) General;
 - 1.2) Registration procedures;
 - 1.3) Initial dialogue request procedures;
 - 1.4) Standalone requests procedures;
 - 1.5) Subsequent requests on a dialogue procedures;

- 1.6) Target refresh request procedures;
- 1.7) Emergency procedures;
- 1.8) Exceptional procedures;
- 1.9) SDP procedures;
- 1.10) NAT traversal procedures.
- 2) Test purposes for the Mw interface:
 - 2.1) General;
 - 2.2) Registration procedures;
 - 2.3) Initial dialogue request procedures;
 - 2.4) Standalone requests procedures;
 - 2.5) Subsequent requests on a dialogue procedures;
 - 2.6) Target refresh request procedures;
 - 2.7) Emergency procedures;
 - 2.8) SDP procedures.
- 3) Test purposes for the Ic interface:
 - 3.1) General;
 - 3.2) Registration procedures;
 - 3.3) Initial dialogue request procedures;
 - 3.4) Standalone requests procedures;
 - 3.5) Subsequent requests on a dialogue procedures;
 - 3.6) Target refresh request procedures.
- 4) Test purposes for the ISC interface:
 - 4.1) Registration procedures;
 - 4.2) Initial dialogue request procedures;
 - 4.3) Standalone requests procedures;
 - 4.4) Subsequent requests on a dialogue procedures;
 - 4.5) Target refresh request procedures.

5.2 TP naming convention

TPs are numbered, starting at 01, 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: 1	ΓP_ <ts< th=""><th>s>_<int><subgroup>_<</subgroup></int></th><th>nn></th><th></th></ts<>	s>_ <int><subgroup>_<</subgroup></int>	nn>	
<ts></ts>	=	Test suite name:	i.e. "IMS_T	2"
<int></int>	=	type of Interface:	"MW" "GM" "IC" "ISC"	Mw interface Gm Interface Ic interface ISC interface
<subgro< th=""><td>oup></td><td>=</td><td>subgroup "GEN" "REG" "INI" "STA" "SUB" "TAR" "EME" "SDP" "EXC" "NAT"</td><td>3 first letter of the subgroup according to TSS subdivision General Registration procedures Initial request procedures Standalone request procedures Subsequent request on a dialogue procedures Target refresh request procedures Emergency procedures SDP procedures Exceptional procedures NAT traversal procedures</td></subgro<>	oup>	=	subgroup "GEN" "REG" "INI" "STA" "SUB" "TAR" "EME" "SDP" "EXC" "NAT"	3 first letter of the subgroup according to TSS subdivision General Registration procedures Initial request procedures Standalone request procedures Subsequent request on a dialogue procedures Target refresh request procedures Emergency procedures SDP procedures Exceptional procedures NAT traversal procedures
<nn></nn>	=	sequential number	(01-99)	

EXAMPLE 1: TP_IMS_T2_GM_GEN_01 stands for 1st test case in the Gm interface only group, and in the general subgroup.

All PICS items referred to in this clause are as specified in TS 102 790-1 [7] unless indicated otherwise by another numbered reference. For each PICS item there exists a unique reference defined as the table identifier, followed by a solidus character "/", followed by the item number in the table within TS 102 790-1 [7].

EXAMPLE 2: A.5/4 is the reference to the answer of item 4 in table A.5 of TS 102 790-1 [7].

5.3 The tabular symbolic TPLan presentation format

Each table contains header fields and a description part. The header fields identify the TP, list the related clause reference the base specification that the TP was derived from, introduce the TP with a short summary, references the related test configuration and test case in the ATS. Identifiers starting with the string "RQ_003_" indicate requirements within the internal requirement catalogue.

The description part presents the TP using two sections: (a) initial conditions that have to be fulfilled for the test purpose body to be valid and (b) the test purpose body which is illustrated with one or more stimulus/response pairs. Both sections are further substructured with columns for affected entities from the test configurations, i.e. IUT, UE, UE2, IMS (test system component), and AS.

The condition section lists one or more conditions that have to be fulfilled in order for the test purpose body to apply. Each condition has a description and either "\scrip" or "\scrip" marks to indicate all the entities affected by this condition. "\scrip" marks indicates a positive condition, e.g. "A is registered in B", whereas "\scrip" marks indicate a negative condition, e.g. "B *not* configured for feature Z". If there is no mark in a column then the condition does not apply for that entity, e.g. entity A is not involved in the condition "B not configured for feature Z". It is assumed that all listed conditions have to be fulfilled in the order listed, i.e. the list reflects an "and" relation.

Table 2 shows an example condition section illustrating all of the above examples.

Table 2: Example TP condition section

Enti	ties	Condition
Α	В	
✓	✓	A registered in B
	×	B configured for feature Z

The test purpose body section contains one or more steps identified with a number in the first column. Steps belonging to IUT stimuli are shown with a green background whereas steps related to IUT responses are shown with a beige background. All listed steps are assumed to be carried out in increasing step number, i.e. they reflect an "and" relation. "or" relations at the level of entire messages are shown with lowercase letters following the step number identifying the different alternatives, e.g. "2a" versus "2b". Each step indicates the exchange of a message from a source entity (identified by the direction symbols "\$\operatornow\text{" or "\$\operatornow\text{""}}, e.g. entity A sends the message, to a destination entity (identified by the direction symbols "\$\operatornow\text{" or "\$\operatornow\text{""}}, e.g. entity B receives the message. The use of the "||" symbol in combination with the direction symbols, e.g. "||\$\operatornow\text{"", indicates that a particular message shall either not be sent or received by an entity, e.g. entity B did not send the message.

Additional information about valid as well as invalid message content is presented in the "Message" column. First general information about message, e.g. its type, destination, attributes, etc., are shown in bold font. Below this information message headers or parameter content that shall be present in that message are listed using "\scrtw" symbols whereas headers or parameter content that shall *not* be present are listed using the "\scrtw" symbols. The "\scrtw" symbol indicates a valid message parameter value where as the "\scrtw|" symbol indicates an invalid message parameter value. Any content, e.g. header or parameter, which is not explicitly mentioned in a message description of a TP is not restricted by that TP.

Finally, the interface identifier to which a message exchange pertains may be shown in the column labelled "IF".

Table 3 shows an example test purpose body section illustrating all of the above examples.

Table 3: Example TP body section

	A	В		
Step	Direc	ction	Message	IF
1	∌	€	some request ✓ this header ✓ this one parameter → this value ✓ this other parameter → that value × that parameter × that header	Xx
2a	€ंद	ф	failure response	Xx
2b	€	II\ ☆	no message	Xx

6 Test Purposes (TP)

The test purposes have been written in the notation TPLan as defined in ES 202 553 [6]. TPLan has been developed by ETSI to express test purposes in a more formal manner. All TPLan TPs have been converted into a symbolic tabular presentation format which is shown in this clause. TPs in the standardized textual TPLan syntax are collected in ts_10279002v020101p0.zip (see annex A). The two presentation formats, i.e. textual and symbolic tabular, contain the same information and shall therefore be considered equivalent. In the case that there appears to be syntactical or semantic differences between the two then the files in the electronic annex take precedence over the following tables.

6.1 Test purposes for the Gm interface only

6.1.1 General

					Test Purpose		
Identif	fier:	TP_	IMST2_GM_	GEN_01			
Summ	ary:	All I	MS CN comp	onents shall su	pport SIP messages which are gr	eater than 1 300 bytes in length	h
Clause	:	4.2A	, paragraph 1				
References: -					Config Ref:	CF_2Gm	
IUT Role: IMS					Selection Expression:	PICS A.2/1	
	Entities				Cond	ition	
	UE1		IUT	UE2			
	✓	Ì	✓	✓	UE1 and UE2 registered in IUT		
			✓		IUT configured for establishing digest without TLS as security association		
	UE1		IUT	UE2			
Step		<u> </u>	Direction		Mes	sage	IF
1	MESSAGE for UE2 ✓ Message Body greater than 1 300 bytes		n 1 300 bytes				
2			₩	ΣĎ	MESSAGE	MESSAGE	

6.1.2 Registration procedures

				Test Purpose				
Identif	ïer:	TP_IMST2	2_GM_REG_01					
Summary:		without pro	When a P-CSCF receives a REGISTER request from the UE and the REGISTER request was received without protection, and the Security-Client header is not present, then the P-CSCF shall return a suitable SIP 4xx response					
Clause	:	5.2.2.2 first	numbered list 2 a					
Refere	nces:	-		Config Ref:	CF_1Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1			
	Entities			Condi	tion			
	τ	J E1	IUT					
	×		×	UE1 not registered in IUT				
			✓	IUT configured for establishing IMS AKA security association				
		✓		UE1 has initiated IMS AKA sec establishment	urity association			
	τ	J E1	IUT					
Step		Direc	tion	Message		IF		
1	unprotected REGISTER ★ Security-Client header							
2		Œ.	Ą	4xx response		Gm		

			Test Purpose				
Identif	fier: TP_IMST	Γ2_GM_REG_02					
			rotected REGISTER request from the UE and the Security-Verify header is shall return a suitable SIP 4xx response.				
Clause	5.2.2.2 fir	st numbered list 3)a					
Refere	ences: -		Config Ref:	CF_1Gm			
IUT R	ole: IMS		Selection Expression:	PICS A.2/1			
	En	tities	Co	ondition			
	UE1	IUT					
	×	×	UE1 not registered in IUT				
		✓	IUT configured for establishing IMS AKA security association				
	✓		UE1 has sent unprotected REGISTER and has received 400 response				
	✓		UE1 has initiated IMS AKA establishment	security association			
	UE1	IUT					
Step	Dir	ection	M	lessage	IF		
1	₩ #		protected REGISTER ★ Security-Verify header				
2	Ĉ:	Ŷħ	4xx response		Gm		

				Test Purpose		
Identif	ier: TP_	_IMST2	_GM_REG_03			
Summ				ected REGISTER request from the all return a suitable SIP 4xx respon		neader is
Clause	5.2.	.2.2 first	numbered list 3)a			
Refere	nces: -			Config Ref:	CF_1Gm	
IUT R	ole: IMS	S		Selection Expression:	PICS A.2/1	
		Entit	ties	Condi	tion	
	UE1		IUT			
	×		×	UE1 not registered in IUT	UE1 not registered in IUT	
			✓	IUT configured for establishing IMS AKA security association		
	✓			UE1 has sent unprotected REGISTER and has received 401 response		
	✓			UE1 has initiated IMS AKA sec establishment	urity association	
	UE1		IUT			
Step		Direct	tion	Mess	age	IF
1	₩ ₩		protected REGISTER * Security-Client header			
2	ŶĿ		Å	4xx response		Gm

	Test Purpose						
Identif	fier: TP_IMST	2_GM_REG_04					
Summ			rotected REGISTER request fro CSCF shall return a suitable SIF		ent		
Clause	5.2.2.2 first	numbered list 3)b					
Refere	ences: -		Config Ref:	CF_1Gm			
IUT R	ole: IMS		Selection Expression:	PICS A.2/1			
Enti		ities	Con	dition			
	UE1	IUT					
	×	×	UE1 not registered in IUT				
		✓	IUT configured for establishing IMS AKA security association				
	✓		UE1 has initiated IMS AKA so establishment	ecurity association			
	UE1	IUT					
Step	Direc	ction	Mes	ssage	IF		
1	₩ ∌		unprotected REGISTER * Security-Client header				
2	€	ф	4xx response		Gm		

				Test Purpose		
Identif	fier:	TP_IMST2	2_GM_REG_05			
Summary:		identity con	veyed in the Author or authenticated, the	tected REGISTER request from a rization header of the request are e P-CSCF shall reject the REGIS	different from the ones previous	sly
Clause	:	5.2.2.2 first	numbered list 3)c			
Refere	ences:	-		Config Ref:	CF_1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Enti	ities	Cor	ndition	
		UE1	IUT			
	×		×	UE1 not registered in IUT		
			✓	IUT configured for establishing IMS AKA security association		
		✓		UE1 has sent unprotected RE response	GISTER and has received 401	
		✓		UE1 has initiated IMS AKA establishment	security association	
		UE1	IUT			
Step		Direc	ction	Mo	essage	IF
1	₩ #		protected REGISTER ✓ Authorization header → invalid private user identification	entity		
2		€	4	403 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2	2_GM_REG_06			
Summ	ary:	identity con	veyed in the Authori or authenticated, the	ected REGISTER request fron ization header of the request an P-CSCF shall reject the REGI	re different from the ones prev	iously
Clause	:	5.2.2.2 first	numbered list 3)c			
Refere	eferences: -		Config Ref:	CF_1Gm		
IUT Role: IMS			Selection Expression:	PICS A.2/1		
	Entities			Co	ondition	
		UE1	IUT			
	✓		✓	UE1 registered in IUT		
			✓	IUT configured for establishing IMS AKA security association		
		✓		UE1 has initiated IMS AKA establishment	UE1 has initiated IMS AKA security association establishment	
		UE1	IUT			
Step		Direc	ction	N	Iessage	IF
1		<i>æ</i>	₽Ŷ	protected REGISTER ✓ Authorization header → invalid private user i	dentity	
2		€:	ĥ	403 response		Gm

				Test Purpose		
Identifi	ier:	TP_IMST2	GM_REG_07			
Summa	ary:		SCF receives a unp P 401 response.	rotected REGISTER request fro	om a non-registered UE it acco	epts it and
Clause:	Clause: 5.2.2.2 second numbered list		nd numbered list			
Referer	eferences: -			Config Ref:	CF_1Gm	
IUT Ro	ole:	IMS		Selection Expression:	PICS A.2/1	
		Enti	ties	Co	ondition	
	Ţ	JE1	IUT			
		x x		UE1 not registered in IUT		
	✓		✓	IUT configured for establishing IMS AKA security association		
		✓		UE1 has initiated IMS AKA security association establishment		
	τ	JE1	IUT			
Step		Direc	etion	M	lessage	IF
1		₡	Ð	unprotected REGISTER		
2		€ z	Å	401 response ✓ Security-Server header ✓ static signalling plane ✓ WWW-Authenticate he × CK parameter × IK parameter		Gm

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_REG_08			
Summ	ary:	header field		parameter in the Contact header	TER request and the value of the r in the 200 (OK) response is not	
Clause	:	5.2.2.2 third	l numbered list			
Refere	References: -			Config Ref:	CF_1Gm	
IUT Role: IMS			Selection Expression:	PICS A.2/1		
		Enti	ties	Co	ondition	
	1	UE1	IUT			
		×	×	UE1 not registered in IUT	UE1 not registered in IUT	
			✓	IUT configured for establish association	ning IMS AKA security	
		✓		UE1 has sent unprotected R response	EGISTER and has received 401	
		✓		UE1 has initiated IMS AKA establishment	security association	
	1	UE1	IUT			
Step		Direc	ction	M	Iessage	IF
1		₿	£	protected REGISTER		
2		Œ.	Ŷħ	200 response		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	REG_09			
Summ					the visited network and a P-CSCF return a SIP 504 (Server Time-ou	
Clause	:	5.2.2.1 second num	nbered list 5)			
References: - Config Ref: CF_1Gm				CF_1Gm		
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities			Co	Condition	
	UE1	IUT	IMS			
	✓	✓		UE1 is visiting IUT		
		✓		IUT configured for establishing digest without TLS security association		
		✓		IUT configured for topology hiding		
		×	×	IUT not configured with an entry point to IMS		
	UE1	IUT	IMS			
Step		Direction		N	Message	
1	₩	卦		REGISTER		
2	Œ	रीप		504 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2	2_GM_REG_11			
Summ	ary:				ed UE and the value of the Expire is set to zero it sends a 200 (OK	
Clause	:	5.2.5.1				
Refere	References: -			Config Ref:	CF_1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		ties	Co	ndition	
	1	UE1	IUT			
	✓		✓	UE1 registered in IUT		
			✓	IUT configured for establish association	ing digest without TLS security	
	1	UE1	IUT			
Step		Direc	ction	Message		IF
1		₩	Ð	REGISTER ✓ Expires header → 0		
2		€tr	¢ħ	200 response ✓ Expires header → 0		Gm

6.1.3 Initial request procedures

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	INI_01			
Summ				ial request for a dialogue from 100 (Trying) response to the	a UE then it forwards the request originating UE.	t to
Clause	:	5.2.1 before first n	umbered list;	5.2.6.3.3 item 1,4,5; 5.2.6.4.3	item 5,7; 5.2.7.2	
Refere	References: -			Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities		Co	ondition	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in	IUT	
		✓		IUT configured for establish association	ning digest without TLS security	
	UE1	IUT	UE2			
Step		Direction		N.	lessage	IF
1	\$	Đ		INVITE for UE2		
2	Ŷ£	ŶĮ.		100 response		
3		\$	£	INVITE ✓ Route header × SIP URI of IMS P-CS ✓ Record-Route header → address of IUT P-CS FQDN address of IU ✓ Via header → address of IUT P-CS FQDN address of IU × P-Charging-Vector head × P-Charging-Function-A × P-Preferred-Identity head	CF or T P-CSCF CF or T P-CSCF ler ddresses header	Gm

				Test Purpose			
Identif	ier:	TP_IMST2_GM_	INI_02				
Summ	ary:	When a P-CSCF receives an initial request for a dialogue from a UE with the preloaded Route not matching the stored Service-Route header then it either returns a SIP 400 response to the UE or for the request to destination UE with an updated Route header and returns a SIP 100 (Trying) response the originating UE.					
Clause	:	5.2.6.3.3 item 2; 5.2.7.2					
Refere	nces:	_		Config Ref:	CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/24.4.1		
		Entities		Condition			
	UE1	IUT	UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT			
		✓		IUT configured for establishing digest without TLS security association			
	UE1	IUT	UE2				
Step		Direction		Messag	e	IF	
1	₩,	£		INVITE for UE2 ✓ Route header not matching st Service-Route header	ored		
2a	ी्द	क्र		400 response			
3b		\$∥	∥ ∌	no message			
2b	Œ	Ŷħ		100 response			
3b		45	Ð	INVITE		Gm	

					Test Purpose		
Identif	ïer:	TP_	IMST2_GM_	INI_03			
Summ	ary:				id SIP 1xx response as a result of a foot to originating UE.	orwarded request for an in	itial
Clause	Clause: 5.2.6.3.4; 5.2.6.4.4 first numbered list						
Refere	nces:	-			Config Ref:	CF_2Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1		
	Entities			Condition	n		
	UE1		IUT	UE2			
	✓		✓	✓	UE1 and UE2 registered in IUT		
			✓		IUT configured for establishing dig association	gest without TLS security	
	✓		✓		IUT has received INVITE from UE1		
			✓	✓	IUT has sent INVITE to UE2		
	UE1		IUT	UE2			
Step			Direction		Message		IF
1			Œ	Ϋ́A	180 response for UE1		
2	Œ		Ą		180 response		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	INI_03A			
Summ	ary:			lid SIP 1xx response as a result of a forwarded request for an i e to originating UE.	nitial	
Clause	Clause: 5.2.1 before first numbered list; 5.2.6.3.4; 5.2.6.4.4 first numbered list					
Refere	nces:	-		Config Ref: CF_2Gm		
IUT R	ole:	IMS		Selection Expression: PICS A.2/1		
	Entities			Condition		
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing digest without TLS security association		
	✓	✓		IUT has received INVITE from UE1		
		✓	✓	IUT has sent INVITE to UE2		
	UE1	IUT	UE2			
Step		Direction		Message	IF	
1		€.	4	180 response for UE1 ✓ P-Preferred-Identity header		
2	€द	ħ		180 response * P-Charging-Vector header * P-Charging-Function-Addresses header * P-Preferred-Identity header	Gm	

					Test Purpose		
Identif	ier:	TP_	IMST2_GM_	INI_04			
Summa	Summary: When a P-CSCF receives any valid SIP 2xx response as a result of a forwarded request for an initial dialogue, it forwards the response to the originating UE.						
Clause	:	5.2.6	5.3.4; 5.2.6.4.4	first number	ed list		
Refere	nces:	-			Config Ref:	CF_2Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
	Entities		Condition				
	UE1		IUT	UE2			
	✓	Ì	✓	✓	UE1 and UE2 registered in IUT		
			✓		IUT configured for establishing digest without TLS security association		
	✓		✓		IUT has received INVITE from UE1		
			✓	✓	IUT has sent INVITE to UE2		
	UE1		IUT	UE2			
Step			Direction		Message		IF
1			Ŷ Ŀ	₹ <u>n</u>	200 response for UE1		
2	Œ.		ф		200 response		Gm

				Test Purpose	
Identii	fier:	TP_IMST2_GM_	INI_04A		
Summ				alid SIP 2xx response as a result of a forwarded request for an isse to the originating UE.	nitial
Clause	:	5.2.1 before first n	umbered list;	5.2.6.3.4; 5.2.6.4.4 first numbered list	
Refere	ences:	-		Config Ref: CF_2Gm	
UT R	ole:	IMS		Selection Expression: PICS A.2/1	
	Entities			Condition	
	UE1	IUT	UE2		
	✓ ✓ ✓		✓	UE1 and UE2 registered in IUT	
		✓		IUT configured for establishing digest without TLS security association	
	✓	✓		IUT has received INVITE from UE1	
		✓	✓	IUT has sent INVITE to UE2	
	UE1	IUT	UE2		
Step		Direction		Message	IF
1		Œ	Ŷħ	200 response for UE1 ✓ P-Preferred-Identity header	
2	Ŷ .	Ą		 200 response P-Charging-Vector header P-Charging-Function-Addresses header P-Preferred-Identity header 	Gm

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	INI_05			
Summ	ary:	x or a 2xx to an initial request to	o a UE			
Clause	:	5.2.6.4.4 second no	ımbered list			
Refere	ences:	-		Config Ref:	CF_2Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities			Condition		
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing digest without TLS security association		
		✓	✓	IUT has sent INVITE to UE2		
	UE1	IUT	UE2			
Step		Direction		Mes	sage	IF
1		€	Ŷħ	4xx response for UE1		
2	Œ	क्		4xx response		Gm

				Test Purpose				
Identif	ier:	TP_IMST2_GM_	P_IMST2_GM_INI_06					
Summary: When a P-CSCF receives any other for a dialogue and if the list of Via request corresponding to the same			if the list of Vi	a headers does not match the sav	ved list of Via headers received	in the		
Clause	:	5.2.6.4.4 second nu	ımbered list					
Refere	nces:	-		Config Ref:	CF_2Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/25.4.1			
		Entities		Con	dition			
	UE1	IUT	UE2					
	✓	✓	✓	UE1 and UE2 registered in IUT				
	✓			IUT configured for establishing digest without TLS security association				
		✓	✓	IUT has sent INVITE to UE2				
	UE1	IUT	UE2					
Step		Direction		Message		IF		
1		€	क्र	4xx response for UE1 ✓ Via header not matching	stored Via header			
2a	佳川	11%		no message				
2b	₹	Ф		4xx response ✓ Via header → stored Via header		Gm		

				Test Purpose					
Identi	fier:	TP_IMST2	P_IMST2_GM_INI_07						
Summary:			If a P-CSCF requires periodic refreshment of a session established after receiving a SIP INVITE request from a UE and the Session-Expires header indicates a too low refresh frequency, it shall reject the INVITE.						
Clause	e:	5.2.7.2, RFC	C 4028 [8]						
Refere	ences:	-		Config Ref:	CF_1Gm				
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/26.1.1				
		Enti	ties	Cone	dition				
		UE1	IUT						
		✓	✓	UE1 registered in IUT					
			✓	IUT configured for establishin association	g digest without TLS security				
		UE1	IUT						
Step		Direc	ction	Message		IF			
1		₩	Ď	INVITE ✓ Supported header → timer option tag ✓ Session-Expires header → acceptable expiration					
2		(t	ф	422 response ✓ Min-SE header		Gm			

				Test Purpose				
Identif	ier:	TP_IMST2_GM_	TP_IMST2_GM_INI_08					
Summary:		request from a UE	and the Sessio	c refreshment of a session established in-Expires header of the INVITE request to the destination UE and return	uest indicates acceptable re	efresh		
Clause	:	5.2.7.2, 5.2.8.3, RI	FC 4028 [8]					
Refere	nces:	-		Config Ref:	CF_2Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/26.1.1			
		Entities		Conditio	n			
	UE1	IUT	UE2					
	✓	✓	✓	UE1 and UE2 registered in IUT				
		✓		IUT configured for establishing digest without TLS security association				
	UE1	IUT	UE2					
Step		Direction		Message		IF		
1	₩,	∌		INVITE ✓ Supported header → timer option tag ✓ Session-Expires header → acceptable expiration				
2	€	ф		100 response				
3		₩,	±Ŷ	INVITE ✓ Session-Expires header		Gm		

6.1.4 Standalone requests procedures

				Test Purpose			
Identif	ier:	TP_IMST2_GM_STA_01					
When a P-CSCF receives a request for a standalone transaction from a UE with preloaded Rout matching the stored Service-Route header then it either returns a SIP 400 response to the UE or the request to destination UE with an updated Route header and returns a SIP 100 (Trying) resp the originating UE.							
Clause	:	5.2.6.3.7 item 2					
Refere	nces:	-		Config Ref:	CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/24.8.1		
		Entities	T	Conditi	on		
	UE1	IUT	UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT			
		✓		IUT configured for establishing cassociation	ligest without TLS security		
	UE1	IUT	UE2				
Step		Direction		Messa	ge	IF	
1	₩	±₽		MESSAGE for UE2 ✓ Route header not matching s Service-Route header	MESSAGE for UE2 ✓ Route header not matching stored		
2a	ींद	[¢] n		400 response	400 response		
3a		\$∥	 	no message		Gm	
2b	Ŷŧ.	Ŷŋ.		100 response			
3 b		₩,	卦	MESSAGE		Gm	

				Test Purpose			
Identif	ifier: TP_IMST2_GM_STA_02						
Summ				st for a standalone transaction from the header then it forwards the requestoriginating UE.	•		
Clause	:	5.2.1 before first no	umbered list; 5	.2.6.3.7 item 1,4; 5.2.6.4.7 item 3			
Refere	nces:	-		Config Ref:	CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1		
		Entities		Condition	n		
	UE1	IUT	UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT			
		IUT configured for establishing digest without TLS secur association		gest without TLS security			
	UE1	IUT	UE2				
Step		Direction		Messag	e	IF	
1	₩	卦		MESSAGE for UE2			
2	Œ	¢ħ		100 response			
3		4	ਡੀ	MESSAGE ✓ Route header × SIP URI of IMS P-CSCF ✓ Via header → address of IUT P-CSCF or FQDN address of IUT P-CSCF × P-Charging-Vector header × P-Charging-Function-Addresses header × P-Preferred-Identity header		Gm	

				Test Purpose			
Identif	fier:	TP_IMST2_GM_STA_03					
Summ	ary:	When a P-CSCF r forwards the reque		00 response to a forwarded reques ating UE.	t for a standalone transaction	then it	
Clause	:	5.2.1 before first r	numbered list; 5	5.2.6.3.8, 5.2.6.4.8			
Refere	ences:	-		Config Ref:	CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1		
		Entities		Condit	ion		
	UE1	IUT	UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT			
		✓		IUT configured for establishing digest without TLS security association			
		✓	✓	IUT has sent MESSAGE to UE2			
	UE1	IUT	UE2				
Step		Direction		Messa	ge	IF	
1		Œ.	क्र	200 response for UE1			
2	Ŷ t	φ		 200 response P-Charging-Vector header P-Charging-Function-Addre P-Preferred-Identity header 	sses header	Gm	

				Test Purpose				
Identif	fier:	TP_IMST2_G	P_IMST2_GM_STA_04					
Summ	ary:		F receives any 4xx quest to the origin	x response to a forwarded request ating UE.	for a standalone transaction t	hen it		
Clause	:	5.2.1 before fir	st numbered list; 5	5.2.6.3.8, 5.2.6.4.8				
Refere	ences:	-		Config Ref:	CF_2Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1			
		Entities		Condi	tion			
	UE1	IUT	UE2					
	✓	✓	✓	UE1 and UE2 registered in IUT				
	✓			IUT configured for establishing digest without TLS security association				
		✓	✓	IUT has sent MESSAGE to UE2	2			
	UE1	IUT	UE2					
Step		Direction	n	Message		IF		
1		€.	4	4xx response for UE1				
2	(tr	Å		4xx response P-Charging-Vector header P-Charging-Function-Addre P-Preferred-Identity header	sses header	Gm		

				Test Purpose				
Identif	ier:	TP_IMST2_GM_	P_IMST2_GM_STA_05					
Summ	·	Via headers does n	ot match the s	sponse for a standalone request to a UE for a dialogue a aved list of Via headers received in the request correspuessage or forwards it to the originating UE.				
Clause	:	5.2.6.4.8						
Refere	nces:	-		Config Ref: CF_2Gm				
IUT R	ole:	IMS		Selection Expression: PICS A.2/1, A.3.	/24.10.1			
		Entities		Condition				
	UE1	IUT	UE2					
	✓	✓	✓	UE1 and UE2 registered in IUT				
		<u> </u>		IUT configured for establishing digest without TLS security association				
		✓	✓	IUT has sent MESSAGE to UE2				
	UE1	IUT	UE2					
Step		Direction		Message	IF			
1		€	¢ħ	4xx response for UE1 ✓ Via header not matching stored Via header				
2a	佳川	₽		no message				
2b	Ŷz.	Ą		4xx response ✓ Via header → stored Via header	Gm			

6.1.5 Subsequent request procedures

				Test Purpose			
Identif	ier:	TP_IMST2_GM_SUB_01					
Summ		When the P-CSCF response and does		sequent request for non-existing dia any further.	logue it rejects it with a SIP	403	
Clause	:	5.2.6.3.9 item 1a					
Refere	nces:	-		Config Ref:	CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1		
		Entities		Conditio	n		
	UE1	IUT	UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT			
		IUT configured for establishing digest without TLS securit association		gest without TLS security			
	×	×	x	IUT has not established an INVITUE2	E dialogue from UE1 to		
	UE1	IUT	UE2				
Step		Direction		Messag	e	IF	
1	₩	卦		BYE for UE2			
2	€.	ं प		403 response			
3		₩	£	no message		Gm	

				Test Purpose			
Identif	ïer:	TP_IMST2_GM_SUB_02					
Summary: When the P-CSCF receives a subsequent request with unknown URI in Route header with a SIP 400 response or forwards it with an updated Route header.					jects it		
Clause	:	5.2.6.3.9 item 2					
Refere	nces:	-		Config Ref:	CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/24.8.1		
		Entities		Condi	tion		
	UE1	IUT	UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT			
		✓		IUT configured for establishing digest without TLS security association			
	✓	✓	✓	IUT has established an INVITE	dialogue from UE1 to UE2		
	UE1	IUT	UE2				
Step		Direction		Mess	age	IF	
1	∌	∌		BYE for UE2 ✓ Route header not matching Record-Route header	BYE for UE2 ✓ Route header not matching stored		
2a	ŶĿ	ф		400 response			
3b		\$∥	∥ ∌	no message			
2b		₽\$	卦	вуЕ		Gm	

				Test Purpose		
Identif	ïer:	TP_IMST2_GM_	SUB_03			
Summa				sequent request with unknown URI with a SIP 400 response or forward		neader.
Clause	:	5.2.6.3.9 item 2				
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS	Selection Expression: PICS A.2/1, A.3/24.8.1			
		Entities		Condition	on	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVITE d	ialogue from UE1 to UE2	
	UE1	IUT	UE2			
Step		Direction		Messag	ge	IF
1		€ a	ф	BYE for UE1 ✓ Route header not matching stored Record-Route header		
2a		ρþ	£	400 response		
3a	(눈	∥ ⇔		no message		
2b	ींद	¢ħ		ВУЕ		Gm

					Test Purpose		
Identif	ier:	TP_	IMST2_GM_	SUB_04			
Summ	ary:				sequent request for existing dialogue without a P-Charging-Vector header.		İ
Clause	::	5.2.	l before first nu	ımbered list; 5.	2.6.3.9; 5.2.6.4.9		
Refere	nces:	-			Config Ref: CF_2Gm		
IUT R	TT Role: IMS Selection Expression: PICS A.2/1		PICS A.2/1				
			Entities	ntities Condition			
	UE1		IUT	UE2			
	✓		✓	✓	UE1 and UE2 registered in IUT		
			✓		IUT configured for establishing digassociation	gest without TLS security	
	✓		✓	✓	IUT has established an INVITE dia	alogue from UE1 to UE2	
	UE1		IUT	UE2			
Step			Direction		Message		IF
1	₩		Ď		BYE for UE2		
2			₽	£	BYE * P-Charging-Vector header * P-Charging-Function-Addresse	es header	Gm

					Test Purpose		
Identif	ier:	TP_	IMST2_GM_	SUB_05			
Summ	ary:				sequent request for existing dia without a P-Charging-Vector h	alogue from the terminating UE eader.	it
Clause	::	5.2.1	before first nu	umbered list; 5	.2.6.3.9; 5.2.6.4.9		
Refere	nces:	-			Config Ref:	CF_2Gm	
IUT R	Role: IMS Selection Expression: PICS A.2/1		PICS A.2/1				
	ı		Entities		Cor	ndition	
	UE1		IUT	UE2			
	✓		✓	✓	UE1 and UE2 registered in II	UT	
			✓		IUT configured for establishi association	ng digest without TLS security	
	✓		✓	✓	IUT has established an INVI	ΓE dialogue from UE1 to UE2	
	UE1		IUT	UE2			
Step			Direction		Me	essage	IF
1			Ŷ£	Å	BYE for UE1		
2	Œ		Ϋ́		BYE * P-Charging-Vector heade * P-Charging-Function-Ad		Gm

					Test Purpose		
Identif	ier:	TP_IM	ST2_GM_S	SUB_06			
Summ	ary:		he P-CSCF ting UE.	receives a SII	2 200 to subsequent request from the c	originating UE it forwards	it to the
Clause	::	5.2.6.4.	10				
Refere	nces:	-			Config Ref:	CF_2Gm	
IUT R	IUT Role: IMS Selection Expression: PICS A.2/1		PICS A.2/1				
]	Entities		Condition	1	
	UE1		IUT	UE2			
	✓		✓	✓	UE1 and UE2 registered in IUT		
	✓		✓		IUT configured for establishing digest without TLS security association		
	✓		✓	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	✓		✓	✓	IUT has received BYE from UE1 for UE2		
			✓	✓	IUT has sent BYE to UE2		
	UE1		IUT	UE2			
Step		D	Direction		Message		IF
1			₽	Ą	200 response for UE1		
2	Œ		\$		200 response		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM	_SUB_06A			
Summa	ary:	When the P-CSCI terminating UE.	Freceives a SIP	200 to subsequent request from the	originating UE it forwards	it to the
Clause	::	5.2.1 before first i	numbered list; 5	.2.6.4.10		
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities Condition				
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing dig association	red for establishing digest without TLS security	
	✓	✓	✓	IUT has established an INVITE dia	logue from UE1 to UE2	
	✓	✓	✓	IUT has received BYE from UE1 fo	or UE2	
		✓	✓	IUT has sent BYE to UE2		
	UE1	IUT	UE2			
Step		Direction		Message	:	IF
1		€ ₄	Ŷħ	200 response for UE1		
2	Œ	ŶĬ		200 response * P-Charging-Vector header * P-Charging-Function-Addresse	s header	Gm

				Test Purpose			
Identif	ier:	TP_IMST2_GM_	SUB_07				
Summ	ary:	When the P-CSCF originating UE.	receives a SII	2 200 to subsequent request from the term	ninating UE it forwards	it to the	
Clause	::	5.2.6.4.10					
Refere	nces:	-		Config Ref: CF	_2Gm		
IUT R	ole:	IMS		Selection Expression: PIG	CS A.2/1		
	Entities			Condition			
	UE1	IUT	UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT			
	✓			IUT configured for establishing digest without TLS security association			
	✓	✓	✓	IUT has established an INVITE dialogue from UE1 to UE2			
	✓	✓	✓	IUT has received BYE from UE2 for U	Œ1		
	✓	✓		IUT has sent BYE to UE1			
	UE1	IUT	UE2				
Step		Direction	`	Message		IF	
1	₽	Ð		200 response for UE2			
2		4	卦	200 response		Gm	

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	SUB_07A			
Summ	ary:	When the P-CSCF originating UE.	receives a SIP	200 to subsequent request from the	terminating UE it forwards	it to the
Clause	:	5.2.1 before first n	umbered list; 5	5.2.6.4.10		
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condition	n	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing digassociation	establishing digest without TLS security	
	✓	✓	✓	IUT has established an INVITE dia	alogue from UE1 to UE2	
	✓	✓	✓	IUT has received BYE from UE2 f	or UE1	
	✓	✓		IUT has sent BYE to UE1		
	UE1	IUT	UE2			
Step		Direction	•	Message	•	IF
1	₩			200 response for UE2		
2		₩	Ð	200 response * P-Charging-Vector header * P-Charging-Function-Addresse	es header	Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	SUB_08			
Summ				P 200 with unknown Via header to a t forward it or updates the Via head		e
Clause	: :	5.2.6.4.10 item 1				
Refere	nces:	-		Config Ref: CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/25.12.1	
	Entities			Condit	ion	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing cassociation	ligest without TLS security	
	✓	✓	✓	IUT has established an INVITE of	dialogue from UE1 to UE2	
	✓	✓	✓	IUT has received BYE from UE	for UE2	
		✓	✓	IUT has sent BYE to UE2		
	UE1	IUT	UE2			
Step		Direction		Messa	ge	IF
1		€±	∜म	200 response for UE1 ✓ Via header not matching stor	red Via header	
2a	€	∜		no message		
2b	Ŷ <u>t</u>	⋪		200 response ✓ Via header → stored Via header		G

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	SUB_09			
Summ	ary:			P 200 with unknown Via header to a forward it or updates the Via headin		e
Clause	:	5.2.6.4.10 item 1				
Refere	nces:	_		Config Ref:	CF_2Gm	
IUT R	T Role: IMS Selection Expression: PICS A.2/1, A.3/25.12		PICS A.2/1, A.3/25.12.1			
	Entities Condition		o <u>n</u>			
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVITE di	alogue from UE1 to UE2	
	✓	✓	✓	IUT has received BYE from UE2	for UE1	
	✓	✓		IUT has sent BYE to UE1		
	UE1	IUT	UE2			
Step		Direction	•	Messag	e	IF
1	4	÷		200 response for UE2 ✓ Via header not matching store	d Via header	
2a		\$∥	🕏	no message		
2b		₩,	卦	200 response ✓ Via header → stored Via header		G n

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	SUB_10			
Summ				ialogue for which the P-CSCF h Fransaction Does Not Exist) resp	as already initiated session releasonse.	se, the
Clause	:	5.2.8.1.3 paragraph	n 1			
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	TUT Role: IMS			Selection Expression:	PICS A.2/1	
		Entities		Condition		
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IU	JT	
	✓			IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVIT	ΓE dialogue from UE1 to UE2	
		✓	✓	IUT has received BYE from	UE2	
	✓	✓		IUT has sent BYE to UE1		
	UE1	IUT	UE2			
Step		Direction		Me	essage	IF
1	₿	£		BYE for UE2		
2	Ŷŧ.	ф		481		
3		₩	Ð	200		G

6.1.6 Target refresh request procedures

				Test Purpose	
Identif	fier:	TP_IMST2_GM_	TAR_01		
Summ	-	When the P-CSCF response.	receives a refi	resh request for non-existing dialogue it shall reject it with a SIF	P 403
Clause	:	5.2.6.3.5 item 1a			
Refere	ences:	_		Config Ref: CF_2Gm	
IUT R	ole:	IMS		Selection Expression: PICS A.2/1	
		Entities		Condition	
	UE1	IUT	UE2		
	✓	✓	✓	UE1 and UE2 registered in IUT	
		✓		IUT configured for establishing digest without TLS security association	
	×	×	×	IUT has not established an INVITE dialogue from UE1 to UE2	
	UE1	IUT	UE2		
Step		Direction		Message	IF
1	₽	Ð		target refresh UPDATE for UE2	
2	ŶŁ.	ŶĮ.		403 response	
3		\$∥	🕏	no message	G

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_02			
Summ		When the P-CSCF or forward it with a		resh request with unknown URI in oute header.	Route header it shall either r	eject it
Clause	:	5.2.6.3.5 item 2				
Refere	nces:	_		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/24.6.1	
		Entities		Condit	ion	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing dassociation	ligest without TLS security	
	✓	✓	✓	IUT has established an INVITE of	lialogue from UE1 to UE2	
	UE1	IUT	UE2			
Step		Direction		Messa	ge	IF
1	₽	∌		target refresh INVITE for UE2 ✓ Route header not matching s Record-Route header	tored	
2a	Ĉ:	¢ħ		400 response		
3a		\$∥	🕏	no message		
2b	ŶĿ.	¢ħ		100 response		
3b		₩	Ð	INVITE		G

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	_TAR_03			
Summ		When the P-CSCF SIP 100 and forwa			ue from originating UE it shall re	eturn a
Clause	:	5.2.1 before first n	umbered list;	5.2.6.3.5 items 1A,3; 5.2.6.4.5		
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	,
		Entities		Condition		
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in I	UT	
		✓		IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVI	TE dialogue from UE1 to UE2	
	UE1	IUT	UE2			
Step		Direction		Mo	essage	IF
1	₩	Ð		target refresh INVITE for U	JE2	
2	ŶŁ.	¢ħ		100 response		
3		₩,	₽	target refresh INVITE ✓ Route header × SIP URI of IMS P-CSO ✓ Via header → address of IUT P-CSO FQDN address of IUT × P-Charging-Vector heade × P-Charging-Function-Address	CF or CP-CSCF er	G n

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	TAR_04			
Summ		When the P-CSCF SIP 100 and forwar		resh request for existing dialogue.	from terminating UE it shall 1	return a
Clause	Clause: 5.2.1 before first numbered lis			5.2.6.3.5 items 1A,3; 5.2.6.4.5		
Refere	ences:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Cond	ition	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
	✓			IUT configured for establishing digest without TLS security association		
	✓ ✓ ✓		✓	IUT has established an INVITE	dialogue from UE1 to UE2	
	UE1	IUT	UE2			
Step		Direction		Mess	age	IF
1		Œ	Ŷħ	target refresh INVITE for UE	1	
2		μ̈́	Ð	100 response		
3	िंद	ÝΩ		target refresh INVITE ✓ Route header × SIP URI of IMS P-CSCF ✓ Via header → address of IUT P-CSCF or FQDN address of IUT P-CSCF × P-Charging-Vector header × P-Charging-Function-Addresses header		G n

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_05			
Summ	ary:	When the P-CSCF response to the ori		id 180 response to refresh request fro	om terminating UE it forwa	rds the
Clause: 5.2.1 before first numbered list; 5.2.6.3.6; 5.2.6.4.6						
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condition	n	
	UE1	IUT	UE2			
	✓ ✓		✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	✓	✓	✓	IUT has received target refresh INVITE from UE1 for UE2		
		✓	✓	IUT has sent target refresh INVITE	E to UE2	
	UE1	IUT	UE2			
Step		Direction	•	Message	•	IF
1		€.	∜∄	180 response for UE1		
2	Ŷ L	Ą		180 response * P-Charging-Vector header * P-Charging-Function-Addresse	s header	G n

				Test Purpose		
Identif	ïer:	TP_IMST2_GM_	TAR_06			
Summa	ary:	When the P-CSCF response to the term		d 180 response to refresh request fro	om originating UE it forwar	rds the
Clause	Clause: 5.2.1 before first numbered list; 5.2.6.3.6; 5.2.6.4.6					
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condition	n	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
	✓			IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	✓	✓	✓	IUT has received target refresh INV	/ITE from UE2 for UE1	
	✓	✓		IUT has sent target refresh INVITE to UE1		
	UE1	IUT	UE2			
Step		Direction	•	Message		IF
1	₩	卦		180 response for UE2		
2		₩	£	180 response * P-Charging-Vector header * P-Charging-Function-Addresse	s header	G n

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_07			
Summ	ary:			id 200 response to refresh request fit to the originating UE.	rom terminating UE, it return	ns a SIP
Clause	Clause: 5.2.1 before first numbered list;			5.2.6.3.6; 5.2.6.4.6		
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condition	on	
	UE1	IUT	UE2			
	✓	✓ ✓ UE1 and UE2 registered in IUT				
		IUT configured for establishing digest without TLS sec association		gest without TLS security		
	✓	✓	✓	IUT has established an INVITE d	ialogue from UE1 to UE2	
	✓	✓	✓	IUT has received target refresh INVITE from UE1 for UE2		
		✓	✓	IUT has sent target refresh INVIT	E to UE2	
	UE1	IUT	UE2			
Step		Direction		Messag	ge	IF
1		€.	ŶĮ.	200 response for UE1		
2		₽\$	Ð	ACK		
3	Œ	ф		200 response * P-Charging-Vector header * P-Charging-Function-Addresses header		G n

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_08			
Summ	ary:			d SIP 200 response to refresh rease to the terminating UE.	equest from originating UE, it re	eturns a
Clause: 5.2.1 before first numbered list; 5.2.6.3.6; 5.2.6				.2.6.3.6; 5.2.6.4.6		
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		Cone	dition		
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IU	T	
		✓	IUT configured for establishing digest without TLS security association		g digest without TLS security	
	✓	✓	✓	IUT has established an INVIT	E dialogue from UE1 to UE2	
	✓	✓	✓	IUT has received target refresh INVITE from UE2 for UE1		
	✓	✓		IUT has sent target refresh INVITE to UE1		
	UE1	IUT	UE2			
Step		Direction	•	Mes	ssage	IF
1	₩	∌		200 response for UE2		
2	Œ.	¢ħ		ACK		
3		4	Ð	200 response * P-Charging-Vector header * P-Charging-Function-Add		G

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_09			
Summ	ary:	When the P-CSCF response to the original		d 4xx response to refresh request fro	om terminating UE it forwa	rds the
Clause	Clause: 5.2.1 before first numbered list; 5.2.6.4.6 second numbered list					
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condition	n	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
	✓			IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	✓	✓	✓	IUT has received target refresh INVITE from UE1 for UE2		
		✓	✓	IUT has sent target refresh INVITE	to UE2	
	UE1	IUT	UE2			
Step		Direction	•	Message	,	IF
1		Ŷ _a	Ŷħ	4xx response for UE1		
2	Œ.	Ą		4xx response ★ P-Charging-Vector header ★ P-Charging-Function-Addresses header		G n

				Test Purpose		
Identif	ïer:	TP_IMST2_GM_	TAR_10			
Summa	ary:	When the P-CSCF the response to the	receives a vali terminating U	d SIP 4xx response to refresh reques E.	t from originating UE it fo	rwards
Clause	Clause: 5.2.1 before first numbered list; 5.2.6.4.6 second numbered list					
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condition	n	
	UE1	IUT	UE2			
	✓	~	✓	UE1 and UE2 registered in IUT		
	✓			IUT configured for establishing digest without TLS security association		
	✓	~	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	✓	~	✓	IUT has received target refresh INV	/ITE from UE2 for UE1	
	✓	✓		IUT has sent target refresh INVITE to UE1		
	UE1	IUT	UE2			
Step		Direction	•	Message		IF
1	₩	卦		4xx response for UE2		
2		₩,	£	4xx response * P-Charging-Vector header * P-Charging-Function-Addresse	s header	Gm

				Test Purpose	
Identif	ier:	TP_IMST2_GM_	TAR_11		
Summ				ex with unknown Via header to refresh request from the te essage or forwards it with an updated Via header.	rminating UE
Clause	:	5.2.6.4.6 second nu	ımbered list i	tem 1	
Refere	nces:	-		Config Ref: CF_2Gm	
IUT R	ole:	IMS		Selection Expression: PICS A.2/1, A.3/2	5.8.1
		Entities		Condition	
	UE1	IUT	UE2		
	✓	✓	✓	UE1 and UE2 registered in IUT	
		✓		IUT configured for establishing digest without TLS securit association	
	✓	✓	✓	IUT has established an INVITE dialogue from UE1 to	UE2
	✓	✓	✓	IUT has received target refresh INVITE from UE1 for UE2	
		✓	✓	IUT has sent target refresh INVITE to UE2	
	UE1	IUT	UE2		
Step		Direction	•	Message	IF
1		Œ	ŶД	4xx response for UE1 ✓ Via header not matching stored Via header	
2a	€	4		no message	
2b	ींद	Ą		4xx response ✓ Via header → stored Via header	Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_12			
Summ				x with unknown Via header to refres sage or forwards it with an updated V	1	ng UE it
Clause	:	5.2.6.4.6 second nu	ımbered list i	tem 1		
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/25.8.1	
	Entities		Condition	on		
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing digest without TLS securit association		
	✓	✓	✓	IUT has established an INVITE d	alogue from UE1 to UE2	
	✓	✓	✓	IUT has received target refresh INVITE from UE2 for UE1		
	✓	✓		IUT has sent target refresh INVITE to UE1		
	UE1	IUT	UE2			
Step		Direction		Messag	e	IF
1	\$	÷		4xx response for UE2 ✓ Via header not matching store	ed Via header	
2a		\$∥	🖈	no message		
2b		₩.	卦	4xx response ✓ Via header → stored Via header		Gm

6.1.7 Emergency procedures

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_EME_01			
Summ	ary:	P-CSCF rej domain.	ects INVITE to eme	ergency service with 380 when	emergency calls have to us	se the CS
Clause	:	5.2.10.5 I);	7.6.4.1			
Refere	nces:	-		Config Ref:	CF_1Gm	
IUT Role:		IMS		Selection Expression:	PICS A.2/1	
	Entities		ties	Co	ondition	
	UE1 IUT		IUT			
	×		×	IUT not configured for emer	IUT not configured for emergency sessions	
		UE1	IUT			
Step		Direc	etion	N.	Iessage	IF
1	₩ ₩		INVITE ✓ Request URI → emergency service id	lentifier		
2	€ ₽		Å	380 response ✓ Content-Type header ✓ application/3gpp-ims+xml ✓ P-Asserted-Identity header ✓ SIP URI of IMS P-CSCF		Gm

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_EME_02			
Summ	ary:	P-CSCF accresponse.	cepts INVITE to emer	rgency service from unregister	red user and returns SIP 10	0 (Trying)
Clause	:	5.2.10.2				
Refere	nces:	-		Config Ref:	CF_1Gm	
IUT R	IUT Role: IN			Selection Expression:	PICS A.2/1	
		Enti	ties	Co	Condition	
	U.	E1	IUT			
	x		×	UE1 not registered in IUT		
			✓	IUT configured for emergency sessions		
	U.	E1	IUT			
Step		Direc	ction	M	lessage	IF
1	۲	ţ>	Ð	INVITE ✓ Request URI → emergency service identifier		
2	4	Çī.	Ϋ́	100 response		Gm
3	Ŷ	\(\)	⇔	4xx response		Gm

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_EME_03			
Summ	Summary: P-CSCF rejects INVIT response.		ects INVITE to no	n-emergency service from user w	vith emergency registration	on with SIP 403
Clause	Clause: 5.2.10.3					
Refere	Gerences: -			Config Ref:	CF_1Gm	
IUT Role:		IMS		Selection Expression: PICS A.2/1		
I		Entities		Со	ndition	
		UE1	IUT			
	i	✓	✓	UE1 emergency registered in	ı IUT	
		UE1	IUT			
Step		Direc	etion	M	essage	IF
1		₩	£	INVITE ✓ Request URI → emergency service in	dentifier	
2		€	क्र	403 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2	2_GM_EME_04			
Summ	ary:	P-CSCF acc 100 respons		ergency service from user with	emergency registration and	l returns SIP
Clause	:	5.2.10.3				
Refere	ences:	-		Config Ref:	CF_1Gm	
IUT R	T Role: IMS		Selection Expression:	PICS A.2/1		
	Entities			Co	ondition	
	1	UE1 IUT				
		✓	✓	UE1 emergency registered in	UE1 emergency registered in IUT	
	1	UE1	IUT			
Step		Direc	tion	M	lessage	IF
1	₩ #		INVITE ✓ Request URI → emergency service id	entifier		
2		Œ	¢ħ	100 response		Gm
3		€ ∥	&	4xx response		Gm

				Test Purpose		
Identif	ïer:	TP_IMST2	C_GM_EME_05			
Summ	-	P-CSCF acc response.	cepts INVITE to emer	gency service from user with nor	mal registration and returns SI	P 100
Clause	:	5.2.10.4				
Refere	nces:	_		Config Ref:	CF_1Gm	
IUT R	ole:	IMS		Selection Expression: PICS A.2/1		
	Entities		ties	Condit	tion	
	UE1 IUT		IUT			
	✓		✓	UE1 registered in IUT		
	UE	E1	IUT			
Step		Direc	tion	Messa	nge	IF
1	Ų.	ŭ, ⊿s ✓ R		INVITE ✓ Request URI → emergency service identif	ier	
2	₹	ž	٩'n	100 response		Gm
3	Ŷ Ŀ	:	∥ ⇔	4xx response		Gm

6.1.8 Exceptional procedures

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	EXC_01			
Summ	ary:	P-CSCF initiates c	all release due	e to unacceptable SDP offer in SI	P 200 response.	
Clause	:	5.2.8.1.2 item 3 an	d 4, 6.2			
Refere	ences:	-		Config Ref:	CF_2Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities			Cond	ition	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IU	Γ	
		✓		IUT configured for establishing association	g digest without TLS security	
	✓	✓		IUT has received INVITE from	uE1	
		✓	✓	IUT has sent INVITE to UE2		
	UE1	IUT	UE2			
Step		Direction		Mes	sage	IF
1		Œ	Ŷħ	200 response for UE1 ✓ unacceptable SDP offer		
2	Ŷŧz	Ŷħ		200 response		
3	₩	₫		ACK ✓ SDP answer		
4	ŶŁ.	∜₽		BYE ✓ Reason header → 503 response code or 48	88 response code	
5		\$	<i>卦</i>	ACK		Gm
6		₩,	र्ज	BYE ✓ Reason header → 488 response code		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	EXE_01A			
Summ	ary:			t valid SIP 200 response to refre o unacceptable SDP offer in SIP		, P-
Clause: 5.2.8.1.2 item 1 and 2, 6.2						
Refere	ences:	-		Config Ref:	CF_2Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities			Con	dition	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IU	JT	
		✓		IUT configured for establishin association	ng digest without TLS security	
	✓	✓	✓	IUT has established an INVIT	ΓE dialogue from UE1 to UE2	
	✓	✓	✓	IUT has received target refresh INVITE from UE2 for UE1		
	✓	✓ ✓ ✓		IUT has sent target refresh IN	VITE to UE1	
	UE1	IUT	UE2			
Step		Direction		Me	essage	IF
1	₽	Ð		200 response for UE1 ✓ unacceptable SDP offer		
2		₩,	Ð	200 response		Gm
3		€z	Ŷħ	ACK ✓ SDP answer		
4		₩,	Ð	BYE ✓ Reason header → 503 response code or	488 response code	Gm
5	Ŷ <u>.</u>	⇔		ACK		
6	Œ	Ŷħ		BYE ✓ Reason header → 488 response code		

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	EXC_02			
Summ	ary:	OPTIONAL: P-CS	CF initiates of	call release due to encrypted SDP o	ffer in SIP 200 response.	
Clause) :	5.2.8.1.2 item 3 an	d 4, 6.2			
Refere	ences:	-		Config Ref:	CF_2Gm	
IUT R	IUT Role: IMS		Selection Expression:	PICS A.2/1		
		Entities		Condi	tion	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing association	digest without TLS security	
	✓	✓		IUT has received INVITE from	UE1	
		✓ ✓		IUT has sent INVITE to UE2		
		✓		IUT configured to reject encrypt	ed SDP offers	
	UE1	IUT	UE2			
Step		Direction		Messa	ige	IF
1		Œ	क्र	200 response for UE1 ✓ encrypted SDP offer		
2	Ŷ <u>t</u>	¢ħ.		200 response		
3	₽	£Ŷ		ACK ✓ SDP answer		
4	Ŷ _E	₩		BYE ✓ Reason header → 503 response code or 488	3 response code	
5		\$	卦	ACK		Gm
6		₩,	£	BYE ✓ Reason header → 488 response code		Gm

6.1.9 SDP procedures

				Test Purpose		
Identif	ier: TP_	IMST2	2_GM_SDP_01			
Summ	ary: P-CS	SCF rej	ects INVITE with SI	OP offer with unacceptable med	ia parameter with SIP 488 respon	nse.
Clause	6.2					
Refere	erences: - Config Ref: CF_1Gm		CF_1Gm			
IUT R	Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		Con	dition		
	UE1		IUT			
	✓		✓	UE1 registered in IUT		
			✓	IUT configured for establishin association	ng digest without TLS security	
	UE1		IUT			
Step		Direc	tion	Me	essage	IF
1	4		ъ́	INVITE ✓ SDP offer → unacceptable media pa	rameter	
2	Œ.		Ϋ́D	488 response ✓ SDP offer		Gm

				Test Purpose		
Identif	fier:	TP_IMST2	2_GM_SDP_02			
Summ	ary:	OPTIONAL	L: P-CSCF rejects INV	VITE with encrypted SDP offer.		
Clause	nuse: 6.2					
Refere	ences:	-		Config Ref:	CF_1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/30.1.1	
Enti		ties	Condition	n		
	U	E1	IUT			
	,	✓	✓	UE1 registered in IUT		
			✓	IUT configured for establishing digest without TLS security association		
			✓	IUT configured to reject encrypted	SDP offers	
	U	E1	IUT			
Step		Direc	etion	Message		IF
1		Ļ	∌ੰ	INVITE ✓ encrypted SDP offer		
2	4	Ĉ	Ϋ́À	4xx response		Gm

					Test Purpose		
Identif	fier:	TP_	IMST2_GM_	SDP_03			
Summ	ary:		SCF forwards Sinating UE.	SIP response	with unacceptable SDP media paramete	er offer in SIP 180 respons	se to
Clause: 6.2							
Refere	ences:	-			Config Ref:	CF_2Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
	Entities		Condition				
	UE1		IUT	UE2			
	✓		✓		UE1 registered in IUT		
			✓		IUT configured for establishing digest without TLS security association		
	✓		✓		IUT has received INVITE from UE1		
			✓	✓	IUT has sent INVITE to UE2		
	UE1		IUT	UE2			
Step			Direction		Message		IF
1			₹ E	À	180 response for UE2 ✓ SDP offer → unacceptable media parameter		
2	Œ		Ą		180 response		Gm

6.1.10 NAT traversal procedures

				Test Purpose		
Identif	ier: T	P_IMST2	2_GM_NAT_01			
Summ			es not respond to unpr P tunneling support.	otected REGISTER from UE if Secu	urity-Client header that doe	es not
Clause	: A	nnex K.2.	2.2.2 first numbered li	st item 2a		
Refere	nces: -			Config Ref:	CF_1Gm	
IUT R	ole: IN	AS		Selection Expression:	PICS A.2/1	
	Entities		Condition	1		
	UE1 IUT		IUT			
	×		×	UE1 not registered in IUT		
			✓	IUT configured for establishing IM association	S AKA security	
	✓			UE1 has initiated IMS AKA securit establishment	y association	
	UE1	-	IUT			
Step		Direc	tion	Message		IF
1	₩ \$		€	unprotected REGISTER ✓ Security-Client header → UDP-enc-tun support ✓ topmost Via header ✓ IP address different from IP s	ource address	
2	€ ∥		∥ ⇔	no message		Gm

6.2 Test purposes for the Mw interface

6.2.1 General

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_GI	EN_01			
Summ	ary:	All IMS Co		nts shall sı	upport SIP messages which are great	ater than 1 300 bytes in ler	ngth on
Clause	:	4.2A, para	graph 1				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
Entities			Condition	n			
	UE1	IMS	IUT	UE2			
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry poir	nt to IMS	
			×		IUT not configured for topology h	iding	
	UE1	IMS	IUT	UE2			
Step		Dire	ction		Message		IF
1	₩		卦		MESSAGE to UE2 ✓ Message Body greater than 1 300 bytes		Gm
2		Œ	Ŷħ		MESSAGE to UE2		Mw

					Test Purpose	
Identi	fier:	TP_IMST	2_MW_G	EN_02		
					ary of a trust domain shall remove the from any SIP message sent out of the trust domain.	
Clause: 4.4.3, paragraph 1			graph 1			
Refere	ences:	-			Config Ref: CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression: PICS A.2/1	
	Entities			Condition		
	UE1	IMS	IUT	UE2		
	✓		✓		UE1 registered in IUT	
		✓		✓	UE2 registered in IMS	
		✓	✓		IUT configured with an entry point to IMS	
			×		IUT not configured for topology hiding	
		×	×		IMS not configured for being in the same trust domain as IUT	
	UE1	IMS	IUT	UE2		
Step		Dire	ction		Message	IF
1	₩		Ð		MESSAGE to UE2	Gm
2		Œ.	Ŷħ		MESSAGE * P-Access-Network-Info header	Mw

Test Purpose										
Identif	Identifier: TP_IMST2_MW_GEN_03									
Summ	ary:	P-CSCF ge	P-CSCF generates the ICID and includes it in the icid parameter of the P-Charging-Vector header.							
Clause	:	4.5.2, para	4.5.2, paragraph 2							
Refere	ences:	-			Config Ref:	CF_1Mw1Gm				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1				
		Enti	ities		Condition	on				
	UE1	IMS	IUT	UE2						
	✓		✓		UE1 registered in IUT					
		✓		✓	UE2 registered in IMS					
		✓	✓		IUT configured with an entry point to IMS					
			×		IUT not configured for topology	hiding				
	UE1	IMS	IUT	UE2						
Step		Direc	ction		Messag	e	IF			
1	₩		卦		MESSAGE to UE2		Gm			
2		(E	ф		MESSAGE ✓ P-Charging-Vector header ✓ icid parameter		Mw			

				Test Purpose						
Identi	Identifier: TP_IMST2_MW_GEN_04									
Summ	nary:		REGISTER requests exchanged between a P-CSCF in the visited network and the S-CSCF in the home network shall include the type 1 inter operator identifier (IOI).							
Clause	e:	4.5.4, paragraph 4								
Refere	ences:	-		Config Ref:	CF_1Mw1Gm					
IUT R	tole:	IMS		Selection Expression:	PICS A.2/1					
	Entities			Condition						
	UE1	IMS	IUT							
			×	IUT not configured for topology hiding						
	✓		✓	UE1 visiting IUT						
	UE1	IMS	IUT							
Step		Direction		Messag	e	IF				
1	₽		Ð	unprotected REGISTER		Gm				
2		Ĉī.	Ą	unprotected REGISTER ✓ P-Charging-Vector header ✓ ioi parameter → type1		Mw				

				Test Purpose				
Identi	fier:	TP_IMST2_MW						
Summary:		REGISTER responses exchanged between a P-CSCF in the visited network and the S-CSCF in the home network shall include the type 1 inter operator identifier (IOI).						
Clause	:	4.5.4, paragraph 4						
Refere	ences:	-		Config Ref:	CF_1Mw			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1			
	Entities			Conc	lition			
	UE1	IMS	IUT					
			x	IUT not configured for topology hiding				
	✓	✓		UE1 visiting IMS				
			✓	IUT has sent unprotected REGISTER and has received 401 response via Mw				
	UE1	IMS	IUT					
Step		Direction		Mes	sage	IF		
1		₩	Ð	protected REGISTER		Mw		
2		€	ф	200 response ✓ P-Charging-Vector heade ✓ ioi parameter → type1	er	Mw		

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_GI	EN_06						
Summary:		SIP ACK requests that are exchanged between a S-CSCF of the home originating network and a S-CSCF of the home terminating network shall include a type 2 inter operator identifier (IOI).								
Clause	:	4.5.4, para	4.5.4, paragraph 4							
Refere	ences:	-			Config Ref:	CF_1Gm1Mw				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1				
		Enti	ities		Condition	o n				
	UE1	IMS	IUT	UE2						
			×		IUT not configured for topology	hiding				
	✓		✓		UE1 registered in IUT					
		✓		✓	UE2 registered in IMS					
		✓	✓		IUT configured with an entry point to IMS					
	✓				UE1 has sent INVITE and has re	ceived 200 response				
	UE1	IMS	IUT	UE2						
Step		Direc	ction		Messag	ge	IF			
1	₩		卦		ACK to UE2		Gm			
2		₹िच	Ŷħ		ACK to UE2 ✓ P-Charging-Vector header ✓ ioi parameter → type2		Mw			

					Test Purpose					
Identi	fier:	TP_IMST	2_MW_G							
Summary:		a S-CSCF	SIP 200 responses that are exchanged between a S-CSCF of the terminating originating network and a S-CSCF of the home network shall include a type 2 inter operator identifier (IOI) and forward the orig-ioi parameter from the P-Charging-Vector header in the initial request.							
Clause	:	4.5.4, para	graph 4							
Refere	ences:	-			Config Ref:	CF_1Gm1Mw				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1				
	Entities				Cond	ition				
	UE1	IMS	IUT	UE2						
			×		IUT not configured for topolo	gy hiding				
	✓		✓		UE1 registered in IUT					
		✓		✓	UE2 registered in IMS					
		✓	✓		IUT configured with an entry point to IMS					
	✓		✓		IUT has received INVITE add	ressed to UE1 via Mw				
	✓		✓		IUT has sent INVITE to UE1	via Gm				
	UE1	IMS	IUT	UE2						
Step		Dire	ction		Mess	sage	IF			
1	₩		Ð		200 response to UE2		Gm			
2		िंद	φ		200 response to UE2 ✓ P-Charging-Vector header ✓ ioi parameter → type2 ✓ orig-ioi parameter of initial		Mw			

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_G	EN_08						
Summary:			A S-CSCF shall not pass any P-Charging-Function-Addresses header of SIP requests or responses sent to a visited network or UE.							
Clause	:	4.5.5, para	graph 3							
Refere	ences:	-			Config Ref:	CF_1Gm1Mw				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1				
		Enti	ities		Condition	ı				
	UE1	IMS	IUT	UE2						
			×		IUT not configured for topology hiding					
	✓		✓		UE1 registered in IUT					
		✓		✓	UE2 registered in IMS					
		✓	✓		IUT configured with an entry poin	t to IMS				
	✓				UE1 has sent INVITE and has rece	eived 200 response				
	UE1	IMS	IUT	UE2						
Step		Direc	ction		Message		IF			
1	₩		Ð		ACK to UE2		Gm			
2		Ŷ <u>t</u>	Å		ACK to UE2 ★ P-Charging-Function-Addresse	es header	Mw			

				Test Purpose						
Identif	fier:	TP_IMST2_MV	V_GEN_09							
Summary:			When the P-CSCF sends a SIP MESSAGE request to the UE, it shall remove the P-Charging-Function-Addresses and P-Charging-Vector headers before sending the message, if							
Clause	e:	5.2.1 before first	numbered list							
Refere	ences:	-		Config Ref:	CF_1Mw1Gm					
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1					
		Entities		Condition						
	UE1	IMS	IUT							
	✓		✓	UE1 registered in IUT						
		✓	✓	IUT configured with an entry poir	nt to IMS					
			x	IUT not configured for topology h	iding					
	UE1	IMS	IUT							
Step		Direction		Message		IF				
1		\$	Ð	MESSAGE to UE1 ✓ P-Charging-Vector headers ✓ P-Charging-Function-Addresses header		Mw				
2	Ŷŧ		À	 MESSAGE to UE1 P-Charging-Vector headers P-Charging-Function-Addresses header 		Gm				

					Test Purpose	
Identif	fier:	TP_IMST	2_MW_GI	EN_10		
Summ	ary:				200 response to the UE, it shall remove the and P-Charging-Vector headers before sending the messa	ge, if
Clause	:	5.2.1 befor	e first num	bered list		
Refere	ences:	-			Config Ref: CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression: PICS A.2/1	
	Entities			Condition		
	UE1	IMS	IUT	UE2		
	✓		✓		UE1 registered in IUT	
		✓		✓	UE2 registered in IMS	
		✓	✓		IUT configured with an entry point to IMS	
	✓		✓	~	IUT has received MESSAGE via Gm from UE1 address to UE2	ed
			✓	✓	IUT has sent MESSAGE via Mw addressed to UE2	
			×		IUT not configured for topology hiding	
	UE1	IMS	IUT	UE2		
Step		Direc	ction		Message	IF
1		4	£		200 response originated by UE2 ✓ P-Charging-Vector headers ✓ P-Charging-Function-Addresses header	
2	Ŷŧ		ф		200 response to UE1 * P-Charging-Vector headers * P-Charging-Function-Addresses header	Gm

					Test Purpose			
Identif	fier:	TP_IMST	2_MW_GI	EN_11				
Summ	ary:				AGE request received from a UE, a P-CSCF shall remove any s and P-Charging-Vector headers received.			
Clause	Clause: 5.2.1 first number			st item 1				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm		
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1		
	Entities			Cond	ition			
	UE1	IMS	IUT	UE2				
	✓		✓		UE1 registered in IUT			
		✓		✓	UE2 registered in IMS			
		✓	✓		IUT configured with an entry	point to IMS		
			×		IUT not configured for topolo	gy hiding		
	UE1	IMS	IUT	UE2				
Step		Direc	ction		Mess	sage	IF	
1	Ð		£Ŷ					
2		Ŷ a	ф		MESSAGE to UE2 * P-Charging-Vector header * P-Charging-Function-Add		Mw	

					Test Purpose			
Identif	fier:	TP_IMST	2_MW_GI	EN_12				
Summ	ary:				ponse received from a UE, a P-CSC ging-Vector headers received.	F shall remove any P-Cha	arging-	
Clause	:	5.2.1 first 1	numbered li	st item 1				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm		
IUT Role:		IMS			Selection Expression:	PICS A.2/1		
	Entities			Condition				
	UE1	IMS	IUT	UE2				
	✓		✓		UE1 registered in IUT			
		✓		✓	UE2 registered in IMS	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS			
	✓		✓	~	IUT has received MESSAGE originated by UE2 addressed to UE1 via Mw			
	✓		✓		IUT has sent MESSAGE via Gm to	o UE1		
			×		IUT not configured for topology hi	iding		
	UE1	IMS	IUT	UE2				
Step		Direc	ction		Message		IF	
1	∌		£		200 response to UE2 ✓ P-Charging-Vector headers of UE1 ✓ P-Charging-Function-Addresses header of UE1		Gm	
2		Ŷ Ŀ	ф		200 response to UE2 * P-Charging-Vector headers of * P-Charging-Function-Addresse		Mw	

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_GI	EN_13					
Summ	ary:		Before forwarding a SIP MESSAGE request received from a UE, a P-CSCF shall remove P-Access-Network-Info header if such header contains a "network-provided" parameter.						
Clause:		5.2.1 first r	5.2.1 first numbered list item 3						
Refere	ences:	-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1			
	Entities		Condi	tion					
	UE1	IMS	IUT	UE2					
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry p	oint to IMS			
			×		IUT not configured for topolog	y hiding			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Messa	age	IF		
1	₩		Ð		MESSAGE to UE2 ✓ P-Access-Network-Info header ✓ network provider parameter		Gm		
2		Q	Ą		MESSAGE to UE2 * P-Access-Network-Info he	ader	Mw		

					Test Purpose		
Identif	ier:	TP_IMST	2_MW_G	EN_14			
Summ	ary:				sponse received from a UE, a P-CSCF shall remove if such header contains a "network-provided" parameter.		
Clause	:	5.2.1 first 1	numbered li	ist item 3			
Refere	nces:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
	Entities				Condi	ion	
	UE1	IMS	IUT	UE2			
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓	~	IUT has received MESSAGE a by UE2 via Mw	ddressed to UE1 originated	
	✓		✓		IUT has sent MESSAGE via G	m to UE1	
			×		IUT not configured for topolog	y hiding	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Messa	ige	IF
1	₩		£		200 response to UE2 ✓ P-Access-Network-Info header ✓ network provider parameter		Gm
2		€	ŶĬ		200 response to UE2 * P-Access-Network-Info hea	nder	Mw

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_G	EN_15					
Summ	ary:	A P-CSCF UE before			Media-Authorization header from a SIP MESSAGE request from the age.				
Clause	:	5.2.1 befor	5.2.1 before NOTE 9						
References:		-			Config Ref:	CF_1Mw1Gm			
IUT Role:		IMS			Selection Expression:	PICS A.2/1			
		Enti	ities		Cone	dition			
	UE1	IMS	IUT	UE2					
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry	point to IMS			
			×		IUT not configured for topolo	ogy hiding			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Mes	ssage	IF		
1	∌		∌		MESSAGE to UE2 ✓ P-Media-Authorization h	MESSAGE to UE2 ✓ P-Media-Authorization header			
2		Ŷ _E	Ŷ <u>ħ</u>		MESSAGE to UE2 * P-Media-Authorization h	eader	Mw		

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_G	EN_16					
Summ	ary:		P-CSCF shall remove the P-Media-Authorization header from a SIP 200 response from the UE efore forwarding the message.						
Clause:		5.2.1 befor	.2.1 before NOTE 9						
Refere	ences:	-			Config Ref:	CF_1Mw1Gm			
IUT Role:		IMS			Selection Expression:	PICS A.2/1			
	Entities			Conditio	n				
	UE1	IMS	IUT	UE2					
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry poi	nt to IMS			
	✓			✓	UE1 has received MESSAGE ori	ginated by UE2			
			×		IUT not configured for topology l	niding			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Messag	e	IF		
1	₽		卦		200 response to UE2 ✓ P-Media-Authorization heado	er	Gm		
2		ŶĿ,	Ф		200 response to UE2 * P-Media-Authorization heade	er	Mw		

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_G	EN_17					
Summ	ary:	request for	When a P-CSCF receives SIP Redirect response (3xx), other than a 305 (Use Proxy) response, to a request forwarded from the UE, it shall not resend the original message to any of the URIs specified in the Contact header field of the 3xx response.						
Clause	:	5.2.1 befor	e NOTE 10)					
Refere	ences:	-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1			
		Ent	ities		Condit	ion			
	UE1	IMS	IUT	UE2					
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry p	oint to IMS			
			✓	✓	IUT has received MESSAGE ac	ddressed to UE2 via Gm			
			✓	✓	IUT has sent MESSAGE address	ssed to UE2 via Mw			
			×		IUT not configured for topology	y hiding			
	UE1	IMS	IUT	UE2					
Step		Dire	etion	,	Messa	ige	IF		
1		₩,	∌		3xx response different to 305 response ✓ contact header ✓ Contact URI		Mw		
2		€	1144		MESSAGE to Contact URI		Mw		

6.2.2 Registration procedures

				Test Purpose		
Identi	fier:	TP_IMST2_MV	V_REG_01			
Summ		containing SIP U header with the i	RI identifying cid parameter m-ioi paramete ome network.	ISTER request from the UE, it is the P-CSCF, Require header wand a type 1 orig-ioi parameter er, and insert a P-Visited-Netwo	ith path option tag, P-Chargin identifying the sending netwo	g-Vector rk but
Refere		-	annocrea met re	Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		Cone	dition		
	UE1	IMS	IUT			
			×	IUT not configured for topolo	ogy hiding	
		✓	✓	IUT configured with an entry point to IMS		
	✓		✓	UE1 visiting IUT		
	UE1	IMS	IUT			
Step		Direction		Message		IF
1	₩		Ď	unprotected REGISTER		Gm
2		€द	Ф	unprotected REGISTER ✓ Path header ✓ SIP URI of IMS P-CSO ✓ Require header ✓ path tag parameter ✓ P-Charging-Vector heade ✓ icid parameter ✓ orig-ioi parameter → type1 of the sending × term-ioi parameter → type1 ✓ P-Visited-Network-ID he ✓ visited network pre-pro	er network eader	Mw

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_02			
Summ	ary:	protected" with a	value "yes" in	STER request from the UE, it s to the Authorization header fiel arity association and includes ar	d if the REGISTER request w	as
Clause	e:	5.2.2.2 first numb	ered list item	1		
References:		-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Cond	lition	
	UE1	IMS	IUT			
			×	IUT not configured for topology hiding		
			✓	IUT configured for IMS AKA	authentication	
	✓		✓	UE1 visiting IUT		
	✓	✓	✓	UE1 has sent unprotected REGISTER and has received 401 response		
	✓			UE1 has established an IMS A	AKA security association	
	UE1	IMS	IUT			
Step		Direction	•	Mes	sage	IF
1	₩		±Î	protected REGISTER ✓ authentication challenge response parameter		Gm
2		€त	क्	REGISTER ✓ Authorization header ✓ integrity-protected para → yes	meter	Mw

				Test Purpose				
Identif	fier:	TP_IMST2_MW	_REG_03					
Summ	ary:	protected" with a	Then a P-CSCF receives REGISTER request from the UE, it shall insert the parameter "integrity-rotected" with a value "yes" into the Authorization header field if the REGISTER request was exceived on the security association created during the last successful authentication procedure.					
Clause	:	5.2.2.2 first numb	ered list item 1					
Refere	ences:	-		Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1			
	Entities			Condition	n			
	UE1	IMS	IUT					
			×	IUT not configured for topology l	hiding			
			✓	IUT configured for IMS AKA aut	hentication			
	✓		✓	UE1 visiting IUT				
	✓			UE1 has established an IMS AKA security association				
	UE1	IMS	IUT					
Step		Direction		Messag	e	IF		
1	₩		र्ज	protected REGISTER		Gm		
2		Œ	¢ħ.	REGISTER ✓ Authorization header ✓ integrity-protected paramet → yes	er	Mw		

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_04			
Summ		protected" with a received protected	value "no" int I with the sec	ISTER request from the UE, it shat to the Authorization header field if urity association and remove the Sceived parameter of the Via header	the REGISTER request we curity-Client header if the	as not e header
Clause	:	5.2.2.2 first numb	ered list item	2a b, c		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Conditi	on	
	UE1	IMS	IUT			
			×	IUT not configured for topology hiding		
			✓	IUT configured for IMS AKA at	ıthentication	
	✓		✓	UE1 visiting IUT		
	x			UE1 has not established a securi	ty association	
	UE1	IMS	IUT			
Step		Direction	•	Messa	ge	IF
1	₩		Ð	unprotected REGISTER ✓ Security-Client header		Gm
2		Q	ή	REGISTER ✓ Authorization header ✓ integrity-protected parameter → no × Security-Client header ✓ Via header ✓ rPort parameter → received source port ✓ received parameter → received source IP address		Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_05			
Summ	ary:			STER request from the UE without shall return a SIP 4xx response.	ut protection and without Se	curity-
Clause	:	5.2.2.2 second nur	mbered list ite	m 5		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		Condit	ion		
	UE1	IMS	IUT			
			×	IUT not configured for topology hiding		
			✓	IUT configured for IMS AKA authentication		
	✓		✓	UE1 visiting IUT		
	UE1	IMS	IUT			
Step		Direction		Messa	ge	IF
1	\$		Ð	unprotected REGISTER ★ Security-Client header		Gm
2		€	ll⇔n	REGISTER		Mw
3	Æ.		Ą	4xx response to UE1		Gm

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_06			
Summ	ary:		security assoc	ISTER request from the UE if the ciation but without a Security-Ver	•	
Clause	:	5.2.2.2 first numb	ered list item	3a		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condi	tion	
	UE1	IMS	IUT			
			×	IUT not configured for topolog	y hiding	
			✓	IUT configured for IMS AKA a	uthentication	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent unprotected REGISTER and has received 401 response		
	✓			UE1 has established a temporary IMS AKAsecurity association		
	UE1	IMS	IUT			
Step		Direction		Messa	nge	IF
1	4		£	protected REGISTER ★ Security-Verify header		Gm
2		€ ±	⇔	REGISTER		Mw
3	Œ		¢ħ	4xx response to UE1		Gm

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_07			
Summ	ary:	via a temporary se	ecurity associ	ISTER request from the UE if the Iston and the content of the Security information then the P-CSCF shall represent the security of the security of the security in the security of the securit	y-Verify and the Security-C	lient
Clause	2:	5.2.2.2 first numb	ered list item	3a		
Refere	ences:	_		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities Condition		on			
	UE1	IMS	IUT			
			×	IUT not configured for topology	hiding	
			✓	IUT configured for IMS AKA au	thentication	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent unprotected REGIS 401 response	STER and has received	
	✓			UE1 has established a temporary association	IMS AKAsecurity	
	UE1	IMS	IUT			
Step		Direction		Messag	ge	IF
1	₽\$		£Ŷ	header of 401 response	protected REGISTER ✓ Security-Verify header different to Security-Server header of 401 response ✓ Security-Client header equal to Security-Client header	
2		€ :	₩	REGISTER		Mw
3	Œ		⟨₽	4xx response to UE1		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_08			
Summ	ary:	via a temporary se	curity associa	STER request from the UE if the RI tion and Security-Verify header and CF shall remove the Security-Verify	Security-Client headers n	natch
Clause	:	5.2.2.2 first number	ered list item 3	3a	<u>-</u>	
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities		Condition	1	
	UE1	IMS	IUT			
			×	IUT not configured for topology h	iding	
			✓	IUT configured for IMS AKA auth	nentication	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent unprotected REGIST 401 response	TER and has received	
	✓			UE1 has established a temporary I association	MS AKA security	
	UE1	IMS	IUT			
Step		Direction		Message		IF
1	₽		Ð	protected REGISTER ✓ Security-Verify header equal t of 401 response ✓ Security-Client header equal t of unprotected REGISTER		Gm
2		₹±	Å	REGISTER * Security-Verify header * Security-Client header		Mw

				Test Purpose		
Identii	fier:	TP_IMST2_MW	_REG_09			
Summ	ary:		blished securi	STER request from the UE if the ty association, then the P-CSCF is present.		
Clause	:	5.2.2.2 first number	ered list item 3	Bb		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		Condit	ion		
	UE1	IMS	IUT			
			×	IUT not configured for topology hiding		
			✓	IUT configured for IMS AKA authentication		
	✓		✓	UE1 visiting IUT		
	✓			UE1 has established an IMS AKA security association		
	UE1	IMS	IUT			
Step		Direction		Messa	ige	IF
1	₩		£	protected REGISTER ✓ Security-Verify header ✓ Security-Client header		Gm
2		िंद	ф	REGISTER * Security-Verify header * Security-Client header		Mw

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_10			
Summ	ary:		ablished securi	STER request from the UE if the ity association and the Security-C		
Clause	:	5.2.2.2 first numb	ered list item 3	3b		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
		Entities		Condition		
	UE1	IMS	IUT			
			×	IUT not configured for topology	hiding	
			✓	IUT configured for IMS AKA authentication		
	✓		✓	UE1 visiting IUT		
	✓			UE1 has established an IMS AK	A security association	
	UE1	IMS	IUT			
Step		Direction		Messa	ge	IF
1	₽		Ð	protected REGISTER ★ Security-Client header		Gm
2		€ ±	ll&	REGISTER		Mw
3	ी य		Ą	4xx response to UE1		Gm

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_11			
Summ	ary:	via an already esta	ablished secur	ISTER request from the UE if the Restrict association and private user identificated REGISTER request, then the	ntity in the Authorization he	eader
Clause	:	5.2.2.2 first numb	ered list item	3b	·	
Refere	ences:			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities		Condition	n	
	UE1	IMS	IUT			
			×	IUT not configured for topology	hiding	
			✓	IUT configured for IMS AKA aut	thentication	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent unprotected REGIS 401 response	TER and has received	
	✓			UE1 has established an IMS AKA	A security association	
	UE1	IMS	IUT			
Step		Direction		Messag	e	IF
1	₽\$		£Ŷ	protected REGISTER ✓ Authorization header ✓ private user identity different to private user identity of unprotected REGISTER		Gm
2		€	114	REGISTER		Mw
3	(E		Å	403 response to UE1		Gm

				Test Purpose				
Identi	fier:	TP_IMST2_MW	_REG_12					
Summ				01 (Unauthorized) response to a R l in the 401 (Unauthorized) respons				
Clause	:	5.2.2.2 second nu	d numbered list item 2 and 3					
Refere	ences:	-		Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1			
		Entities		Condition				
	UE1	IMS	IUT					
			×	IUT not configured for topology	hiding			
			✓	IUT configured for IMS AKA au	thentication			
	✓		✓	UE1 visiting IUT				
	✓			UE1 has sent REGISTER				
	UE1	IMS	IUT					
Step		Direction		Messag	ge	IF		
1		\$	∌	401 response		Mw		
2	Ĉī.		क्ष	401 response to UE1 ✓ WWW-Authenticate header × CK parameter × IK parameter ✓ Security-Server header ✓ P-CSCF security list the parameter	arameters needed for the	Gm		

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_14			
Summ	ary:	Upon receipt of a the visited network	SIP 200 (OK k shall send a	() response to an initial SIP RE a SIP SUBSCRIBE request to t	GISTER request, a P-CSCF longer the entry point of the home net	cated in work.
Clause	e:	5.2.3 item 1 and 2				
Refere	References: -			Config Ref:	CF_1Mw1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		Con	ndition		
	UE1	IMS	IUT			
			×	IUT not configured for topo	logy hiding	
			✓	IUT configured for establish security association	ing digest without TLS	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent initial REGISTER		
	UE1	IMS	IUT			
Step		Direction		Me	essage	IF
1		\$	Ď	200 response		Mw
2		€ ±	Ą	✓ P-Asserted-Identity hea	e value in the 200 response der CF inserted into the Path n of UE1	Mw

					Test Purpose		
Identif	fier:	TP_l	IMST2_MW	_REG_15			
Summ		its An ident yet e unex	uthorization has tity which has xpired and au	previously be thentication is aser identities	REGISTER request in which the "ir the value "no", the Authorization hen used to register one or more public successful, it shall perform networpreviously registered by the user.	eader specifies a private u lic user identities which h	iser nave not
Refere	ences:	-			Config Ref:	CF_1Mw	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3	
		-	Entities		Condition	n	
	IMS		IUT	UE2			
			×		IUT not configured for topology h	iding	
			✓		IUT configured for IMS AKA autl	nentication	
	✓			✓	UE2 visiting IMS		
	✓		✓	✓	UE2 registered public user identity with current private user identity in IUT		
	✓		✓		IUT configured with an entry point to IMS		
	IMS		IUT	UE2			
Step			Direction	,	Message	:	IF
1	₩,		Ð		REGISTER originated by UE2 ✓ Authorization header ✓ integrity protected parameter → no		Mw
2	Ŷ Ŀ		ф		401 response ✓ WWW-Authenticate header		Mw
3	宀		£		REGISTER originated by UE2 ✓ Authorization header ✓ integrity protected parameter → yes		Mw
4	Ŷŧ		Ŷĥ		200 response		Mw
5	Ŷ <u>t</u>		¢ħ		NOTIFY ✓ NOTIFY body ✓ registered public user identi	ty	Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_16			
Summ		the Authorization the S-CSCF shall	header is set send a 401 (U	REGISTER request in which the to "no" and the To field contain Jnauthorized) response to the oth a realm, RAND, AUTN, algorithms.	s an unregistered public user i riginating UE including	dentity,
Refere		-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Con	dition	
	IMS	IUT	UE2			
		×		IUT not configured for topol	ogy hiding	
		✓		IUT configured for IMS AKA	A authentication	
	✓		✓	UE2 visiting IMS		
	✓	✓		IUT configured with an entry point to IMS		
	IMS	IUT	UE2			
Step		Direction		Me	ssage	IF
1	₽ŷ	∌		REGISTER originated by UE2 ✓ Authorization header ✓ integrity protected parameter → no ✓ To header ✓ a not registered public user identity		Mw
2	€	Å		401 response ✓ WWW-Authenticate header ✓ realm parameter → a globally unique name of the IUT S-CSCF ✓ RAND parameter ✓ AUTN parameter ✓ algorithm parameter → AKAv1-MD5 ✓ ik parameter ✓ ck parameter		Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_17			
Summ	ary:	the Authorization	header, the S- e "integrity-p	REGISTER request without the CSCF shall perform the proced rotected" parameter for the recent if applicable.	lure for receipt of a REGISTE	R
Clause	:	5.4.1.2.1D				
Refere	nces:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
	Entities Condition		dition			
	IMS	IUT	UE2			
		×		IUT not configured for topolo	ogy hiding	
	✓		✓	UE2 visiting IMS		
	✓	✓	✓	UE2 registered public user id address in IUT	entity with another contact	
		✓		IUT configured for NASS-IM	IS bundled authentication	
	✓	✓		IUT configured with an entry	point to IMS	
	IMS	IUT	UE2			
Step		Direction		Mes	ssage	IF
1	₩	≖ੰ∕		✓ Authorization header * integrity protected para ✓ Contact header	integrity protected parameter	
2	Ŷ:	¢ħ		200 response	200 response	
3	(E	भ्र		NOTIFY ✓ NOTIFY body ✓ registered public user i	dentity	Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_18			
Summ	ary:	Authorization hea	der and for exi	GISTER request without the "inte isting contact information, it shall neter in the Authorization header	process the REGISTER red	
Clause	:	5.4.1.2.1D				
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	IUT Role: IMS		Selection Expression:	PICS A.2/3		
		Entities		Conditi	on	
	IMS	IUT	UE2			
		×		IUT not configured for topology	hiding	
	✓		✓	UE2 registered public user identity with current private user identity in IUT		
		✓		IUT configured for NASS-IMS bundled authentication		
	✓	✓		IUT configured with an entry po	int to IMS	
	IMS	IUT	UE2			
Step		Direction		Messa	ge	IF
1	₩	∌		REGISTER originated by UE2 for registered public user identity ✓ Authorization header ★ integrity-protected parameter		Mw
2	€	Ŷħ		200 response		Mw

					Test Purpose		
Identif	fier:	TP_	_IMST2_MW	_REG_19			
Summ	ary:	con		n, it shall pro	GISTER request without an Autless the REGISTER request as the to "yes".		
Clause	:	5.4.	1.2.1D				
Refere	ences:	-			Config Ref:	CF_1Mw	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/3		
			Entities		Condi	tion	
	IMS		IUT	UE2			
			×		IUT not configured for topolog	y hiding	
	✓		✓	✓	UE2 registered public user identity with current private user identity in IUT		
			✓		IUT configured for NASS-IMS	bundled authentication	
	✓		✓		IUT configured with an entry point to IMS		
	IMS		IUT	UE2			
Step			Direction		Mess	age	IF
1	₩		£		REGISTER originated by UE2 for registered public user identity ★ Authorization header		Mw
2	Œ		Ŷ <u>ħ</u>		200 response		Mw

				Test Purpose		
Identif	fier:	TP_IMST	2_MW_REG_20			
Summ	ary:	which is se	t to a value shorter th	STER request from a UE and the nan the minimum time that the Strief) response containing Min-E	-CSCF is able to process, it	
Clause	e:	5.4.1.2.3				
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/3	
	Entities		Condition			
	IMS		IUT			
			×	IUT not configured for topolog	gy hiding	
			×	IUT not configured for IMS AKA authentication		
		✓	✓	IUT configured with an entry point to IMS		
		IMS	IUT			
Step		Direc	tion	Mess	sage	IF
1		₩,	£ ²	REGISTER originated by UE ✓ Expires header → duration smaller than m		Mw
2		G	Ŷħ	423 response ✓ Min-Expires header		Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_21			
Summ	ary:	the Authorization S-CSCF shall send	header is set d a 401 (Una	REGISTER request in which the to "yes", To header contains an uthorized) response to the original, a RAND and AUTN, algorithm	unregistered public user id nating UE including WWW	entity, the /-
Clause	Clause: 5.4.1.2.2					
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
	Entities			Cone	dition	
	IMS	IUT	UE2			
		×		IUT not configured for topolo	ogy hiding	
	✓		✓	UE2 visiting IMS		
		✓		IUT configured for IMS AKA	A authentication	
	✓	✓		IUT configured with an entry	point to IMS	
	IMS	IUT	UE2			
Step		Direction		Mes	ssage	IF
1	₽\$	£		REGISTER originated by U ✓ Authorization header ✓ integrity protected para → yes ✓ To header ✓ a not registered public	ameter	Mw
2	∜દ	ŶĬ		401 response ✓ WWW-Authenticate hea ✓ realm parameter → globally unique nam ✓ RAND parameter ✓ AUTN parameter ✓ algorithm parameter → AKAv1-MD5 ✓ ik parameter ✓ ck parameter		Mw

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_22			
Summ	-	from the UE and t "yes", the S-CSCI	he integrity-p F shall return a	REGISTER request containing rotected parameter in the Author a SIP 200 (OK) response to the	orization header is set to the v	
Clause		5.4.1.2.2, 5.4.1.2.2	2F	Ta		
Refere		-		Config Ref:	CF_1Mw	
IUT R	Role:	IMS		Selection Expression:	PICS A.2/3	1
		Entities	1	Con	dition	
	IMS	IUT	UE2			
		×	 	IUT not configured for topol	ogy hiding	
	✓	✓		UE2 visiting IMS		
	✓ ✓ ✓		✓	UE2 has sent unprotected REGISTER and has received 401 response		
	✓			IUT configured for IMS AKA authentication		
	✓			IUT configured with an entry	point to IMS	
	IMS	IMS IUT UE2				
Step		Direction		Me	ssage	IF
1	₩	€		REGISTER originated by U ✓ Authorization header ✓ integrity protected para → yes ✓ algorithm parameter → AKAv1-MD5 ✓ username parameter → private user identity ✓ response parameter → valid challenge resp ✓ initial CallID parameter	ameter	Mw
2	Ŷ	Ąμ		200 response ✓ Path header ✓ P-Associated-URI heade ✓ registered public user i ✓ Service-Route header ✓ SIP URI → IUT S-CSCF ✓ P-Charging-Function-Ac ✓ P-Charging-Vector header ✓ address of public user	dentities Idresses header er	Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_23			
Summ	ary:	the UE and the red	quest is not the der is set to the	STER request containing an aut expected REGISTER and the e value "yes", the S-CSCF shall	integrity-protected parameter	in the
Clause	:	5.4.1.2.3 last para	graph, 5.4.1.2.	3A paragraph 1		
Refere	eferences: - Config Ref: CF_1Mw		CF_1Mw			
IUT Role:		IMS		Selection Expression:	PICS A.2/3	
	Entities			Cond	lition	
	IMS	IUT	UE2			
		×		IUT not configured for topolo	gy hiding	
	✓			IUT configured for IMS AKA	authentication	
	✓		✓	UE2 visiting IMS		
	✓	✓	✓	UE2 has sent unprotected REGISTER and has received 401 response		
	✓	✓		IUT configured with an entry	point to IMS	
	IMS	IUT	UE2			
Step		Direction	'	Mes	sage	IF
1	₽	£		REGISTER originated by UE2 ✓ Authorization header ✓ integrity-protected parameter → yes ✓ unknown CallID parameter		Mw
2	Ŷŧ.	Ą		403 response ✓ P-Charging-Vector heade ✓ orig-ioi parameter → type1	r	Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_24			
Summ	ary:	Synchronization (A	AUTS) direc	REGISTER request from the UE of tive indicating that the Sequence N (Unauthorized) or 403 (Forbidden)	umber (SQN) was out of ra	
Clause	:	5.4.1.2.3 last parag	graph, 5.4.1.2	2.3A paragraph 3 before NOTE 3		
Refere	ences:	-		Config Ref: CF_1Mw		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
Entities		Conditi	on			
	IMS	IUT	UE2			
	×			IUT not configured for topology	hiding	
		✓		IUT configured for IMS AKA au	thentication	
	✓		✓	UE2 visiting IMS		
	✓ ✓ ✓		✓	UE2 has sent unprotected REGIS 401 response	STER and has received	
	✓	✓		IUT configured with an entry po	int to IMS	
	IMS	IUT	UE2			
Step		Direction		Message		IF
1	₩,	∌		REGISTER originated by UE2 ✓ Authorization header ✓ AUTS parameter → invalid SQN parameter		Mw
2a	Ŷ <u>t</u>	ĥ		401 response to UE2 ✓ P-Charging-Vector header ✓ orig-ioi parameter → type 1		Mw
2b	Ŷ Ŀ	Ŷħ		403 response to UE2 ✓ P-Charging-Vector header ✓ orig-ioi parameter → type1		Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_25			
Summ	•	Authorization head private user identified S-CSCFs registere	der set to "yes ty received in d users, it sha	REGISTER request with the "integ s" and neither the user identity rece the Authorization header of the RE all return a SIP 500 (Server Internal .3A paragraph 4 before NOTE 6	ived in the To header nor the EGISTER request match an	ne y of the
Refere		-	51 u pii, 5. 1.1.2	Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
	Entities		Condition	on		
	IMS	IUT	UE2			
		×		IUT not configured for topology	hiding	
		✓		IUT configured for IMS AKA authentication		
	✓		✓	UE2 visiting IMS		
	✓	✓	✓	UE2 has sent unprotected REGISTER and has received 401 response		
	✓	✓		IUT configured with an entry point to IMS		
	IMS	IUT	UE2			
Step		Direction		Message		IF
1	∌	∌		REGISTER originated by UE2 ✓ Authorization header ✓ integrity-protected parameter → yes × private user identity matching previous registered public user identity ✓ To header → public user identity not matching previous registered public user identity		Mw
2	€ंद	Ŷħ		500 response to UE2 ✓ P-Charging-Vector header ✓ orig-ioi parameter → type1		Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_26			
Summ	ary:	authentication cha and no Authentica	llenge but the tion Synchron de (MAC) par	REGISTER request which was exprequest contains no authentication ization (AUTS) parameters indicate ameter was invalid in the challeng UE.	challenge response from the ch	he UE
Clause	Clause: 5.4.1.2.3 last paragraph, 5.4.1.2			3A paragraph 2 before NOTE 2	1	
Refere	ences:	_		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
	Entities			Condition	n	
	IMS	IUT	UE2			
	IUT not configured for topology hiding		hiding			
		✓		IUT configured for IMS AKA authentication		
	✓	✓	✓	UE2 has sent unprotected REGISTER and has received 401 response		
	✓		✓	UE2 visiting IMS		
	✓	✓		IUT configured with an entry point to IMS		
	IMS	IUT	UE2			
Step		Direction		Messag	e	IF
1	₩,	£		subsequent REGISTER originated by UE2 ✓ Authorization header × authentication challenge response parameter × AUTS parameter → invalid MAC parameter		Mw
2	₽		403 response to UE2 ✓ P-Charging-Vector header ✓ orig-ioi parameter → type1		Mw	

6.2.3 Initial request procedures

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_IN	II_06			
Summ	ary:	2xx respon own Recor association	se as a resurd Route end a and either	ılt of a forv try with its	etween the UE and P-CSCF, when warded request for an initial dialo s own SIP URI with the protected CF FQDN or the P-CSCF IP addre	g, it shall replace in the res server port number of the	ponse its
Clause		5.2.6.3.4 it	em 4		ı		
Refere		-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
		Enti	ities		Conditi	on	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology hiding		
	✓		✓		UE1 registered in IUT		
	✓				UE1 has established a security association		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓		IUT has received INVITE addre	ssed to UE2	
		✓	✓		IUT has sent INVITE addressed	to UE2	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Messa	ge	IF
1		₩	卦		180 response to UE1		Mw
2	₹a		Ф		180 response to UE1 ✓ Record Route header ✓ SIP URI of IUT P-CSCF → port number of IUT P-C association → IP address of IUT P-CS or FQDN address of IU	CF	Gm

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_IN	II_07			
Summ	ary:	2xx respon own Recor	se as a resu d Route en	ılt of a for try with its	etween the UE and P-CSCF, when a warded request for an initial dialog, s own SIP URI with the protected so CF FQDN or the P-CSCF IP address	it shall replace in the resperver port number of the s	onse its
Clause	:	5.2.6.3.4 it	em 4				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	_	
		Enti	ities		Condition	n	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology hiding		
	✓		✓		UE1 registered in IUT		
	✓				UE1 has established a security association		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓		IUT has received INVITE address	ed to UE2	
		✓	✓		IUT has sent INVITE addressed to	UE2	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Message	;	IF
1		₩	∌		200 response to UE1		Mw
2	₹a		Ф		200 response to UE1 ✓ Record Route header ✓ SIP URI of IUT P-CSCF → port number of IUT P-CSC association → IP address of IUT P-CSC or FQDN address of IUT	F	Gm

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_IN	NI_08			
Summ	•	shall remothe value s registration	ve the P-Pr aved from a display na	eferred-Id the P-Call	xx or 2xx response to an initial reentity header, if present, and insered-Party-ID header that was receilable.	t a P-Asserted-Identity hea	der with
Clause		5.2.6.4.4 item 1			C6" - D6	CE 1M-1C-	
Refere IUT R		- IMS			Config Ref: Selection Expression:	CF_1Mw1Gm PICS A.2/1	
IUIK	oie:	Enti	itios		Condit		
	UE1 IMS IUT UE2		IIF2	Condit	1011		
	OEI	11/15	×	OEZ	IUT not configured for topology	hiding	
	√		✓		UE1 registered in IUT	munig	
	✓		✓		IUT has stored display name of	 UE1	
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓	✓	IUT has received INVITE via Maddressed to UE1		
	✓		✓		IUT has sent INVITE via Gm to	UE1	
	✓		✓		IUT has stored P-Called-Party-I	D header of UE1	
	✓		✓		IUT has stored display name of	UE1	
	UE1	IMS	IUT	UE2			
Step		Dire	ction	•	Messa	ge	IF
1	∌		∌		180 response to UE2 ✓ P-Preferred-Identity header		Gm
2		(Ez	Ŷħ		180 response ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ stored display name parar	➤ P-Preferred-Identity header	

Test Purpose								
Identifier:		TP_IMST2_MW_INI_09						
Summary:		When a P-CSCF receives SIP 1xx or 2xx response to an initial request for a dialogue from a UE, it shall remove the P-Preferred-Identity header, if present, and insert a P-Asserted-Identity header with the value saved from the P-Called-Party-ID header that was received in the initial request and the registration display name if available.						
Clause:		5.2.6.4.4 item 1						
References:		-			Config Ref:	CF_1Mw1Gm		
IUT Role:		IMS			Selection Expression:	PICS A.2/1		
		Entities			Condition			
	UE1	IMS	IUT	UE2				
			×		IUT not configured for topology hiding			
	✓		✓		UE1 registered in IUT			
	✓		✓		IUT has stored display name of UE1			
		✓		✓	UE2 registered in IMS			
		✓	✓		IUT configured with an entry point to IMS			
	✓		✓	✓	IUT has received INVITE via Mw originated by UE2 addressed to UE1			
	✓		✓		IUT has sent INVITE via Gm to UE1			
	✓		✓		IUT has stored P-Called-Party-ID header of UE1			
	✓		✓		IUT has stored display name of UE1			
	UE1	IMS	IUT	UE2				
Step		Direction			Message		IF	
1	❖		卦		200 response to UE2 ✓ P-Preferred-Identity header		Gm	
2		(E	Ćμ		200 response ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ stored display name parameter		Mw	

					Test Purpose							
Identif	fier:	TP_IMST	2_MW_IN	VI_10								
Summ	ary:	Via header the same d	When a P-CSCF receives SIP 1xx or 2xx response to an initial request for a dialogue from a UE, Via headers do not match the saved list of Via headers received in the initial request corresponding the same dialog, it either discards the response or replaces the Via header with the ones from the initial request.									
Clause	:	5.2.6.4.4 it	5.2.6.4.4 item 2									
Refere	ences:	-			Config Ref:	CF_1Mw1Gm						
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.4.1						
		Ent	ities		Condit	ion						
	UE1	IMS	IUT	UE2								
			×		IUT not configured for topology	hiding						
	✓		✓		UE1 registered in IUT							
		✓		✓	UE2 registered in IMS							
		✓	✓		IUT configured with an entry po	oint to IMS						
	✓		✓	✓	IUT has received INVITE via Mw originated by UE2 addressed to UE1							
	✓		✓		IUT has sent INVITE to UE1							
			✓		IUT has stored Via header							
	UE1	IMS	IUT	UE2								
Step		Dire	ction		Messa	ge	IF					
1	∌		Ð		180 response to UE2 ✓ Via header not matching sto	ored Via header	Gm					
2a		℃ ∥	⇔		180 response		Mw					
2b		Ĉī.	ФД		180 response ✓ Via header → stored Via header		Mw					

					Test Purpose							
Identi	fier:	TP_IMST	2_MW_IN	VI_11								
Summ	ary:	Via header the same d	When a P-CSCF receives SIP 1xx or 2xx response to an initial request for a dialogue from a UE, Via headers do not match the saved list of Via headers received in the initial request correspondin the same dialog, it either discards the response or replaces the Via header with the ones from the initial request.									
Clause	e :	5.2.6.4.4 it	em 2									
Refere	ences:	-			Config Ref:	CF_1Mw1Gm						
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.4.1						
		Ent	ities		Conditi	on						
	UE1	IMS	IUT	UE2								
			×		IUT not configured for topology	hiding						
	✓		✓		UE1 registered in IUT							
		✓		✓	UE2 registered in IMS							
		✓	✓		IUT configured with an entry point to IMS							
	✓		✓	✓	IUT has received INVITE via Maddressed to UE1	w originated by UE2						
	✓		✓		IUT has sent INVITE to UE1							
			✓		IUT has stored Via header							
	UE1	IMS	IUT	UE2								
Step		Dire	ction		Messa	ge	IF					
1	₩		∌		200 response to UE2 ✓ Via header not matching sto	red Via header	Gm					
2a		℃	114		200 response		Mw					
2b		Ŷŧ <u>z</u>	ф		200 response ✓ Via header → stored Via header		Mw					

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_IN	II_12						
Summ	ary:	with a Record-Rocord-Rocheader valuadds to the URI and the the P-CSC.	When a P-CSCF receives SIP 1xx or 2xx response to an initial request for a dialogue from a UE, ith a Record-Route header including a list of URIs different to the one received in the ecord-Route header of the initial request, discards the response or replaces the Record-Route eader values with those received in the initial request. If a security association exists, the P-CSCF dds to the Record-Route header the port number of its own Record-Route entry with its own SIP RI and the port number where it awaits subsequent requests from the calling party and with either the P-CSCF FQDN that resolves to its IP address; or the P-CSCF IP address; and remove the comparameter if present.							
Clause	:	5.2.6.4.4 it	em 3			T				
Refere	References: -				Config Ref:	CF_1Mw1Gm				
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/1, A.3/25.4.2				
		Enti	I		Condition	on				
	UE1	IMS	IUT	UE2						
			×		IUT not configured for topology	hiding				
	√		✓		UE1 registered in IUT					
	✓				UE1 has established a security as	sociation				
		√		✓	UE2 registered in IMS					
		√	✓		IUT configured with an entry poi					
	√		✓	✓	IUT has received INVITE via My addressed to UE1	w originated by UE2				
	✓		✓		IUT has sent INVITE to UE1					
			✓		IUT has stored Record-Route hea	der				
	UE1	IMS	IUT	UE2						
Step		Direc	ction		Messag	e	IF			
1	\$		£		180 response to UE2 ✓ Record-Route header not ma Route header	tching stored Record-	Gm			
2a		€ ∥	1144		180 response		Mw			
2b		∜च	Ф		180 response ✓ Record-Route header → stored Record-Route head → port number of Record-Route CSCF → SIP URI port number of IV → FQDN address of IUT P-CS * comp parameter	oute header of IUT P- UT P-CSCF CSCF	Mw			

					Test Purpose		
Identi	fier:	TP_IMST	2_MW_IN	II_13			
Summ	ary:	with a Record-Ro Record-Ro header valuadds to the URI and the	ord-Route I oute header ues with the Record-Ro ne port num F FQDN th	neader inc of the init ose receive oute heade ber where	exx or 2xx response to an initial requilibrium a list of URIs different to the ial request, discards the response of the initial request. If a security of the port number of its own Record it awaits subsequent requests from a to its IP address; or the P-CSCF I	e one received in the r replaces the Record-Rout y association exists, the P-O d-Route entry with its own the calling party and with	e CSCF SIP either
Clause		5.2.6.4.4 it	em 3			T	
Refere	References:				Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.4.2	
		Enti	l		Condition	on	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology	hiding	
	✓		✓		UE1 registered in IUT		
	✓				UE1 has established a security as	sociation	
		√		√	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓	✓	IUT has received INVITE via Mw originated by UE2 addressed to UE1		
	✓		✓		IUT has sent INVITE to UE1		
			✓		IUT has stored Record-Route hea	der	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Messag	e	IF
1	\$		⋽		200 response to UE2 ✓ Record-Route header not ma Route header	tching stored Record-	Gm
2a		€ ∥	1144		200 response		Mw
2b		€±	Ŷħ		200 response ✓ Record-Route header → stored Record-Route head → port number of Record-Route CSCF → SIP URI port number of IU → FQDN address of IUT P-C or IP address of IUT P-CS * comp parameter	ute header of IUT P- UT P-CSCF CSCF	Mw

					Test Purpose							
Identi	fier:	TP_IMST	2_MW_IN	II_14								
Summ	ary:	UE for a din the initia	When a P-CSCF receives any other response other than a SIP 1xx or a 2xx to an initial request to UE for a dialogue and if the list of Via headers does not match the saved list of Via headers received the initial request corresponding to the same dialog, it shall either discard the response or replaced the Via header values with those received in the initial request.									
Clause	e:	5.2.6.4.4 so	econd numl	pered list								
Refere	ences:	-			Config Ref:	CF_1Mw1Gm						
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.4.1						
		Ent	ities		Condit	ion						
	UE1 IMS IUT UE2											
			×		IUT not configured for topology	y hiding						
	✓		✓		UE1 registered in IUT							
		✓		✓	UE2 registered in IMS							
		✓	✓		IUT configured with an entry point to IMS							
	✓		✓	✓	IUT has received INVITE via Mw originated by UE2 addressed to UE1							
	✓		✓		IUT has sent INVITE to UE1							
			✓		IUT has stored Via header							
	UE1	IMS	IUT	UE2								
Step		Dire	ction		Messa	ige	IF					
1	₩		∌		4xx response to UE2 ✓ Via header not matching sto	ored Via header	Gm					
2a		€	1144		4xx response		Mw					
2b		रींच	Ф		4xx response ✓ Via header → stored Via header		Mw					

					Test Purpose						
Identif	fier:	TP_IMST	2_MW_IN	II_15							
Summ	ary:	request fro forwarding	If a P-CSCF requires periodic refreshment of a session established after receiving a SIP INVITE request from a UE the P-CSCF shall insert a Session-Expires header field in the request before forwarding it if none was present in the request. The proxy SHALL NOT include a refresher parameter in the header field value.								
Clause	:	5.2.7.2, RF	C 4028 [8]	, clause 8							
Refere	ences:	_			Config Ref: CF_1Mw1Gm						
IUT R	ole:	IMS			Selection Expression: PICS A.2/1, A.3/26.1.1	_					
	Entities				Condition						
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topology hiding						
			✓		IUT configured for requiring periodic refreshment						
	✓		✓		UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry point to IMS						
	UE1	IMS	IUT	UE2							
Step		Direc	ction	·	Message	IF					
1	₽		卦		INVITE to UE2 ★ Session-Expires header	Gm					
2		Ŷ Ŀ	ф		INVITE ✓ Session-Expires header × refresher parameter	Mw					
3	Ŷ Ŀ		Ą		100 response	Gm					

					Test Purpose						
Identi	fier:	TP_IMST	2_MW_IN	II_16							
Summ	ary:	request fro forwarding	a P-CSCF requires periodic refreshment of a session established after receiving a SIP INVITE equest from a UE the P-CSCF shall insert a Session-Expires header field in the request before browarding it if none was present in the request. The duration should not be lower than the value in the Min-SE header field in the request, if it is present.								
Clause	:	5.2.7.2, RF	C 4028 [8]	, clause 8							
Refere	ences:	-			Config Ref:	CF_1Mw1Gm					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/26.1.1					
	Entities				Condition	on					
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topology	hiding					
			✓		IUT configured for requiring periodic refreshment						
	✓		✓		UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry poi	int to IMS					
	UE1	IMS	IUT	UE2							
Step		Direc	ction	•	Messag	ge	IF				
1	₽		Ð		INVITE to UE2 ★ Session-Expires header ✓ Min-SE header		Gm				
2		ŶĠ.	Ϋ́		INVITE ✓ Session-Expires header ✓ duration parameter greater than Min-SE header		Mw				
3	Ŷ:		ф	_	100 response		Gm				

					Test Purpose						
Identif	ier:	TP_IMST2	2_MW_INI	_18							
Summa	ary:	request des before forv	If a P-CSCF requires periodic refreshment of a session established after receiving a SIP INVITE request destined for a UE the P-CSCF shall insert a Session-Expires header field in the request before forwarding it if none was present in the request. The proxy SHALL NOT include a refresher parameter in the header field value.								
Clause	:	RFC 4028	[8], clause	8							
Refere	ences:	-			Config Ref:	CF_1Mw1Gm					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/26.2.1					
	Entities				Condition	on					
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topology	hiding					
			✓		IUT configured for requiring per	iodic refreshment					
	✓		✓		UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry poi	nt to IMS					
	UE1	IMS	IUT	UE2							
Step		Dire	ction		Messag	e	IF				
1		₽	Ð		INVITE originated by UE2 to U ★ Session-Expires header	E1	Mw				
2	(E		ф		INVITE to UE1 ✓ Session-Expires header × refresher parameter		Gm				
3		€	Ą		100 response		Mw				

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_IN	I_19						
Summ	ary:	request des before forv	tined for a varding it if	UE the P-0 none was	freshment of a session establisher CSCF shall insert a Session-Exp present in the request. The dural in the request, if it is present.	ires header field in the reques	st			
Clause):	5.2.7.2, RF	.2.7.2, RFC 4028 [8], clause 8							
Refere	ences:	-			Config Ref:	CF_1Mw1Gm				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/26.2.1				
		Enti	ities		Condi	tion				
	UE1	IMS	IUT	UE2						
			×		IUT not configured for topolog	y hiding				
			✓		IUT configured for requiring po	eriodic refreshment				
	✓		✓		UE1 registered in IUT					
		✓		✓	UE2 registered in IMS					
		✓	✓		IUT configured with an entry p	oint to IMS				
	UE1	IMS	IUT	UE2						
Step		Direc	etion		Messa	age	IF			
1		₽	£Ŷ		INVITE originated by UE2 to ★ Session-Expires header ✓ Min-SE header	INVITE originated by UE2 to UE1 Session-Expires header				
2	Ŷ Ŀ		Ą		INVITE to UE1 ✓ Session-Expires header ✓ duration parameter greater than Min-SE header		Gm			
3		ीद	¢ħ		100 response		Mw			

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_IN	VI_20					
Summ	ary:				ial SIP INVITE request destine se before forwarding the INVIT		with a SIP		
Clause	e:	5.2.7.3 par	agraph 2						
Refere	ences:	-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1			
		Enti	ities		Cond	lition			
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topolo	gy hiding			
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry	point to IMS			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Mes	sage	IF		
1		₩	∌		INVITE to UE1		Mw		
2		€.	Ýħ.		100 response		Mw		
3	Œ		¢ħ		INVITE to UE1		Gm		

					Test Purpose						
Identi	fier:	TP_IMST	2_MW_IN	II_21							
Summ	ary:	parameters	When a S-CSCF receives a response to an initial request and the response contains term-ioi parameters and is not destined for an AS, the S-CSCF shall remove all received ioi parameters from the P-Charging-Vector header before forwarding the response.								
Clause	e:	5.4.3.2 bef	ore NOTE	20							
Refere	ences:	-			Config Ref:	CF_1Gm1Mw					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3					
		Ent	ities		Cond	ition					
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topolog	gy hiding					
	✓		✓		UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry	point to IMS					
	✓		✓	✓	IUT has sent INVITE from UI	E1 to UE2 via Mw					
	UE1	IMS	IUT	UE2							
Step		Dire	ction		Mess	sage	IF				
1			Ŷŧ.	∜ग्ने	200 response to UE1 ✓ P-Charging-Vector header ✓ ioi parameter		Mw				
2	ŶĿ.		क्र		200 response to UE1 ★ P-Charging-Vector header ✓ ioi parameter		Gm				

					Test Purpose		
Identif	fier:	TP_IMS	T2_MW	_INI_22			
Summ	ary:		ıblic user		nitial request for a new dialogue -CSCF shall reject the request by	•	
Clause	:	5.4.3.3 fi	rst numbe	ered list item 1			
Refere	ences:	-			Config Ref:	CF_1Mw	
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/3	
		Er	ntities		Condit	tion	
	IMS]	IUT	UE2			
			×		IUT not configured for topolog	y hiding	
	✓			✓	UE2 registered in IMS		
			×	×	UE2 not registered in IUT		
	✓	la de la companya de	✓		IUT configured with an entry point to IMS		
	IMS]	IUT	UE2			
Step		Dir	ection		Messa	nge	IF
1	₩		£		INVITE ✓ Request URI ✓ barred public user identity		Mw
2	Ŷ:		Ą		404 response to UE2		Mw

					Test Purpose			
Identif	fier:	TP_	IMST2_MW	_INI_23				
Summ	ary:				initial request and the Request URI contains an invalid GRUU, the Sysending a SIP 4xx response.			
Clause	:	5.4.3	3.3 first numbe	ered list 3A				
Refere	ences:	-			Config Ref:	CF_1Mw		
IUT R	UT Role: IMS				Selection Expression:	PICS A.2/3		
	Entities				Condition	n		
	IMS IUT UE2		UE2					
			×		IUT not configured for topology h	iding		
	✓		✓		UE2 registered in IMS			
	✓		✓		IUT configured with an entry point to IMS			
	IMS		IUT	UE2				
Step			Direction		Message		IF	
1	₹ ₽		Ą	INVITE ✓ Request URI ✓ invalid GRUU parameter		Mw		
2	Œ		Ą		4xx response to UE2		Mw	

					Test Purpose		
Identi	fier:	TP_	IMST2_MW	_INI_24			
Summ	ary:	that		bed-to by the		ed-Service header indicates a so he request by sending a SIP 40	
Clause	e:	5.4.3	3.3 first numbe	ered list 3C			
Refere	ences:	-			Config Ref:	CF_1Mw	
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/3	
			Entities		Condition		
	IMS		IUT	UE2			
			×		IUT not configured for topol	ogy hiding	
	✓		✓		UE2 registered in IMS		
	✓		✓		IUT configured with an entry point to IMS		
			✓		IUT configured to reject unsu	ubscribed service	
	IMS		IUT	UE2			
Step		•	Direction		Me	ssage	IF
1			Ĉ:	Ą	INVITE ✓ P-Asserted-Service header → unsubscribed service		Mw
2	Œ		¢ħ		403 response to UE2		Mw

					Test Purpose		
Identi	fier:	TP_	_IMST2_MW	_INI_25			
Summ	ary:	indi		that is not sub	nitial request without P-Asserted- oscribed-to by the user, the S-CSO esponse.		
Clause	e:	5.4.	3.3 first numbe	ered list 3D			
Refere	ences:	-			Config Ref:	CF_1Mw	
IUT R	UT Role: IMS				Selection Expression:	PICS A.2/3	
	Entities				Condit	ion	
	IMS IUT UE2		UE2				
			×		IUT not configured for topology	hiding	
	✓	✓ ✓			UE2 registered in IMS		
	✓		✓		IUT configured with an entry po	oint to IMS	
			✓		IUT configured to reject unsubs	cribed service	
	IMS		IUT	UE2			
Step		,	Direction		Messa	ge	IF
1	€ 4		ф	INVITE ★ P-Asserted-Service header ✓ SDP offer → unsubscribed service		Mw	
2	Ŷ Ŀ		Ą		403 response to UE2		Mw

6.2.4 Standalone requests procedures

					Test Purpose							
Identi	fier:	TP_IMST	2_MW_ST	ΓΑ_01								
Summ	ary:	in the Rout successful Request) re request wit	When a P-CSCF receives a request for a standalone transaction from a UE, containing a list of URIs in the Route header different to the stored values of the Service-Route header from the last successful registration or re-registration, then the P-CSCF shall either return a SIP 400 (Bad Request) response and not forward the request or replace the received Route header value in the request with the value of the Service-Route header received during the last SIP 200 (OK) response for a registration or reregistration.									
Clause	e :	5.2.6.3.7 it	em 2									
Refere	ences:	-			Config Ref:	CF_1Mw1Gm						
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/24.8.1						
	Entities				Cone	dition						
	UE1	IMS	IUT	UE2								
			×		IUT not configured for topolo	ogy hiding						
	✓		✓		UE1 registered in IUT							
	✓		✓		IUT has stored Service-Route	header of UE1						
		✓		✓	UE2 registered in IMS							
		✓	✓		IUT configured with an entry	point to IMS						
	UE1	IMS	IUT	UE2								
Step		Direc	ction		Mes	ssage	IF					
1	\$		£		MESSAGE to UE2 ✓ Route header not matchinheader	ng stored Service-Route						
2a		&	114		MESSAGE		Mw					
3a	€z		Ŷħ		400 response	400 response						
2b		Ŷ a	Å		MESSAGE ✓ Route header ✓ stored Record-Route header	eader	Mw					

					Test Purpose							
Identif	fier:	TP_IMST	2_MW_ST	A_02								
Summ	ary:	P-Preferred representin	When a P-CSCF receives request for a standalone transaction from a UE, it shall remove the P-Preferred-Identity header, if present, and insert a P-Asserted-Identity header with a value representing the initiator of the request and including display name if previously stored during registration.									
Clause	:	5.2.6.3.7 it	em 4									
Refere	References: -				Config Ref:	CF_1Mw1Gm						
IUT R	UT Role: IMS		Selection Expression:	PICS A.2/1								
	Entities			Condition	on							
	UE1	IMS	IUT	UE2								
			×		IUT not configured for topology	hiding						
	✓		✓		UE1 registered in IUT							
	✓		✓		IUT has stored display name of U	JE1						
		✓		✓	UE2 registered in IMS							
		✓	✓		IUT configured with an entry poi	nt to IMS						
	UE1	IMS	IUT	UE2								
Step		Direc	ction		Messag	e	IF					
1	\$		Ð		MESSAGE to UE2 ✓ P-Preferred-Identity header							
2		(L	ĥ		MESSAGE ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ stored display name param	eter	Mw					

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_S7	ΓΑ_03			
Summ	ary:		CSCF receider with the		st for a standalone transaction f meter.	rom a UE it shall add a P-Ch	arging-
Clause	:	5.2.6.3.7 it	em 5				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
	Entities				Cond	lition	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topolo	gy hiding	
	✓		✓		UE1 registered in IUT		
	✓		✓		IUT has stored Service-Route	header of UE1	
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry	point to IMS	
	UE1	IMS	IUT	UE2			
Step		Direc	ction	,	Mes	sage	IF
1	\$		卦		MESSAGE to UE2		
2		Ŷ±.	ф		MESSAGE ✓ P-Charging-Vector heade ✓ icid parameter	r	Mw

					Test Purpose	
Identif	fier:	TP_IMST	2_MW_S7	ΓA_04		
Summ	ary:	When a P-forward the			esponse to a forwarded request for a standalone transaction, i	t shall
Clause) :	5.2.6.3.8				
Refere	ences:	-			Config Ref: CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression: PICS A.2/1	
	Entities				Condition	
	UE1	IMS	IUT	UE2		
			×		IUT not configured for topology hiding	
	✓		✓		UE1 registered in IUT	
		✓		✓	UE2 registered in IMS	
		✓	✓		IUT configured with an entry point to IMS	
	✓		✓	✓	IUT has received MESSAGE from UE1 via Gm addressed to UE2	
			✓		IUT has sent MESSAGE via Mw	
	UE1	IMS	IUT	UE2		
Step	i i	Dire	etion		Message	IF
1		₩	Ð		200 response originated by UE2 to UE1	Mw
2	Ŷ _z		Ŷħ		200 response to UE1	Gm

					Test Purpose							
Identi	fier:	TP_IMST	2_MW_S7	TA_05								
Summ	ary:	that does in the receive security as that resolve	When a P-CSCF receives request for a standalone transaction or a request for an unknown method (that does not relate to an existing dialog) destined for a UE, it shall add its own address to the top of the received list of Via header in a format that contains the protected server port number of the security association, if established, between the UE and the P-CSCF and either the P-CSCF FQDN that resolves to the IP address of the security association or the P-CSCF IP address of the security association.									
Clause	e:	5.2.6.4.7 it	em 2									
Refere	ences:	-			Config Ref:	CF_1Mw1Gm						
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1						
		Enti	ities		Condition	n						
	UE1	IMS	IUT	UE2								
			×		IUT not configured for topology h	niding						
	✓		✓		UE1 registered in IUT							
	✓				UE1 has established a security ass	sociation						
		✓		✓	UE2 registered in IMS							
		✓	✓		IUT configured with an entry poir	nt to IMS						
	UE1	IMS	IUT	UE2								
Step		Direc	ction		Message	2	IF					
1		₩	∌		MESSAGE originated by UE2 to	UE1	Mw					
2	₹£		ф		MESSAGE to UE1 ✓ Via header ✓ port number of IUT P-CSC ✓ FQDN address of IUT P-CSC or IP address of IUT P-CSC association	SCF	Gm					

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_S1	TA_06			
Summ	ary:	the list of V	/ia headers	does not i	esponse to a request for a standa match the saved list of Via head the Via header values with those	ers received in the request, eit	
Clause	:	5.2.6.4.8 it	em 1				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.10.1	
		Enti	ties		Cond	ition	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topolog	gy hiding	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓		IUT has received MESSAGE addressed to UE1	via Mw originated by UE2	
	✓		✓		IUT has sent MESSAGE via C	Gm to UE1	
			✓		IUT has stored Via header		
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Mess	sage	IF
1	∌		侴		200 response ✓ Via header not matching stored Via header		Gm
2a		€ ∥	114		200 response		Mw
2b		₹ E	ŶД		200 response ✓ stored Via header		Mw

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_S1	Γ A_07					
Summ	ary:	remove the	P-Preferre	ed-Identity ntity from t	response to a request for a standalone transaction destined for a UE, y header, if present, and insert a P-Asserted-Identity header with the the P-Called-Party-ID header of the request plus the display name if ration.				
Clause	:	5.2.6.4.8 it	em 2		Ť				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1			
		Enti	ties		Condi	ion			
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topology hiding				
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry point to IMS				
	✓		✓	~	IUT has received MESSAGE v addressed to UE1	ia Mw originated by UE2			
	✓		✓		IUT has sent MESSAGE via G	m to UE1			
			✓		IUT has stored public user iden header	tity from P-Called-Party-ID			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Messa	ige	IF		
1	₽		∌		200 response to UE2 ✓ P-Preferred-Identity header				
2		∜च	ĥ		200 response to UE2 ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ stored public user identity ✓ stored display name para	y	Mw		

6.2.5 Subsequent requests on a dialogue procedures

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_SU	JB_01					
Summ	ary:	relate to an	existing di	alogue in	equent request, other than a tar which the originator is involve o the originator and not forwar	d then the P-CSCF shall send			
Clause	:	5.2.6.3.9 it	em 1a						
Refere	ences:	-			Config Ref:	CF_1Mw1Gm			
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/1			
Entities					Cond	lition			
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topolo	gy hiding			
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry	point to IMS			
	✓			✓	UE1 has established an INVI	ΓE dialogue with UE2			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Mes	sage	IF		
1	Ð		¥		BYE ✓ Call-ID header → existent dialog		Gm		
2		€ ∥	4		BYE		Mw		
3	Ŷ Ŀ		Ð		403 response		Gm		

					Test Purpose							
Identif	fier:	TP_IMST	2_MW_SU	JB_02								
Summ	ary:	containing header for response ar	When a P-CSCF receives a subsequent request, other than a target refresh request, from a UE, ontaining a list of URIs in the Route header different to the stored values of the Service-Route eader for the existing dialogue then the P-CSCF shall either return a SIP 400 (Bad Request) esponse and not forward the request or replace the received Route header value in the request with the stored value of the Service-Route header for the same dialogue.									
Clause	:	5.2.6.3.9 it	em 2									
Refere	ences:	-			Config Ref:	CF_1Mw1Gm						
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/24.10.1						
		Enti	ties		Conditi	ion						
	UE1	IMS	IUT	UE2								
			×		IUT not configured for topology	hiding						
	✓		✓		UE1 registered in IUT							
	✓		✓		IUT has stored Record-Route he	eader of UE1						
		✓		✓	UE2 registered in IMS							
		✓	✓		IUT configured with an entry po	oint to IMS						
	✓			✓	UE1 has established an INVITE	dialogue with UE2						
	UE1	IMS	IUT	UE2								
Step		Direc	ction		Messa	ge	IF					
1	₽		£		BYE ✓ Route header not matching header	stored Record-Route	Gm					
2b		€	4		ВУЕ		Mw					
3b	Ŷŧ		Ą		400 response		Gm					
2a		(E	Ą		BYE ✓ Route header ✓ stored Record-Route head	ler	Mw					

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_SU	JB_03			
Summ	ary:				sequent request, other than a tai lialogues, it shall add a P-Charg		
Clause	2:	5.2.6.3.9 it	em 3				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	_
		Enti	ities		Condition		
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology hiding		
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry	point to IMS	
	✓			✓	UE2 has established a SUBSO	CRIBE dialogue with UE1	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Mes	sage	IF
1	\$		卦		PUBLISH		Gm
2		Œ	Å		PUBLISH ✓ P-Charging-Vector heade ✓ icid parameter	or	Mw

					Test Purpose				
Identif	ier:	TP_IMST	2_MW_SU	JB_04					
Summ	ary:	request doe	P-CSCF receives a subsequent request, other than a target refresh request, for a UE, if the does not relate to an existing dialogue in which the originator is involved, then the P-CSCF and a SIP 403 (Forbidden) response back to the originator and not forward the request.						
Clause	:	5.2.6.3.9 it	.2.6.3.9 item 1a						
Refere	nces:	-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1			
		Enti	ities		Cond	lition			
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topolo	gy hiding			
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry point to IMS				
	✓			✓	UE2 has established an INVI	ΓE dialogue with UE1			
	UE1	IMS	IUT	UE2					
Step		Direc	ction	•	Mes	sage	IF		
1		₩	∌		BYE to UE1 ✓ Call-ID header → existent dialog		Mw		
2	€ ∥		114		BYE to UE1		Gm		
3		€	Ą		403 response		Mw		

					Test Purpose						
Identif	fier:	TP_IMST	2_MW_SU	JB_05							
Summ	ary:	containing dialog, the request or	When a P-CSCF receives a subsequent request, other than a target refresh request, for a UE containing a list of Route headers different to the stored list of Record-Route headers for the same ialog, then the P-CSCF shall either return a SIP 400 (Bad Request) response and not forward the equest or replace the Route header value in the request with the stored list of Record-Route headers or the same dialogue.								
Clause	:	5.2.6.3.9 it	em 2								
Refere	ences:	-			Config Ref:	CF_1Mw1Gm					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/24.10.1					
		Enti	ities	_	Cone	dition					
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topolo	ogy hiding					
	✓		✓		UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry point to IMS						
	✓			✓	UE2 has established an INVI	TE dialogue with UE1					
			✓		IUT has stored Record-Route	header					
	UE1	IMS	IUT	UE2							
Step		Direc	ction		Mes	ssage	IF				
1		\$	Ð		BYE to UE1 ✓ Route header not matchineader	ng stored Record-Route	Mw				
2a	 		4		BYE to UE1		Gm				
3a		रिंद	Å		400 response		Mw				
2b	Œ		Å		BYE to UE1 ✓ stored Record-Route hea	der	Mw				

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_SU	JB_06			
Summ	ary:				equent request, other than a target relialogues, add a P-Charging-Vector h		
Clause	e:	5.2.6.2.9 it	em 3				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
		Enti	ties		Condition	1	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology hi	ding	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point	t to IMS	
	✓			✓	UE2 has established a SUBSCRIB	E dialogue with UE1	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Message		IF
1		₩	Ð		PUBLISH to UE1		Mw
2	ŶĿ,		Ą		PUBLISH to UE1 ✓ P-Charging-Vector header		Gm

					Test Purpose		
Identi	fier:	TP_IMST	2_MW_SU	J B_07			
Summ	ary:	add its own protected s P-CSCF ar	n address to server port indeither the	the top of number of P-CSCF	equent request, other than a target reference the received list of Via header in a the security association if one is est FQDN that resolves to the IP addrescurity association.	format that contains the ablished between the UE t	to the
Clause	:	5.2.6.4.9 it	em 1				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
		Ent	ities		Condition	1	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology h	iding	
	✓		✓		UE1 registered in IUT		
	✓				UE1 has established an IMS AKA security association		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry poin	t to IMS	
	✓			✓	UE2 has established an INVITE D	vialogue with UE1	
	UE1	IMS	IUT	UE2			
Step		Dire	ction		Message		IF
1		₩	Ð		BYE to UE1 originated by UE2		Mw
2	∜⊒		ф		BYE to UE1 ✓ Via header ✓ port number of IUT P-CSCH ✓ FQDN address of IUT P-CSCH or IP address of IUT P-CSCH association	CF	Gm

					Test Purpose				
Identii	fier:	TP_IMST	2_MW_SU	JB_07A					
Summ	ary:			eives a subsequent request, other than a target refresh request, for a UE, it should to the top of the received list of Via header.					
Clause	: :	5.2.6.4.9 it	em 2						
Refere	ences:	-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1			
		Ent	ities		Condition	1			
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topology h	iding			
	✓		✓		UE1 registered in IUT				
	✓		UE1 has established a digest without TLS security association		out TLS security				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry poin	t to IMS			
	✓			✓	UE2 has established an INVITE D	ialogue with UE1			
	UE1	IMS	IUT	UE2					
Step		Dire	ction		Message		IF		
1		₽	Ð		BYE to UE1 originated by UE2		Mw		
2	ŶĿ		ФД		BYE to UE1 ✓ Via header ✓ port number of IUT P-CSCF ✓ address of IUT P-CSCF	3	Gm		

					Test Purpose						
Identif	fier:	TP_IMST	2_MW_SU	JB_08							
Summ	ary:	the list of V request, the	When a P-CSCF receives a response to a subsequent request, other than a target refresh request, if he list of Via headers does not match the saved list of Via headers received in the subsequent equest, the P-CSCF shall either discard the response or replace the Via header values with those eccived in the subsequent request.								
Clause	:	5.2.6.4.10	item 1								
Refere	ences:	-			Config Ref:	CF_1Mw1Gm					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.12.1					
		Entities			Cond	ition					
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topological	gy hiding					
	✓		✓		UE1 registered in IUT	UE1 registered in IUT					
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry point to IMS						
	✓			✓	UE2 has established an INVIT	E Dialogue with UE1					
			✓		IUT has stored Via header						
	✓		✓	✓	IUT has received BYE via My addressed to UE1	v originated by UE2					
	✓		✓		IUT has sent BYE via Gm to U	JE1					
	UE1	IMS	IUT	UE2							
Step		Direc	ction		Mess	sage	IF				
1	Ð		₽		200 response to UE2 ✓ Via header not matching stored Via header		Gm				
2a		€	114		200 response		Mw				
2b		₹ Ez	Ą		200 response ✓ stored Via header		Mw				

					Test Purpose						
Identi	fier:	TP_IMST	2_MW_SU	JB_09							
Summ	ary:	session rele	If a P-CSCF receives a subsequent request within a dialogue for which it has previously initiat session release, the P-CSCF shall terminate the request and answer it with a SIP 481 (Call/Transaction Does Not Exist) response.								
Clause	2:	5.2.8.1.3 pa	5.2.8.1.3 paragraph 1								
Refere	ences:	-			Config Ref:	CF_1Mw1Gm					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1					
		Enti	ities		Cone	dition					
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topolo	ogy hiding					
	✓	✓			UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry point to IMS						
	✓				UE1 has established an INVI	TE dialog					
	✓		✓		IUT has received BYE from	UE1					
			✓		IUT has sent BYE via Mw						
	UE1	IMS	IUT	UE2							
Step		Direc	ction	•	Mes	ssage	IF				
1		4	∌		BYE to UE1		Mw				
2		₹	Ą		481 response to UE2		Mw				

					Test Purpose		
Identi	fier:	TP_IMST	2_MW_SU	JB_10			
Summ	ary:	expires wh initiated wi	ile there is ith the publ	still an act	f the only public user identity curtive dialogue that include this use entity currently registered, then the ser and shall send a SIP BYE requirements.	and where the session was e S-CSCF shall send a SIP E	BYE
Clause	e:	5.4.5.1.2A	; 5.4.5.1.2 i	tem 1			
Refere	ences:	-			Config Ref:	CF_1Gm1Mw	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
		Enti	ities	ı	Condit	on	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology	hiding	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS	UE2 registered in IMS	
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Messa	ge	IF
1					Registration of UE1 expires		
2	Œ		ŶŊ		BYE to UE1		Gm1
3		₹	Ŷ		BYE to UE2 ✓ Request-URI → stored Contact header from initial INVITE ✓ To header → To header from 200 response ✓ From header → From header from initial INVITE ✓ Call-ID header → From header from initial INVITE ✓ CSeq header as stored for direction calling to called ✓ Route header as stored for dialog ✓ Reason header		Mw

6.2.6 Target refresh request procedures

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_TA	AR_01			
Summ	ary:		er the reque		et refresh request not relating to an exing a SIP 403 (Forbidden) response l		
Clause	:	5.2.6.3.5 it	em 1a				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
		Enti	ities		Condition		
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology his	ding	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point	to IMS	
	×		×	×	IUT has not established an INVITE UE2	Edialogue from UE1 to	
	UE1	IMS	IUT	UE2			
Step		Direc	etion		Message		IF
1	₽		Ð		target refresh UPDATE to UE2		Gm
2		€ ∥	114		target refresh UPDATE to IMS		Mw
3	Œ		ÝД		403 response to UE1		Gm

					Test Purpose						
Identi	fier:	TP_IMST	2_MW_TA	AR_02							
Summ	ary:	header diff P-CSCF sh the receive	When a P-CSCF receives a target refresh request from a UE, containing a list of URIs in the Roheader different to the stored values of the Record-Route headers for the same dialog, then the P-CSCF shall either return a SIP 400 (Bad Request) response and not forward the request or repthe received Route header value in the request with the stored list of Record-Route headers for t same dialogue.								
Clause	:	5.2.6.3.5 it	em 2								
Refere	ences:	-			Config Ref: CF	_1Mw1Gm					
IUT R	ole:	IMS			Selection Expression: PIG	CS A.2/1, A.3/24.6.1					
		Enti	ities		Condition						
	UE1 IMS IUT UE2										
			×		IUT not configured for topology hidin	g					
	✓		✓		UE1 registered in IUT						
	✓		✓		IUT has stored Record-Route header of	of UE1					
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry point to IMS						
	✓		✓	✓	IUT has established an INVITE dialog	gue from UE1 to UE2					
	UE1	IMS	IUT	UE2							
Step		Direc	ction		Message		IF				
1	Ð		∌		target refresh INVITE to UE2 ✓ Route header not matching stored header	Record-Route					
2a		€ ∥	4		INVITE		Mw				
3a	€ t		Å		400 response		Gm				
2b		Ŷ <u>a</u>	Ŷħ		INVITE ✓ Route header ✓ stored Record-Route header		Mw				
3b	Æ.		Ŷħ		100 response		Gm				

					Test Purpose				
Identif	ier:								
Summ	ary:	header and the port nu Record-Ro address or	When a P-CSCF receives a target refresh request from a UE, it shall add its own address to the Value and to the Record-Route header, the P-CSCF SIP URI shall be built in a format that contains the port number of the P-CSCF where it awaits responses (in Via header) and subsequent request Record-Route header) from the called party, and either the P-CSCF FQDN that resolves to the II address or the P-CSCF IP address and updated access-network-charging-info parameter shall be included in the P-Charging-Vector header field.						
Clause) :	5.2.6.3.5 it	ems 1A,2,3	; 5.2.9.1					
Refere	nces:	-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1			
		Enti	ties		Condition	n			
	UE1 IMS IUT UE2		UE2						
			×		IUT not configured for topology h	iding			
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry point to IMS				
	✓		✓	✓	IUT has established an INVITE dialogue from UE1 to UE2				
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Message		IF		
1	Ð		₽		target refresh INVITE to UE2				
2		\tau	Ф		INVITE ✓ Route header × SIP URI of IMS P-CSCF ✓ Via header ✓ port number of IUT P-CSCF ✓ IP address of IUT P-CSCF or FQDN address of IUT P ✓ Record-Route header ✓ SIP URI of IUT P-CSCF → port number of IUT P-CSCF → FQDN address of IUT P-CSCF → FQDN address of IUT P-CSCF ✓ P-Charging-Vector header ✓ updated access-network-char	-CSCF SCF CSCF SCF	Mw		
3	Ŷ t		₽.		100 response		Gm		

Test Purpose							
Identif	fier:	TP_IMST2_MW_TAR_04					
Summary:		If a security association exists between the UE and P-CSCF, when a P-CSCF receives any SIP 1xx or 2xx response as a result of a forwarded target refresh request, it shall replace the address and port number of its own Record Route entry to the same value as for the response to the initial request for the dialogue.					
Clause:		5.2.6.3.6 item 1					
References:		-			Config Ref: CF_1Mw1Gm	CF_1Mw1Gm	
IUT Role:		IMS			Selection Expression: PICS A.2/1	PICS A.2/1	
		Entities			Condition		
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology hiding		
	✓		✓		UE1 registered in IUT		
	✓		✓		UE1 has established a security association in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	✓		✓		IUT has received target refresh INVITE from UE1		
			✓		IUT has sent target refresh INVITE via Mw		
	UE1	IMS	IUT	UE2			
Step	Step Direction				Message	IF	
1		₩	ⅎን		200 response	Mw	
2	Ŷī.		Å		200 response to UE1 ✓ Record Route header of IUT P-CSCF → same address same port number of IUT P-CSCF of response to initial INVITE	Gm	

					Test Purpose	
Identi	fier:	TP_IMST	2_MW_TA	AR_04A		
Summ	ary:				ween UE and P-CSCF, when a P-CSCF receives any SIP 1xx ded target refresh request, it shall forward target response.	or 2xx
Clause	Clause: 5.2.6.3.6					
Refere	ences:	-			Config Ref: CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression: PICS A.2/1	
		Ent	ities		Condition	
	UE1	IMS	IUT	UE2		
			×		IUT not configured for topology hiding	
	✓		✓		UE1 registered in IUT	
		✓		✓	UE2 registered in IMS	
		✓	✓		IUT configured with an entry point to IMS	
	✓		✓	✓	IUT has established an INVITE dialogue from UE1 to UE2	,
	✓		✓		IUT has received target refresh INVITE from UE1	
			✓		IUT has sent target refresh INVITE via Mw	
	UE1	IMS	IUT	UE2		
Step		Dire	etion		Message	IF
1		₩	Ð		200 response	
2	Œ		Ŷħ		200 response to UE1	Gm

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_TA	AR_05			
Summ	ary:	address to the between the association	the top of the UE and the and either	ne received ne P-CSCI the P-CSC	et refresh request for a dialogue dest d list of Via header in a format that it. F, contains the protected server port CF FQDN that resolves to the IP add security association.	f a security association ex number of the security	ists
Clause		5.2.6.4.5 it	em 1,3; 5.2	.9.2 parag			
Refere		-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
	Entities			T	Condition	1	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology h	iding	
	✓		✓		UE1 registered in IUT		
	✓				UE1 has established a security association with IUT P-CSCF		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓	✓	IUT has established an INVITE di	alogue from UE1 to UE2	
	✓		✓		IUT has received target refresh IN to UE1	VITE via Mw addressed	
	✓		✓		IUT has sent target refresh INVIT	E via Gm to UE1	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Message		IF
1		₽	Ð		target refresh INVITE to UE1		Mw
2	₹a		Ą		target refresh INVITE to UE1 ✓ Via header ✓ port number of IUT P-CSCF for security association ✓ as topmost the IP address of IUT P-CSCF or the FQDN address of IUT P-CSCF ✓ Record-Route header → as topmost the SIP URI of IUT P-CSCF		Gm
3		ीं	Å		100 response		Mw

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_TA	AR_05A			
Summ	ary:		the top of th	ne received	et refresh request for a dialogue d list of Via header in a format t F.		
Clause	:	5.2.6.4.5 it	em 2,4; 5.2	.9.2 parag	raph 1		
Refere	References: -			Config Ref:	Config Ref: CF_1Mw1Gm		
IUT Role:		IMS			Selection Expression:	PICS A.2/1	
		Enti	ties		Condition		
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topolog	gy hiding	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓		✓	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	✓		✓		IUT has received target refrest to UE1	n INVITE via Mw addressed	
	✓		✓		IUT has sent target refresh IN	VITE via Gm to UE1	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Mess	sage	IF
1		\$	£ŷ		target refresh INVITE to UE	1	Mw
2	∜च		Â		target refresh INVITE to UE1 ✓ Via header ✓ port number of IUT P-CSCF ✓ as topmost the address of IUT P-CSCF ✓ Record-Route header → as topmost the SIP URI of IUT P-CSCF		Gm
3		ŶŁ.	¢ħ		100 response		Mw

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_TA	AR_06			
Summ	ary:	for the UE,	, if the list o	of Via head onding to	ex or 2xx response to a target refre ders does not match the saved list of the same dialog, either discard the exercise request.	of Via headers received in the	ne
Clause	:	5.2.6.4.6 fi	rst number	ed list iten	11		
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT Role:		IMS			Selection Expression:	PICS A.2/1, A.3/25.7.1	
	Entities			Condition	on		
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology	hiding	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓			✓	UE2 has established an INVITE dialogue with UE1		
			✓		IUT has stored Via header		
	✓		✓	✓	IUT has received target refresh II by UE2 addressed to UE1	NVITE via Mw originated	
	✓		✓		IUT has sent target refresh INVI	ΓE to UE1	
	UE1	IMS	IUT	UE2			
Step		Direc	ction	,	Messag	ge	IF
1	\$		卦		200 response ✓ Via header not matching stor	red Via header	Gm
2a		€	4		200 response		Mw
2b		₹ a	Ŷħ		200 response ✓ Via header → stored Via header		Mw

					Test Purpose	
Identif	fier:	TP_IMST	2_MW_TA	AR_07		
Summ	ary:	for the UE, Route entry	if a securi y to the san arameter a	ty associat ne value as nd updated	xx or 2xx response to a target refresh request for a dialogue of tion exists, rewrite the address and port number of its own Response to the initial request for the dialogue and red access-network-charging-info parameter shall be included in	cord- move
Clause	Clause: 5.2.6.4.6 first numbered list item			ed list iten	n 2; 5.2.9.2 paragraph 2	
Refere	ences:	-			Config Ref: CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression: PICS A.2/1	
		Enti	ities		Condition	
	UE1	IMS	IUT	UE2		
			×		IUT not configured for topology hiding	
	✓		✓		UE1 registered in IUT	
	✓		✓		UE1 has established a security association with IUT	
		✓		✓	UE2 registered in IMS	
		✓	✓		IUT configured with an entry point to IMS	
	✓			✓	UE2 has established an INVITE dialogue with UE1	
			✓		IUT has stored Record-Route header	
	✓		✓	✓	IUT has received target refresh INVITE via Mw originated by UE2 addressed to UE1	
	✓		✓		IUT has sent target refresh INVITE to UE1	
	UE1	IMS	IUT	UE2		
Step		Direc	ction		Message	IF
1	\$		₽		200 response	Gm
2		€ _Z	Ŷħ		200 response ✓ Record-Route header → stored Record-Route header ✓ P-Charging-Vector header ✓ updated access-network-charging-info parameter	Mw

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_TA	AR_07A			
Summ	ary:	for the UE,	if a digest	without T	xx or 2xx response to a target refrest LS exists, updated access-network-or header field.		
Clause	:	5.2.6.4.6 fi	rst number	ed list iten	n 2; 5.2.9.2 paragraph 2		
Refere	References: -				Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
		Enti	ties		Condition	1	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology hiding		
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	✓			✓	UE2 has established an INVITE di	ialogue with UE1	
			✓		IUT has stored Record-Route head	ler	
	✓		✓	~	IUT has received target refresh IN by UE2 addressed to UE1	VITE via Mw originated	
	✓		✓		IUT has sent target refresh INVIT	E to UE1	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Message		IF
1	₩		Ð		200 response		Gm
2		Ŷŧ.	¢ħ		200 response ✓ P-Charging-Vector header ✓ updated access-network-cha	rging-info parameter	Mw

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_TA	AR_08					
Summ	ary:	request for Via header	a dialogue s received i	destined f	esponse other than the SIP 1xx or 2 for the UE, if the list of Via headers al request corresponding to the san der values with those received in the	s does not match the saved and dialog, either discard the	list of		
Clause	:	5.2.6.4.6 se	2.6.4.6 second numbered list item 1						
Refere	ences:	-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.8.1			
	Entities		T	Condition	on				
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topology	hiding			
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry point to IMS				
	✓			✓	UE2 has established an INVITE dialogue with UE1				
			✓		IUT has stored Via header				
	✓		✓	✓	IUT has received target refresh IN by UE2 addressed to UE1	NVITE via Mw originated			
	✓		✓		IUT has sent target refresh INVIT	ΓE to UE1			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Messag	e	IF		
1	\$		卦		4xx response ✓ Via header not matching stor	ed Via header	Gm		
2a		℃ ∥	1149		4xx response		Mw		
2b		₹ E	Ŷħ		4xx response ✓ Via header → stored Via header		Mw		

					Test Purpose				
Identi	fier:	TP_IMST	2_MW_TA	AR_09					
Summ	ary:	request for number of	When a P-CSCF receives any response other than the SIP 1xx or 2xx response to a target refresh request for a dialogue destined for a UE, if a security association exists, rewrite the address and port number of its own Record-Route entry to the IP address and the port number where it awaits subsequent requests from the calling party and remove the comp parameter.						
Clause	:	5.2.6.4.6 se	econd numl	bered list i	tem 2				
Refere	ences:	-			Config Ref: CF_1Mw1Gm				
IUT R	ole:	IMS			Selection Expression: PICS A.2/1				
		Enti	ities		Condition				
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topology hiding				
	✓		✓		UE1 registered in IUT				
	✓		✓		UE1 has established a security association with IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry point to IMS				
	✓			✓	UE2 has established an INVITE dialogue with UE1				
	✓		✓	✓	IUT has received target refresh INVITE via Mw originated by UE2 addressed to UE1				
	✓		✓		IUT has sent target refresh INVITE to UE1				
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Message	IF			
1	\$		∌		4xx response	Gm			
2		Ŷī	¢n		4xx response ✓ Record-Route header → IP address of IUT P-CSCF → port number of IUT P-CSCF * comp parameter	Mw			

					Test Purpose	
Identi	fier:	TP_IMST	2_MW_TA	AR_09A		
Summ	ary:				esponse other than the SIP 1xx or 2xx response to a tar for a UE, if digest without TLS exists, forward the resp	
Clause	:	5.2.6.4.6 se	econd numl	bered list		
Refere	ences:	-			Config Ref: CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression: PICS A.2/1	
		Enti	ities		Condition	
	UE1	IMS	IUT	UE2		
			×		IUT not configured for topology hiding	
	✓		✓		UE1 registered in IUT	
		✓		✓	UE2 registered in IMS	
		✓	✓		IUT configured with an entry point to IMS	
	✓			✓	UE2 has established an INVITE dialogue with UE1	
	✓		✓	✓	IUT has received target refresh INVITE via Mw orig by UE2 addressed to UE1	ginated
	✓		✓		IUT has sent target refresh INVITE to UE1	
	UE1	IMS	IUT	UE2		
Step		Direc	ction		Message	IF
1	₽		Ð		4xx response	
2		₹ .	Ą		4xx response	Mw

6.2.7 Emergency procedures

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_EME_01			
Summ	ary:	a dialogue and the identifiers, it shall	Request-URI insert an eme the URI of the	unregistered user an initial request contained in the request matches or rgency service URN into the Reque selected E-CSCF to the topmost R ss procedure.	ne of the emergency servicest-URI field and select an	ce
Clause	:	5.2.10.2 paragrapl	n 1; 5.2.7.2 par	ragraph 3		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		Conditio	n		
	UE1	IMS	IUT			
			×	IUT not configured for topology h	niding	
	×		×	UE1 not registered in IUT		
		✓	✓	IUT configured with an entry point	nt to IMS	
			✓	IUT configured for emergency sessions		
	UE1	IMS	IUT			
Step		Direction		Messago	2	IF
1	∌		र्चे	INVITE ✓ Request-URI matching an em	nergency service identifier	
2		€£	ф	INVITE ✓ Request URI → emergency service URN ✓ Route header ✓ topmost SIP URI of IUT E-CSCF		Mw
3	Ŷ Ŀ		Ą	100 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_EME_02			
	a dialogue and the Request-UR identifiers, it shall insert an em E-CSCF and add the URI of the			<u> </u>	one of the emergency servi est-URI field and select an oute header and continue	ce with
		5.2.10.2 item 1,2,3	3,3A; 5.2.7.2	1	CE 1M 1C	
Refere		- IMC		Config Ref:	CF_1Mw1Gm PICS A.2/1	
101 K	IUT Role: IMS		Selection Expression:			
	Entities UE1 IMS IUT		Condition	011		
	UEI	INIS	101 x	ILIT not configured for topology	aiding	
	×		×	IUT not configured for topology hiding		
	^		~	UE1 not registered in IUT IUT configured with an entry point to IMS		
		·	V ✓			
	TIES 4	DAG.	·	IUT configured for emergency se	ssions	
Chara	UE1	IMS	IUT	Marraga		IF
Step 1	\$	Direction	£Ŷ	Message INVITE ✓ P-Preferred-Identity header		11
2		₹ E	Ą	INVITE ✓ P-Preferred-Identity header × P-Asserted-Identity header ✓ Request-URI → emergency service URN ✓ Route header ✓ topmost SIP URI of IUT E-CSCF ✓ P-Charging-Vector header ✓ icid parameter		Mw
3	Œ		Ŷħ	100 response	0 response	

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_EME_03			
Summ	ary:	service, an initial	request that is ne of the emer	a UE, that has previously registered not a SIP REGISTER request, and regency service identifiers, the P-CSOI.	the Request-URI contained	d in the
Clause	2:	5.2.10.3 item 1; 5.	ph 3			
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		Condition	1		
	UE1	IMS	IUT			
			×	IUT not configured for topology h	iding	
	✓		✓	UE1 registered for emergency serv	vice in IUT	
		✓	✓	IUT configured with an entry point to IMS		
			✓	IUT configured for emergency sessions		
	UE1	IMS	IUT			
Step		Direction		Message		IF
1	₩		र्ज	INVITE ✓ Request-URI matching an emergency service identifier		
2		€ंद	ф	INVITE ✓ Request-URI → emergency service URN		Mw
3	Œ		Ą	100 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_EME_04			
Summ	ary:	service, an initial request matches of service URN in the registered emerge with the registered	request that is ne of the eme the Request-UF ncy public used the emergency p	a UE, that has previously registered on a SIP REGISTER request, and regency service identifiers the P-CSO and if the P-Preferred-Identity her identity, remove that header and it public user identity a second P-Asse istered emergency public user identity	the Request-URI contained CF shall include an emerge ader is present and carries insert a P-Asserted-Identity rted-Identity header with the	d in the ncy the header
Clause	:	5.2.10.3 item 1,10	C)i); 5.2.7.2 p	paragraph 3		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities		Conditio	n	
	UE1 IMS IUT		IUT			
			×	IUT not configured for topology h	niding	
	✓		✓	UE1 registered for emergency service in IUT		
			✓	IUT has stored display name		
		✓	✓	IUT configured with an entry poin	nt to IMS	
			✓	IUT configured for emergency sea	ssions	
	UE1	IMS	IUT			
Step		Direction		Messago	e	IF
1	\$		Ð	INVITE ✓ Request-URI matching an em ✓ P-Preferred-Identity header ✓ emergency public user iden		
2		Ĉ _I	₹₽	INVITE ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ emergency public user identity ✓ second P-Asserted-Identity header ✓ tel URI of emergency public user identity ✓ Request-URI → emergency service URN		Mw
3	ŶĿ		भ्र	100 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_EME_05			
Summ	service, an initial request that request matches one of the eservice URN in the Request tel-URI associated with the a P-Asserted-Identity header			a UE, that has previously registered not a SIP REGISTER request, and regency service identifiers, the P-CS I and if the P-Preferred-Identity he stered emergency public user identith the tel-URI associated with the red-Identity header with the registered	the Request-URI containe CF shall include an emerge ader is present and carries ty, remove that header and egistered emergency public	d in the ency the l insert c user
Clause	2:	5.2.10.3 item 1,10	C)ii); 5.2.7.2 p	paragraph 3		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities		Conditio	n	
	UE1	IMS	IUT			
			×	IUT not configured for topology h	niding	
	✓		✓	UE1 registered for emergency service in IUT		
			✓	IUT has stored display name		
		✓	✓	IUT configured with an entry point to IMS		
			✓	IUT configured for emergency sessions		
	UE1	IMS	IUT			
Step		Direction		Messago		IF
1	∌		Ð	INVITE ✓ Request-URI matching an en ✓ P-Preferred-Identity header ✓ tel URI of emergency publi		
2		र्देच	Ŷħ	INVITE ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ emergency public user identity ✓ second P-Asserted-Identity header ✓ tel URI of emergency public user identity ✓ Request-URI → emergency service URN		Mw
3	ŶĿ		47	100 response		Gm

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_EME_06			
Summ	ary:	containing GRUU	, it shall obta in the Reques	t refresh request for an emergency of in the UE IP address and UE protectst-URI and rewrite the Request-URI	ted server port related to	the
Clause	2:	5.2.10.3 last dashe	ed list; 5.2.6.4	1.5 item 2,4		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		Condition	n		
	UE1	IMS	IUT			
			×	IUT not configured for topology	hiding	
	✓		✓	UE1 registered for emergency ser	vice in IUT	
		✓	✓	IUT configured with an entry point to IMS		
			✓	IUT configured for emergency sessions		
	✓			UE1 has established an emergence	y session	
	UE1	IMS	IUT			
Step		Direction	•	Messag	e	IF
1	\$		卦	target refresh INVITE ✓ Request-URI ✓ GRUU		Gm
2		Ŷ Ŀ	Ą	INVITE ✓ Request-URI ✓ UE1 IP address protected server port number ✓ Via header ✓ port number of IUT P-CSCF ✓ as topmost the address of IUT P-CSCF ✓ Record-Route header → as topmost the SIP URI of IUT P-CSCF		Mw

				Test Purpose	
Identi	fier:	TP_IMST2_MW	_EME_07		
Summ	ary:	that is not a SIP R	EGISTER rec	a UE that has registered for non-emergency service an initial quest, and the Request-URI contained in the request matches rs, the P-CSCF shall include an emergency service URN in the	one of
Clause	2:	5.2.10.4 item 1; 5	.2.7.2 paragra	ph 3	
Refere	ences:	_		Config Ref: CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression: PICS A.2/1	
		Entities		Condition	
	UE1	IMS	IUT		
			×	IUT not configured for topology hiding	
	✓		✓	UE1 registered in IUT	
			✓	IUT has stored display name	
		✓	✓	IUT configured with an entry point to IMS	
			✓	IUT configured for emergency sessions	
	UE1	IMS	IUT		
Step		Direction		Message	IF
1	₩		Ð	INVITE ✓ Request-URI matching an emergency service identifier	
2		Œ	Ą	INVITE ✓ Request-URI → emergency service URN	
3	Œ		Ŷħ	100 response	Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_EME_08			
that is not a SIP REGISTER retended the emergency service identifies header matches one of the P-CS header from the received reques identity that was present in the				a UE that has registered for non- quest, and the Request-URI conta rs, if the public user identity incl SCFs registered public user ident st, insert a P-Asserted-Identity he P-Preferred-Identity header and a I associated with the public user in	nined in the request matcher uded in the P-Preferred-Ide ities remove the P-Preferred ader that includes the public add a second P-Asserted ide	s one of ntity d-Identity c user
Clause		5.2.10.4 item 1C)i)			
Refere		-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities	1	Condi	tion	
	UE1	IMS	IUT			
			×	IUT not configured for topolog	y hiding	
	✓		✓	UE1 registered in IUT		
			✓	IUT has stored display name		
		✓	✓	IUT configured with an entry point to IMS		
			✓	IUT configured for emergency sessions		
	UE1	IMS	IUT			
Step		Direction		Mess	age	IF
1	₽ \$		∌	INVITE ✓ Request-URI ✓ emergency service URN ✓ P-Preferred-Identity heade ✓ registered public user identity	r	Gm
2		€±	क्ष	INVITE ★ P-Preferred-Identity heade ✓ P-Asserted-Identity heade ✓ registered public user ide ✓ second P-Asserted-Identity ✓ tel URI of public user identity	r entity y header	Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_EME_09			
Summ	ary:	that is not a SIP R the emergency ser identities is includ insert a P-Asserted	EGISTER req vice identifier led in the P-Pr d-Identity head	a UE that has registered for nor uest, and the Request-URI cons, if the tel URI associated with eferred-Identity header removed ler that includes the tel URI that IP-Asserted-Identity header the	tained in the request matches of n one of the registered public of the P-Preferred-Identity head at was present in the P-Preferr	one of user ler, ed-
Clause	:	5.2.10.4 item 1C)i	i)			
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities		Conc	lition	
	UE1	IMS	IUT			
			×	IUT not configured for topology hiding		
	✓		✓	UE1 registered in IUT		
			✓	IUT has stored display name		
		✓	✓	IUT configured with an entry	point to IMS	
			✓	IUT configured for emergency sessions		
	UE1	IMS	IUT			
Step		Direction		Mes	sage	IIF
1	\$		Ð	INVITE ✓ Request-URI ✓ emergency service URN ✓ P-Preferred-Identity header ✓ tel URI of public user identity		Gm
2		€द	ф	INVITE ★ P-Preferred-Identity head ✓ P-Asserted-Identity head ✓ tel URI of public user iv ✓ second P-Asserted-Identi ✓ registered public user iv	er dentity ty header	Mw

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_EME_10			
Summ	ary:	for an emergency address and UE pr	dialogue with rotected serve	user registered for non-emergency so the Request-URI containing GRUU or port related to the GRUU containe IP address and UE protected server p	J, it shall obtain the UE II d in the Request-URI and	•
Clause	:	5.2.10.4 last dashe	ed list; 5.2.6.4	.5 item 2,4	,	
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condition	1	
	UE1	IMS	IUT			
			×	IUT not configured for topology h	iding	
	✓		✓	UE1 registered in IUT		
		✓	✓	IUT configured with an entry point to IMS		
			✓	IUT configured for emergency sessions		
	✓			UE1 has established an emergency	session	
	UE1	IMS	IUT			
Step		Direction		Message		IF
1	\$		Ð	target refresh INVITE ✓ Request-URI ✓ GRUU		Gm
2		€£	'n	INVITE ✓ Request-URI ✓ UE1 IP address protected server port number ✓ Via header ✓ port number of IUT P-CSCF ✓ as topmost the address of IUT P-CSCF ✓ Record-Route header → as topmost the SIP URI of IUT P-CSCF		Mw

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_EME_11			
Summ	ary:			IP INVITE request for an emerg afigured to handle the requested		80 response
Clause	e:	5.2.10.5 I)				
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		Cone	dition		
	UE1	IMS	IUT			
			×	IUT not configured for topology hiding		
	✓		✓	UE1 registered in IUT		
		✓	✓	IUT configured with an entry point to IMS		
	✓	✓		UE1 visiting IMS		
			×	IUT not configured for emerg	IUT not configured for emergency sessions	
	UE1	IMS	IUT			
Step		Direction		Mes	ssage	IF
1		₩,	£	INVITE ✓ Request-URI ✓ emergency service UR	N	Mw
2		ŶĿ.	Ŷħ	380 response to UE1		Mw

6.2.8 SDP procedures

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_SDP_01			
Summ	ary:	which are not per Acceptable Here)	mitted by loca response cont	P request containing a SDP offer al policy or by user subscription, taining a SDP payload which conter SDP parameters permitted by	it shall send a SIP 488 (Natains all or an acceptable	Not e subset, of
Clause	e :	6.3 paragraph 1				
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Cond	ition	
	UE1	IMS	IUT			
			x	IUT not configured for topology hiding		
	✓		✓	UE1 registered in IUT		
	✓	✓		UE1 visiting IMS		
		✓	✓	IUT configured with an entry	point to IMS	
	UE1	IMS	IUT			
Step		Direction	+	Mess	sage	IF
1		₩	£	INVITE to UE1 ✓ SDP offer ✓ unacceptable media parameter		Mw
2		€द	Å	488 response ✓ SDP offer		Mw

					Test Purpose		
Identif	fier:	TP_I	MST2_MW_	SDP_02			
Summ	ary:	Wher	n an S-CSCF r	eceives a SII	P request containing an encrypte	ed SDP offer, it may reject the	request.
Clause	e:	6.3 pa	aragraph 1				
Refere	ences:	-			Config Ref:	CF_1Mw	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3, A.6/34.1.1	
	Entities				Con	dition	
	UE1		IMS	IUT			
				×	IUT not configured for topole	ogy hiding	
	✓	✓		✓	UE1 registered in IUT		
			✓	✓	IUT configured with an entry point to IMS		
	✓		✓		UE1 visiting IMS		
				✓	IUT configured to reject encr	rypted SDP offers	
	UE1		IMS	IUT			
Step			Direction		Me	ssage	IF
1			\$	∌	INVITE to UE1 ✓ encrypted SDP offer		Mw
2			ŶĿ,	ф	4xx response		Mw
3	€∥			⇔	INVITE		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_SDP_03			
Summ	·	contained in a pre-	viously forwa	Prequest containing a SDP answerded SIP response, other than a SIn the received SDP offer.		all not
Clause: 6.2 paragraph 2						
Refere	ences:	-		Config Ref:	CF_1Gm1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities		Conditi	on	
	UE1	IMS	IUT			
			×	IUT not configured for topology	hiding	
	✓		✓	UE1 registered in IUT		
	✓		✓	IUT has received INVITE via Mw for UE1		
			✓	IUT has sent INVITE via Gm		
		✓	✓	IUT configured with an entry po	oint to IMS	
	UE1	IMS	IUT			
Step		Direction	•	Messa	ge	IF
1		₩	£	180 response to UE1 ✓ SDP offer ✓ unacceptable media paran	neter	Mw
2		€	⇔	4xx response		Mw
3	(E		Ą	180 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_SDP_04			
Summ	ary:	which was previou	usly forwarde	PACK request containing an SD ed in a SIP 200 (OK) response at shall terminate the session.		
Clause	:	6.2 paragraph 3				
Refere	ences:	-		Config Ref:	CF_1Gm1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities	_	Conc	lition	
	UE1	IMS	IUT			
			×	IUT not configured for topolo	ogy hiding	
	✓		✓	UE1 registered in IUT		
	✓	✓ IUT has received INVITE via Mw for UE1		Mw for UE1		
	✓		✓	IUT has sent INVITE via Gm to UE1		
		✓	✓	IUT configured with an entry	IUT configured with an entry point to IMS	
	UE1	IMS	IUT			
Step		Direction		Message		IF
1	₩		卦	200 response ✓ SDP offer ✓ unacceptable media par	rameter	Gm
2		Ŷ a	Ŷħ	200 response		Mw
3		₩	卦	ACK ✓ SDP answer		Mw
4		Q	Ŷħ	ВУЕ		Mw
5	Œ		ф	ВУЕ		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_SDP_05			
Summ	ary:			ACK request containing an SDP of y forwarded in a SIP 200 (OK) res		
Clause	:	6.2 paragraph 3				
Refere	ences:	-		Config Ref:	CF_1Gm1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/30.3.1	
		Entities		Condit	ion	
	UE1	IMS	IUT			
			×	IUT not configured for topology	hiding	
	✓		✓	UE1 registered in IUT		
	✓		✓	IUT has received INVITE via Mw for UE1		
	✓	✓ IUT has sen		IUT has sent INVITE via Gm to	UE1	
		✓	✓	IUT configured with an entry po	oint to IMS	
			✓	IUT configured to reject encryp	ted SDP offers	
	UE1	IMS	IUT			
Step		Direction		Messa	ge	IF
1	4		Ð	200 response ✓ encrypted SDP offer		Gm
2		€±	Ŷħ	200 response		Mw
3		₩,	<i>ਤੰ</i> ?	ACK ✓ encrypted SDP answer		Mw
4		€	¢ħ	ВУЕ		Mw
5	Ŷ _G		Ŷħ	ВУЕ		Gm

6.3 Test purposes for the lc interface

6.3.1 General

					Test Purpose		
Identif	ier:	TP_I	MST2_IC_G	EN_01			
Summ	ary:			eives SIP REG the top of the	ISTER request from within its own Path header.	network, it shall add its ow	n
Clause	:	5.10.2	2.1 1) and 2),	5.10.4.1			
References: Config Ref:		Config Ref:	CF_1Ic1Gm				
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4		
	Entities			Condition			
	UE1 IUT IMS		IMS				
			✓		IUT configured for topology hiding		
			✓		IUT configured with one entry point to home network		
	UE1		IUT	IMS			
Step			Direction		Message		IF
1	₩		Ð		REGISTER		
2			₽	£	REGISTER ✓ topmost Path header → SIP URI of IUT IBCF		Ic1

6.3.2 Registration procedures

				Test Purpose		
Identif	ier:	TP_IMST2_IC_	REG_01			
Summ	ary:	previously forwar	ded SIP REGIS	x (Redirection) response from a host STER request, it shall resend the Roas not previously forwarded the sa	egister request to another hon	ne
Clause	:	5.10.2.1 3) second	d dash			
Refere	References:-Config Ref:CF_2Ic1Gm		CF_2Ic1Gm			
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Condition		
	UE1	UE1 IUT IMS				
		✓		IUT configured for topology hiding		
		✓		IUT configured with two entry points to home network		
	✓	✓		IUT has received REGISTER from	om UE1	
		✓		IUT has sent REGISTER via Ic1		
	UE1	IUT	IMS			
Step		Direction		Messa	ge	IF
1		Ŷ u	ф.	3xx response		Ic1
2		\$	±Îr	REGISTER		Ic2

				Test Purpose		
Identif	fier:	TP_IMST2_IC_R	REG_02			
Summ	ary:	to a previously for	warded SIP R	(Temporarily Unavailable) resp EGISTER request, it shall forwa nas not previously forwarded the	ard the Register request to anoth	
Clause	e:	5.10.2.1 3) second	dash			
Refere	References: - Config Ref: CF_2Ic1G		CF_2Ic1Gm			
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities		Condition			
	UE1	IUT	IMS			
		✓		IUT configured for topology hiding		
		✓		IUT configured with two entry points to home network		
	✓	✓		IUT has received REGISTER	IUT has received REGISTER from UE1	
		✓		IUT has sent REGISTER via Ic1		
	UE1	IUT	IMS			
Step		Direction		Me	essage	IF
1		Ŷ _E	♣	480 response		Ic1
2		4	Ð	REGISTER		Ic2

					Test Purpose			
Identif	ier:	TP_IN	MST2_IC_R	EG_03				
Summ	ary:	REGIS	STER reques	t, it shall forw	onse from a home network entry poi ard the Register request to another h ne same request.			
Clause	:	5.10.2	2.1 3) first das	h				
Refere	ferences: - Config Ref: CF_2Ic1Gm		CF_2Ic1Gm					
IUT R	ole:	IMS			Selection Expression: PICS A.2/4			
	Entities				Condition			
	UE1 IUT IMS		IMS					
			✓		IUT configured for topology hiding			
			✓		IUT configured with two entry points to home network			
	✓		✓		IUT has received REGISTER from UE1			
			✓		IUT has sent REGISTER via Ic1			
	UE1		IUT	IMS				
Step			Direction		Message	e	IF	
1			&	⇔	no response		Ic1	
2			\$	Ð	REGISTER		Ic2	

					Test Purpose		
Identif	ier:	TP_IMS	T2_IC_R	EG_04			
Summ	ary:			,	edirection) response to a SIP REGIS' work, it shall send a SIP 504 (Server		
Clause	:	5.10.2.1 3	3) second	dash			
Refere	nces:	-			Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4		
	Entities			Condition			
	UE1 IUT IMS		IMS				
			✓		IUT configured for topology hiding		
			✓		IUT configured with one entry point to home network		
	✓		✓		IUT has received REGISTER from UE1		
	UE1]	IUT	IMS			
Step		Dir	rection		Message		IF
1			È	φ	3xx response		Ic1
2a	₹£		ŶĮ.		408 response		
2b	ŶĿ		Ϋ́D		504 response		

				Test Purpose		
Identif	ier:	TP_IMST2_IC	_REG_05			
Summ	ary:			Temporarily Unavailable) responders home network, it shall send		
Clause	:	5.10.2.1 3) secon	nd dash			
Refere	nces:	-	Config Ref: CF_1Ic1Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4	
		Entities		Con	ndition	
	UE1 IUT IMS					
		✓		IUT configured for topology hiding		
		✓		IUT configured with one entry point to home network		
	✓	✓		IUT has received REGISTER from UE1		
	UE1	IUT	IMS			
Step		Direction		Mo	essage	IF
1		€	4	480 response		Ic1
2a	&	47		408 response		
2b	ŶĿ	ŶĮ.		504 response		

					Test Purpose		
Identif	ier:	TP_IMS	ST2_IC_R	EG_06			
Summ	ary:				o a SIP REGISTER request from all P 504 (Server Time-Out) response to		ing user
Clause	:	5.10.2.1	3) first das	sh			
Refere	References: -			Config Ref:	CF_1Ic1Gm		
IUT Role: IMS			Selection Expression:	PICS A.2/4			
	Entities				Condition	n	
	UE1 IUT		IMS				
	✓		✓		IUT configured for topology hiding		
			✓		IUT configured with one entry point to home network		
	✓		✓		IUT has received REGISTER from	UE1	
	UE1		IUT	IMS			
Step		D	irection		Message		IF
1			%	₽	no response		Ic1
2a	Ŷ _E		Ą		408 response		
2b	Ŷ Ŀ		Ą		504 response		

				Test Purpose		
Identif	ier:	TP_IMST2_IC_	REG_07			
Summ	ary:			EGISTER request from an non-truen) response to the sender of the re		network,
Clause	: :	5.10.3.1 1)				
Refere	References: -		Config Ref:	CF_1Ic		
IUT Role:		IMS		Selection Expression:	election Expression: PICS A.2/4	
	Entities			Condi	tion	
	UE1	IUT	IMS			
		✓	✓	IMS configured as untrusted do	main for IUT	
	UE1	IUT	IMS			
Step		Direction		Mess	Message	
1		€	¢ħ	REGISTER		Ic1
2		4	卦	403 response		Ic1

6.3.3 Initial request procedures

				Test Purpose		
Identif	fier:	TP_IMST2_IC_I	NI_01			
Summ	ary:			al SIP INVITE request from with ne IBCF prior to forwarding the i		pts all Via
Clause	:	5.10.2.2 1) 3) 8), 5	5.10.4			
Refere	ences:	-		Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Con	dition	
	UE1	IUT	IMS			
		✓		IUT configured for topology hiding		
	✓	✓		UE1 registered in IUT		
	UE1	IUT	IMS			
Step		Direction		Message		IF
1	₩	∌		INVITE		
2	Ŷ <u>E</u>	ф.		100 response		
3		₩,	Ð	INVITE ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parameter × P-Charging-Function-Addresses header		Ic1

				Test Purpose		
Identif	fier:	TP_IMST2_IC_I	NI_02			
Summ	ary:			sponse to a forwarded initial INV rypt Via header URIs when forw		logy
Clause	:	5.10.2.2, 5.10.4				
Refere	ences:	-		Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS		Selection Expression:	PICS A.2/4		
		Entities		Condition		
	UE1	IUT	IMS			
		✓		IUT configured for topology hiding		
	✓	✓		IUT has received INVITE from UE1		
		✓		IUT has sent INVITE via Ic1		
	UE1	IUT	IMS			
Step		Direction		Mes	sage	IF
1		₹	Ýħ	180 response		Ic1
2	Œ	Å		180 response ★ any header ✓ encrypted SIP URI → tokenized-by paramet	er	

				Test Purpose		
Identif	ier:	TP_IMST2_IC_I	NI_03			
Summ	ary:			ponse to a forwarded initial INV ypt Via header URIs when forw		pology
Clause	:	5.10.2.2, 5.10.4				
Refere	nces:	-		Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Cond	dition	
	UE1	IUT	IMS			
		✓		IUT configured for topology hiding		
	✓	✓		IUT has received INVITE from UE1		
		✓		IUT has sent INVITE via Ic1		
	UE1	IUT	IMS			
Step		Direction		Message		IF
1		€	4	200 response		Ic1
2	€ेंच	भ्र		200 response ★ any header ✓ encrypted SIP URI → tokenized-by paramet	ter	

				Test Purpose			
Identif	fier:	TP_IMST2	2_IC_INI_04				
Summary: Wido		domain and	When an IBCF receives any SIP request, other than a SIP REGISTER request, from a non-trusted omain and the topmost Route header in the request contains the orig parameter, the IBCF shall send a IP 403 (Forbidden) response to the originator of the request.				
Clause	:	5.10.3.2, se	cond dashed list, se	econd dash			
References: -		Config Ref:	CF_1Ic				
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4		
	Entities			Con	dition		
		IUT	IMS				
		✓ ✓		IMS configured as untrusted d	IMS configured as untrusted domain for IUT		
		IUT	IMS				
Step		Direc	etion	Mes	ssage	IF	
1		€ t	Ŷħ	INVITE ✓ topmost Route header ✓ orig parameter		Ic1	
2		₽	Ď	403 response		Ic1	

				Test Purpose					
Identif	ier:	TP_IMST2_IC_I	NI_05						
Summary:			When an IBCF receives a SIP INVITE request from a trusted domain outside its own network, it shall return a SIP 100 response and not encrypt Via header URIs when forwarding to the UE.						
Clause	:	5.10.3.2 1) 3), 5.10	0.4						
Refere	nces:	-		Config Ref:	CF_1Ic1Gm				
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4				
		Entities		Cone	dition				
	UE1	IUT	IMS						
		✓		IUT configured for topology h	iding				
		✓ ✓ IMS configured as trusted domain for IUT		nain for IUT					
	UE1	IUT	IMS						
Step		Direction		Message		IF			
1		∜द	<u>'</u> ম	INVITE ✓ Via header ✓ topmost SIP URI of IM: ✓ encrypted SIP URI → tokenized-by parame		Ic1			
2		4	Ð	100 response		Ic1			
3	€ £	ф		INVITE * any header ✓ encrypted SIP URI → tokenized-by parame	ter				

Test Purpose									
Identifier: TP_IMST2_IC_INI_06			NI_06						
Summary:			When the IBCF receives an INVITE request and the IBCF requires the periodic refreshment of the ession it shall add a Session-Expires prior to forwarding it to the UE.						
Clause	:	5.10.3.2, RFC 402	8 [8]						
Refere	nces:	-		Config Ref:	CF_1Ic1Gm				
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4, A.8/10.3.1				
	Entities			Condition					
	UE1	IUT	IMS						
		✓		IUT configured for requiring period	odic refreshment				
	UE1	IUT	IMS						
Step		Direction		Messag	e	IF			
1		Ŷ Ŀ	⇔	INVITE		Ic1			
2	₹£	¢ _n		INVITE ✓ Session-Expires header					

				Test Purpose					
Identif	fier:	TP_IMST2_IC_I	NI_07						
Summ	ary:	P-Charging-Functi	When an IBCF receives a valid 180 response from within its own network it shall remove the P-Charging-Function-Addresses header and add its own URI as the topmost Via header and encrypt all other Via header prior to forwarding the response to other networks.						
Clause	:	5.10.3.2 second nu	mbered list, 5.	10.4					
Refere	ences:	-		Config Ref:	CF_1Ic1Gm				
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4				
	Entities			Condition					
	UE1	IUT	IMS						
	✓			IUT configured for topology hiding					
		✓		IUT has received INVITE via Ic1					
	✓	✓		IUT has sent INVITE to UE1					
	UE1	IUT	IMS						
Step		Direction		Messag	е	IF			
1	₩	卦		180 response					
2	180 response ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parameter × P-Charging-Function-Addresses header		ses header	Ic1					

					Test Purpose		
Identif	ier:	TP_	IMST2_IC_IN	NI_08			
P-Charging-Function-Addresses he					00 response from within its own net header and add its own URI as the toing the response to other networks.		ypt all
Clause	:	5.10	.3.2, second nu	mbered list, 5	.10.4		
Refere	nces:	-			Config Ref:	CF_1Ic1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/4	
	Entities		Conditio	n			
	UE1		IUT	IMS			
			✓		IUT configured for topology hiding		
			✓		IUT has received INVITE via Ic1		
	✓		✓		IUT has sent INVITE to UE1		
	UE1		IUT	IMS			
Step			Direction		Message	e	IF
1	₩		Ð		200 response		
2			₽	Ď	200 response ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parameter × P-Charging-Function-Address	ses header	Ic1

					Test Purpose				
Identif	ier:	TP_	IMST2_IC_IN	NI_09					
Summary:		Rou	When an IBCF processes a SIP request or response that contains a contact address which is a Globally Routable User agent URI (GRUU), it shall replace the contact address with an address which is also a GRUU.						
Clause	:	5.10	.5, paragraph 4						
Refere	nces:	-			Config Ref:	CF_1Ic1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/4			
	Entities			Condition					
	UE1		IUT	IMS					
			✓		IUT has received INVITE via Ic1 containing Contact header indicating GRUU				
	✓		✓		IUT has sent INVITE to UE1 containing Contact header indicating GRUU				
					configured for IMS-ALG				
	UE1		IUT	IMS					
Step			Direction		Message	<u> </u>	IF		
1	\Rightarrow		∌		200 response				
2			₩	Ð	200 response ✓ Contact header → GRUU		Ic1		

6.3.4 Standalone requests procedures

				Test Purpose				
Identif	fier:	TP_IMST2_IC_S	TA_01					
Summ	ary:	its own network, it	ten an IBCF receives an initial SIP request other than a SIP REGISTER or SIP INVITE from within own network, it shall add its own URI as the topmost Via header and encrypt all other Via header and lude charging related headers prior to forwarding the request to other networks.					
Clause	:	5.10.2.2 3) 8), 5.10).4					
Refere	ences:	-		Config Ref:	CF_1Ic1Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4			
	Entities			Condition	n			
	UE1	IUT	IMS					
		✓		IUT configured for topology hiding				
	✓	✓		UE1 registered in IUT				
	UE1	IUT	IMS					
Step		Direction		Message		IF		
1	₩	立		MESSAGE				
2		₩,	ъ́	MESSAGE ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parameter × P-Charging-Function-Addresse	es header	Ic1		

					Test Purpose		
Identif	Identifier: TP_IMST2_IC_STA_02						
					TE request and the IBCF requires the ires prior to forwarding it to other no		he
Clause	:	5.10.2	2.2, RFC 4028	3 [8]			
Refere	ences:	-			Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS Selection Expression: PICS A.2/4, A		PICS A.2/4, A.8/9.3.1				
	Entities			Condition			
	UE1 IUT IMS		IMS				
			✓		IUT configured for topology hiding	g	
			✓		IUT configured for requiring periodic refreshment		
	✓		✓		UE1 registered in IUT		
	UE1		IUT	IMS			
Step			Direction		Message		IF
1	₩		Ď		INVITE		
2			₽	∌	INVITE ✓ Session-Expires header		Ic1

					Test Purpose		
Identif	ier:	TP_I	IMST2_IC_S	ГА_03			
Summ	ary:	from	a trusted doma		uest, other than a SIP REGISTER re own network it shall decrypt all enc		uest,
Clause	:	5.10.	3.2 3), 5.10.4				
Refere	nces:	-			Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4		
Entities			Conditio	n			
	UE1		IUT	IMS			
	✓			IUT configured for topology hiding			
			✓	✓	IMS configured as trusted domain for IUT		
	UE1		IUT	IMS			
Step			Direction		Message		IF
1			₹t	Å	MESSAGE ✓ topmost Via header → SIP URI of IMS ✓ encrypted SIP URI → tokenized-by parameter		Ic1
2	Œ.		Ŷħ		MESSAGE * any header ✓ encrypted SIP URI → tokenized-by parameter		

				Test Purpose		
Identif	fier:	TP_IMST2_IC_S	TA_04			
Summ	ary:	The IBCF shall hadialogue in which		nddressed to its currently valid GRUUs provided.	Js when received outside of	f the
Clause	:	5.10.5				
Refere	References: -		Config Ref:	CF_1Ic1Gm		
IUT Role: IMS		Selection Expression:	PICS A.2/4			
	Entities			Condition	n	
	UE1 IUT		IMS			
		✓		IUT configured for IMS-ALG		
	UE1	IUT	IMS			
Step		Direction		Message		IF
1		Œ	Ŷij.	MESSAGE ✓ To header → GRUU of IUT IBCF		Ic1
2	Œ	ф		MESSAGE		

6.3.5 Subsequent requests on a dialogue procedures

				Test Purpose		
Identif	ier:	TP_IMST2_IC_S	UB_01			
Summ	ary:		its own URI as	YE request from within its own netwest the topmost Via header and encrypetworks.		
Clause	:	5.10.2.3 3) 4), 5.10	0.4			
References: - Config Ref:				Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Condition	n	
	UE1 IUT IMS		IMS			
		✓		IUT configured for topology hiding		
	✓	✓		IUT has established an INVITE dialogue for UE1		
	UE1	IUT	IMS			
Step		Direction		Message		IF
1	₩	卦		ВУЕ		
2		₽\$	र्छ	BYE ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parameter		Ic1

				Test Purpose		
Identi	fier:	TP_IMST2_IC_S	SUB_02			
Summ	ary:		nd network to	nse from outside its own network opology hiding is required is shall JE.		
Clause	:	5.10.2.3, 5.10.4				
Refere	ences:	-		Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS		Selection Expression:	PICS A.2/4		
		Entities	_	Cone	dition	
	UE1 IUT IMS					
		✓		IUT configured for topology hiding		
	✓	✓		IUT has established an INVIT	IUT has established an INVITE dialogue for UE1	
	✓	✓		IUT has received BYE from UE1		
		✓		IUT has sent BYE via Ic1		
	UE1	IUT	IMS			
Step		Direction		Mes	ssage	IF
1		ŶĿ.	À	200 response		Ic1
2	€	Å		200 response ★ any header ✓ encrypted SIP URI → tokenized-by parame	ter	

				Test Purpose		
Identif	ier:	TP_IMST2_IC_S	UB_03			
Summ	ary:			ESSAGE request from outside it headers prior to forwarding the		o an initial
Clause	::	5.10.3.3 3) 4), 5.10).4			
Refere	nces:	-		Config Ref:	CF_1Ic1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4	
	Entities			Cond	lition	
	UE1	IUT	IMS			
	✓			IUT configured for topology hiding		
	✓	✓		IUT has established an INVITE dialogue for UE1		
	UE1	IUT	IMS			
Step		Direction		Message		IF
1		Œ	Ŕ	MESSAGE ✓ topmost Via header → SIP URI of IMS ✓ encrypted SIP URI → tokenized-by paramet	er	Ic1
2	Ŷŧ.	Ŕ		MESSAGE	er	

				Test Purpose		
Identif	ier:	TP_IMST2_IC_S	UB_04			
Summ	ary:			YE request from outside its own headers prior to forwarding the	n network subsequent to an initial request to the UE.	al
Clause	::	5.10.3.3 3) 4), 5.10).4			
Refere	nces:	-		Config Ref:	CF_1Ic1Gm	
IUT R	UT Role: IMS Selection Expression: PICS A.2/4		PICS A.2/4			
	Entities			Con	ndition	
	UE1	IUT	IMS			
		✓		IUT configured for topology	hiding	
	✓	✓		IUT has established an INVIT	ΓE dialogue for UE1	
	UE1	IUT	IMS			
Step		Direction		Message		IF
1	€ #		ф	BYE ✓ topmost Via header → SIP URI of IMS ✓ encrypted SIP URI → tokenized-by parameter		Ic1
2	ेंद्र	À		BYE ★ any header ✓ encrypted SIP URI → tokenized-by parame	eter	

				Test Purpose		
Identif	fier:	TP_IMST2_IC_S	UB_05			
Summ	ary:	subsequent to an ir	itial request it	00 response from within its own network to a SIP request forwarded t shall add its own URI to the Via header and encrypt all other Via response to other networks.		
Clause	:	5.10.3.3, 5.10.4				
Refere	ences:	-		Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Conditio	n	
	UE1	IUT	IMS			
		✓		IUT configured for topology hiding		
	✓	✓		IUT has established an INVITE dia	alogue for UE1	
		✓		IUT has received BYE via Ic1		
	✓	✓		IUT has sent BYE to UE1		
	UE1	IUT	IMS			
Step		Direction		Message		IF
1	₩	立		200 response		
2		₩	ď	200 response ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parameter		Ic1

6.3.6 Target refresh request procedures

				Test Purpose		
Identif	ier:	TP_IMST2_I	C_TAR_01			
Summ	ary:	100 response,		refresh request from within its over the Via header and encrypt all o		
Clause: 5.10.2.3 1) 2) 4), 5.10.4						
Refere	nces:	-		Config Ref:	CF_1Ic1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4	
	Entities		Cond	ition		
	UE1	IUT	IMS			
	✓			IUT configured for topology hiding		
	✓	✓		IUT has established an INVITE dialogue for UE1		
	UE1	IUT	IMS			
Step		Directio	n	Mess	sage	IF
1	₩			target refresh INVITE		
2	Œ	杂		100 response		
3		ψ,	Ð	target refresh INVITE ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parameter	er	Ic1

				Test Purpose		
Identif	ier:	TP_IMST2_IC_T	AR_02			
Summ	ary:			refresh request from outside its cers before forwarding it to the UE		an initial
Clause	Clause: 5.10.3.3 1) 2) 4), 5.10.4					
Refere	nces:	-		Config Ref:	CF_1Ic1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4	_
Entities		Cone	dition			
	UE1	IUT	IMS			
		✓		IUT configured for topology h	niding	
	✓ ✓			IUT has established an INVIT	IUT has established an INVITE dialogue for UE1	
	UE1	IUT	IMS			
Step		Direction		Mes	Message	
1		€	ф	target refresh INVITE ✓ topmost Via header → SIP URI of IMS ✓ encrypted SIP URI → tokenized-by parame	target refresh INVITE ✓ topmost Via header → SIP URI of IMS	
2		4	Ď	100 response		Ic1
3	Œ	Å		target refresh INVITE	ter	

6.4 Test purposes for the ISC interface

6.4.1 General

					Test Purpose			
Identif	ier:	TP_IMST2	2_ISC_GE	N_01				
Summ	ary:				exchanged between the S-CSCF atter operator identifier (IOI).	and any AS based on initial fil	lter	
Clause	:	4.5.4, parag	graph 4					
Refere	nces:	-			Config Ref:	CF_2Gm1ISC		
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/3			
	Entities			Condi	tion			
	UE1	IUT	AS1	UE2				
	✓	✓		✓	UE1 and UE2 registered in IUT			
		✓	✓		IUT configured with an iFC des MESSAGE	IUT configured with an iFC designed to contact AS1 for MESSAGE		
	UE1	IUT	AS1	UE2				
Step		Direc	ction		Messa	age	IF	
1	₩	र्घ			MESSAGE			
2		ή.	£		MESSAGE ✓ P-Charging-Vector header ✓ ioi parameter → type3		ISC	

					Test Purpose	
Identif	ier:	TP_IMST	2_ISC_GE	N_02		
Summ	ary:		to SIP MES		quests that are exchanged between the S-CSCF and any AS shart (IOI).	l include
Clause	Clause: 4.5.4, paragraph 4					
Refere	References: - Config Ref:		Config Ref: CF_2Gm1ISC			
IUT R	ole:	IMS			Selection Expression: PICS A.2/3	
		Ent	ities		Condition	
	UE1	IUT	AS1	UE2		
	✓	✓		✓	UE1 and UE2 registered in IUT	
	✓	✓		✓	IUT has received MESSAGE from UE1 addressed to UE2	
		✓	✓		IUT configured with an iFC designed to contact AS1 for MESSAGE	
		✓	✓		IUT has sent MESSAGE to AS1 via ISC	
		✓		✓	IUT has sent MESSAGE to UE2 via GM	
		✓	✓		AS1 has indicated the handling of the whole dialogue to IUT	
	UE1	IUT	AS1	UE2		
Step		Dire	ction		Message	IF
1		Ŷ.		¢ħ	200 response	
2		₽,	ਜੁੰ		200 response ✓ P-Charging-Vector header ✓ ioi parameter → type3	ISC

					Test Purpose		
Identif	fier:	TP_IMST2	2_ISC_GE	N_03			
Summ	ary:	SIP MESSA inter operat			exchanged between the I-CSCF and	any AS shall include the ty	pe 3
Clause: 4.5.4, paragraph 4							
Refere	ences:	-			Config Ref:	CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression: PICS A.2/2		
		Enti	ities		Condition		
	UE1	IUT	AS1	UE2			
	✓	✓		✓	UE1 and UE2 registered in IUT		
		✓			IUT configured for forwarding ME	ESSAGE directly to AS1	
	UE1	IUT	AS1	UE2			
Step		Direc	ction		Messago	e	IF
1	₩	卦			MESSAGE		
2		\$	ਜੁੰ		MESSAGE ✓ P-Charging-Vector header ✓ ioi parameter → type3		ISC

6.4.2 Registration procedures

				Test Purpose		
Identi	fier:	TP_IMST2_ISC	_REG_01			
Summ	ary:	An IMS shall sup registration and u			n the AS in the same trust domain	(initial
Clause	2:	5.4.1.7, paragraph	n 1			
Refere	ences:	-		Config Ref:	CF_1Gm1ISC	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Co	ondition	
	UE1	IUT	AS1			
	×	x		UE1not registered in IUT		
	✓			IUT configured for establish	ning security association	
	✓			UE1 has sent unprotected R response	EGISTER and has received 401	
	✓	✓		UE1 has initiated security association establishment		
	*		✓	IUT configured with an iFC REGISTER	IUT configured with an iFC designed to contact AS1 for REGISTER	
		✓ ✓ ✓		AS1 configured for being in	the same trust domain as IUT	
	UE1	IUT	AS1			
Step		Direction		Message		IF
1	₩	Ð		protected REGISTER		
2		₩,	₽	REGISTER ✓ P-Access-Network-Inf ✓ P-Visited-Network-ID ✓ Request-URI → SIP URI of AS1 ✓ To header → a non barred IMPU f profile of the process ✓ From header → SIP URI of IUT S-C ✓ Contact header → SIP URI of IUT S-C ✓ P-Charging-Vector head ✓ a type3 orig-ioi paranteceived	rom the service ed iFC SCF der neter before the meters	ISC

				Test Purpose		
Identi	fier:	TP_IMST2_ISC_	REG_02			
Summ	ary:	An IMS shall supp registration and use		registration or registration with the	ne AS outside the trust domain	(initial
Clause	2:	5.4.1.7, paragraph	1			
Refere	ences:	-		Config Ref:	CF_1Gm1ISC	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Cond	lition	
	UE1	IUT	AS1			
	×	x x		UE1 not registered in IUT		
		✓		IUT configured for establishin	g security association	
	✓			UE1 has sent unprotected REC response	GISTER and has received 401	
	✓			UE1 has initiated security association establishment		
	✓		✓	IUT configured with an iFC designed to contact AS1 for REGISTER		
	×		×	AS1 not configured for being i IUT	AS1 not configured for being in the same trust domain as IUT	
	UE1	IUT	AS1			
Step		Direction		Mes	sage	IF
1	₩	±Ŷ		protected REGISTER		
2		\$	±Î	REGISTER * P-Access-Network-Info h * P-Visited-Network-ID hea ✓ Request-URI → SIP URI of AS1 ✓ To header → a non barred IMPU from of the processed iFC ✓ From header → SIP URI of IUT S-CSC ✓ Contact header → SIP URI of IUT S-CSC ✓ P-Charging-Vector heade ✓ a type3 orig-ioi paramet received orig-ioi paramet	nder m the service profile CF r er before the	ISC

				Test Purpose		
Identif	fier:	TP_IMST2_ISC_	REG_03			
Summ	ary:	An IMS shall supp	ort 3rd-party	deregistration with the AS in the	same trust domain.	
Clause	:	5.4.1.7, paragraph	1			
Refere	ences:	-		Config Ref:	CF_1Gm1ISC	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Con	dition	
	UE1	IUT	AS1			
	✓ ✓			UE1 registered in IUT		
		✓	✓	IUT configured with an entry	point to AS1	
	✓		✓	IUT configured with an iFC of REGISTER	lesigned to contact AS1 for	
		✓		AS1 configured for being in t	he same trust domain as IUT	
	UE1	IUT	AS1			
Step		Direction		Me	ssage	IF
1	₩	∌		protected REGISTER ✓ Expires header → 0		
2		₽	∌	REGISTER ✓ P-Access-Network-Info ✓ P-Visited-Network-ID h ✓ Request-URI → SIP URI of AS1 ✓ To header → a non barred IMPU fro of the processed iFC ✓ From header → SIP URI of IUT S-CS ✓ Contact header → SIP URI of IUT S-CS	om the service profile	ISC

6.4.3 Initial request procedures

					Test Purpose		
Identif	ïer:	TP_IMST	2_ISC_INI	_01			
Summ	ary:				or 2xx response for a UE subsequent to the initial SIP INVITE the home network of the S-CSCF.	then it	
Clause	::	5.4.4.2.2, p	aragraph 1				
Refere	nces:	-			Config Ref: CF_2Gm1ISC		
IUT R	ole:	IMS			Selection Expression: PICS A.2/3		
		Ent	ities		Condition		
	UE1	IUT	AS1	UE2			
	✓	✓		✓	UE1 and UE2 registered in IUT		
	✓	✓			IUT has received INVITE from UE1		
		✓		✓	IUT has sent INVITE to UE2		
		✓	✓		IUT has sent INVITE to AS1 via ISC		
		✓	✓		AS1 configured for being within same IMS network as IUT		
		✓	✓		IUT configured with an iFC designed to contact AS1 for INVITE		
		✓	✓		AS1 has indicated the handling of the whole dialogue to IUT	,	
	UE1	IUT	AS1	UE2			
Step		Dire	ction		Message	IF	
1		₹.		¢ħ	180 response		
2		₽	₽		180 response ✓ P-Charging-Function-Addresses header	ISC	

					Test Purpose		
Identif	fier:	TP_IMST	2_ISC_INI	_02			
Summ	ary:				or 2xx response for a UE subsequenthe home network of the S-CSCF.	nt to the initial SIP INVITE t	hen it
Clause	:	5.4.4.2.2, p	aragraph 1				
Refere	nces:	-			Config Ref:	CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3	
		Ent	ities		Conditi	on	
	UE1	IUT	AS1	UE2			
	✓	✓		✓	UE1 and UE2 registered in IUT		
	✓	✓			IUT has received INVITE from UE1		
		✓		✓	IUT has sent INVITE to UE2		
		✓	✓		IUT has sent INVITE to AS1 via	ISC	
		✓	✓		AS1 configured for being within	same IMS network as IUT	
		✓	✓		IUT configured with an iFC desig INVITE	ened to contact AS1 for	
		✓	✓		AS1 has indicated the handling of	f the whole dialogue to IUT	
	UE1	IUT	AS1	UE2			
Step		Dire	ction		Messaş	ge	IF
1		€.		Ŷħ	200 response		
2		₽	Ð		200 response ✓ P-Charging-Function-Addre	sses header	ISC

					Test Purpose	
Identif	fier:	TP_IMST	2_ISC_INI	_03		
Summ	ary:				onse for a UE subsequent to the initial SIP INVITE ther network of the S-CSCF.	it forwards it
Clause	:	5.4.4.2.2, p	aragraph 2			
Refere	ences:	-			Config Ref: CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression: PICS A.2/3	
		Ent	ities		Condition	
	UE1	IUT	AS1	UE2		
	✓	✓		✓	UE1 and UE2 registered in IUT	
	✓	✓			IUT has received INVITE from UE1	
		✓		✓	IUT has sent INVITE to UE2	
			×		AS1not configured for being within same IMS netwo	rk as
		✓	✓		IUT configured with an iFC designed to contact AS1 INVITE	for
		✓	✓		AS1 has indicated the handling of the whole dialogue	to IUT
	UE1	IUT	AS1	UE2		
Step		Dire	ction		Message	IF
1		₹		ŶĨ.	180 response ✓ P-Charging-Vector header ✓ access-network-charging-info parameter	
2		₩	Ð		180 response ✓ P-Charging-Vector header * access-network-charging-info parameter	ISC

					Test Purpose			
Identif	fier:	TP_IMST	2_ISC_INI	_04				
Summ	ary:				response for a UE subsequent to the initial SIP INVITE then it forwards the network of the S-CSCF.			
Clause	:	5.4.4.2.2, p	aragraph 2					
Refere	nces:	-			Config Ref: CF	F_2Gm1ISC		
IUT R	ole:	IMS			Selection Expression: PI	CS A.2/3		
		Ent	ities		Condition			
	UE1	IUT	AS1	UE2				
	✓	✓		✓	UE1 and UE2 registered in IUT			
	✓	✓			IUT has received INVITE from UE1			
		✓		✓	IUT has sent INVITE to UE2	IUT has sent INVITE to UE2		
		✓	✓		IUT has sent INVITE to AS1 via ISC	IUT has sent INVITE to AS1 via ISC		
			×		AS1 not configured for being within sa IUT S-CSCF	ame IMS network as		
		✓	✓		IUT configured with an iFC designed INVITE	to contact AS1 for		
		✓	✓		AS1 has indicated the handling of the	whole dialogue to IUT		
	UE1	IUT	AS1	UE2				
Step		Dire	ction		Message		IF	
1		Ĉ.		क्र	200 response ✓ P-Charging-Vector header ✓ access-network-charging-info parameter			
2		₩,	Ð		200 response ✓ P-Charging-Vector header × access-network-charging-info page	arameter	ISC	

						Test Purpose				
Identif	fier:	TP_IN	IST2_IS	C_INI_0	5					
Summ	ary:	handli		SESSION	_TERM	sponse from the AS for an SIP INVITE request and the iFC has default INATED then it does not forward the request to another AS and returns ing UE.				
Clause	:	5.4.3.2	, fifth pai	ragraph a	fter the fi	irst numbered list 14)	rst numbered list 14)			
Refere	nces:	-				Config Ref: CF_2Gm2ISC				
IUT R	ole:	IMS				Selection Expression: PICS A.2/3				
			Entities			Condition				
	UE1	IUT	AS1	AS2	UE2					
	✓	✓			✓	UE1 and UE2 registered in IUT				
	✓	✓			✓	IUT has received INVITE from UE1 addressed to UE2				
		✓	✓			IUT has sent INVITE to AS1 via ISC1				
		✓	✓			IUT configured with an iFC1 designed to contact AS1 for the INVITE				
						iFC1 has default handling set to SESSION TERMINATED				
		✓		✓		IUT configured with an iFC2 designed to contact AS2 for INVITE				
						iFC1 has greater priority than iFC2				
	UE1	IUT	AS1	AS2	UE2					
Step]	Direction			Message	IF			
1		€ ∥	4			no response				
2	€त	ф				408 response				
3		\$11		£		INVITE	ISC2			

6.4.4 Standalone requests procedures

				Test Purpose		
Identif	ier:	TP_IMST2_ISC_	STA_01			
Summ	•	When the S-CSCF trust domain as the		MESSAGE request it forwards the	request to an AS within the	same
Clause	:	5.4.3.2 first number	red list 5)			
Refere	nces:	-		Config Ref:	CF_2Gm1ISC	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Conditio	n	
	UE1	IUT	AS1			
	✓	✓		UE1 registered in IUT		
	✓		✓	AS1 configured for being in the same trust domain as IUT		
	✓		✓	IUT configured with an iFC designed to contact AS1 for MESSAGE		
	UE1	IUT	AS1			
Step		Direction		Message		IF
1	₩	±Ŷ		MESSAGE		
2		ţţ.	Ð	MESSAGE ✓ P-Asserted-Service header ✓ topmost Route header → SIP URI of AS1 ✓ second Route header → SIP URI of IUT S-CSCF ✓ P-Charging-Vector header ✓ type3 orig-ioi parameter befreceived orig-ioi parameters		ISC

						Test Purpose			
Identif	fier:	TP_IN	AST2_IS	C_STA_	02				
Summ	ary:					the AS for a SIP MESSAGE request and the iFC has set to forwards the request to a second AS.			
Clause	:	5.4.3.2	2, fifth par	agraph a	fter the f	irst numbered list 14)			
Refere	ences:	-				Config Ref: CF_2Gm2ISC			
IUT R	ole:	IMS				Selection Expression: PICS A.2/3			
			Entities			Condition			
	UE1	IUT	AS1	AS2	UE2				
	✓	✓			✓	UE1 and UE2 registered in IUT	E1 and UE2 registered in IUT		
	✓	✓			✓	UT has received MESSAGE from UE1 addressed to UE2			
		✓	✓			IUT has sent MESSAGE to AS1 via ISC1			
		√	✓			IUT configured with an iFC1 designed to contact A MESSAGE	S1 for the		
						iFC1 has default handling set to SESSION CONTI	NUED		
						iFC1 has no default handling			
		✓		✓		IUT configured with an iFC2 designed to contact A MESSAGE	S2 for		
						iFC1 has greater priority than iFC2			
	UE1	IUT	AS1	AS2	UE2				
Step			Direction			Message		IF	
1		Ŷ <u>t</u>	Ýħ			5xx response		ISC1	
2		₽		Ð		MESSAGE		ISC2	

						Test Purpose			
Identif	fier:	TP_IN	IST2_IS	C_STA_	03				
Summ	ary:					onse from the AS for a SIP MESSAGE request and the iFC has set to forwards the request to a second AS.			
Clause	:	5.4.3.2	, fifth par	ragraph a	fter the f	irst numbered list 14)			
Refere	ences:	-				Config Ref: CF_2Gm2ISC			
IUT R	ole:	IMS				Selection Expression: PICS A.2/3			
			Entities			Condition			
	UE1	IUT	AS1	AS2	UE2				
	✓	✓			✓	UE1 and UE2 registered in IUT			
	✓	✓			✓	IUT has received MESSAGE from UE1 addressed to UE2			
		✓	✓			IUT has sent MESSAGE to AS1 via ISC1			
		✓	✓			IUT configured with an iFC1 designed to contact AS1 for the MESSAGE			
						(iFC1 has default handling set to SESSION CONTINUED			
						iFC1 has no default handling)			
		✓		✓		IUT configured with an iFC2 designed to contact AS2 for MESSAGE			
						iFC1 has greater priority than iFC2			
	UE1	IUT	AS1	AS2	UE2				
Step]	Direction			Message	IF		
1		Ŷ _E	Ý,			408 response	ISC1		
2		₽		Ð		MESSAGE	ISC2		

						Test Purpose			
Identif	fier:	TP_IN	IST2_IS	C_STA_	04				
Summ	ary:					sponse from the AS for a SIP MESSAGE request and the iFC has set it forwards the request to a second AS.			
Clause	:	5.4.3.2	, fifth par	agraph a	fter the fi	irst numbered list 14)			
Refere	nces:	-				Config Ref:	CF_2Gm2ISC		
IUT R	ole:	IMS				Selection Expression:	PICS A.2/3		
			Entities			Condit	ion		
	UE1	IUT	AS1	AS2	UE2				
	✓	✓			✓	UE1 and UE2 registered in IUT			
	✓	✓			✓	IUT has received MESSAGE fro	m UE1 addressed to UE2		
		✓	✓			UT has sent MESSAGE to AS1 via ISC1			
		✓	IUT configured with an iFC1 designed to contact AS1 for the MESSAGE						
						(iFC1 has default handling set to	SESSION CONTINUED		
						iFC1 has no default handling)			
		✓		✓		IUT configured with an iFC2 des MESSAGE	signed to contact AS2 for		
						iFC1 has greater priority than iF	C2		
	UE1	IUT	AS1	AS2	UE2				
Step]	Direction			Messa	ge	IF	
1		%	114			no response			
2		₩		£		MESSAGE		ISC2	

						Test Purpose			
Identif	fier:	TP_IN	IST2_IS	C_STA_	05				
Summ	ary:	handli		SESSION	_TERM	onse from the AS for a SIP MESSAGE request and the iFC has INATED then it returns the response to the UE and does not for			
Clause	:	5.4.3.2	, fifth par	ragraph a	fter the fi	irst numbered list 14)			
References: - Config Ref:					Config Ref: CF_2Gm2ISC				
IUT R	ole:	IMS				Selection Expression: PICS A.2/3			
Entities						Condition			
	UE1	IUT	AS1	AS2	UE2				
	✓	✓			✓	UE1 and UE2 registered in IUT			
	✓	✓			✓	IUT has received MESSAGE from UE1 addressed to UE2			
		✓	✓			IUT has sent MESSAGE to AS1 via ISC1			
		✓	✓			IUT configured with an iFC1 designed to contact AS1 for the MESSAGE			
						iFC1 has default handling set to SESSION TERMINATED			
		✓		✓		IUT configured with an iFC2 designed to contact AS2 for MESSAGE			
						iFC1 has greater priority than iFC2			
	UE1	IUT	AS1	AS2	UE2				
Step]	Direction			Message	IF		
1		€	⇔			5xx response			
2	Œ	Ý,				5xx response			
3		₽		🖈		MESSAGE	ISC2		

						Test Purpose			
Identif	fier:	TP_IN	AST2_IS	C_STA_	06				
Summ	ary:	handli		SESSION	_TERM	onse from the AS for a SIP MESSAGE request and the iFC has INATED then it returns the response to the UE and does not for			
Clause	:	5.4.3.2	, fifth par	ragraph a	fter the fi	irst numbered list 14)			
Refere	nces:	-				Config Ref: CF_2Gm2ISC			
IUT R	ole:	IMS				Selection Expression: PICS A.2/3			
Entities						Condition			
	UE1	IUT	AS1	AS2	UE2				
	✓	✓			✓	UE1 and UE2 registered in IUT			
	✓	✓			✓	IUT has received MESSAGE from UE1 addressed to UE2			
		✓	✓			IUT has sent MESSAGE to AS1 via ISC1			
		✓	✓			IUT configured with an iFC1 designed to contact AS1 for the MESSAGE			
						iFC1 has default handling set to SESSION TERMINATED			
		✓		✓		IUT configured with an iFC2 designed to contact AS2 for MESSAGE			
						iFC1 has greater priority than iFC2			
	UE1	IUT	AS1	AS2	UE2				
Step]	Direction			Message	IF		
1		€	ŶŊ			408 response			
2	Ŷ <u>t</u>	Ýħ				408 response			
3		₽		🖈		MESSAGE	ISC2		

					Test Purpose		
Identif	ier:	TP_IMST2	2_ISC_STA	_07			
Summ	ary:	When S-CS to the UE.	CF receive	s a SIP 200	response from the AS for a SIP ME	ESSAGE request then it for	wards it
Clause	:	5.4.3.2					
Refere	nces:	-			Config Ref:	CF_2Gm1ISC	
IUT Role: IMS					Selection Expression:	PICS A.2/3	
	Entities				Conditio	n	
	UE1	IUT	AS1	UE2			
	✓	✓		✓	UE1 and UE2 registered in IUT		
	✓	✓		✓	IUT has received MESSAGE from	UE1 addressed to UE2	
		✓	✓		IUT configured with an iFC design MESSAGE	ed to contact AS1 for the	
		✓	✓		IUT has sent MESSAGE to AS1 vi	a ISC	
	UE1	IUT	AS1	UE2			
Step		Direc	ction		Message		IF
1		Ŷ.	Ą		200 response		ISC
2	Ŷ.	क्र			200 response		

					Test Purpose	
Identif	fier:	TP_IMST	2_ISC_STA	_08		
Summ	ary:				on Server (AS) the response to a SIP MESSAGE request from the standalone transaction.	a served
Clause	Clause: 5.4.3.2, fifth paragraph after the f			after the f	irst numbered list 14)	
Refere	ences:	-			Config Ref: CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression: PICS A.2/3	
		Ent	ities		Condition	
	UE1	IUT	AS1	UE2		
	✓	✓		✓	UE1 and UE2 registered in IUT	
	✓	✓		✓	IUT has received MESSAGE from UE1 addressed to UE2	
					containing the type3 orig-ioi parameter	
		✓		✓	IUT has sent MESSAGE to UE2 via GM	
		✓	✓		IUT has sent MESSAGE to AS1 via ISC	
		✓	✓		AS1 has indicated the handling of the whole dialogue to IUT	
	UE1	IUT	AS1	UE2		
Step		Dire	ction		Message	IF
1		€		¢ħ	200_response	
2		₩,	£		200_response ✓ P-Charging-Vector header ✓ type3 orig-ioi parameter from the initial MESSAGE ✓ type3 term-ioi parameter	ISC

					Test Purpose				
Identif	fier:	TP_IMST2	2_ISC_STA	_09					
Summ	ary:	When a S-C request to the		ves a SIP N	MESSAGE request destined for an	ınregistered user it forwards	the		
Clause	2:	5.4.3.3							
Refere	References: -				Config Ref:	CF_1Gm1ISC			
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/3			
	Entities				Conditi				
	UE1	IUT	AS1	UE2					
	✓	✓			UE1 registered in IUT				
		×		×	UE2 not registered in IUT				
		✓	✓		IUT configured with an iFC design MESSAGE	gned to contact AS1 for			
	UE1	IUT	AS1	UE2					
Step		Direc	ction		Messa	ge	IF		
1	₩	±Ĵ			MESSAGE				
2		\$	₽		MESSAGE	MESSAGE			

					Test Purpose		
Identif	ier:	TP_IMST2	2_ISC_STA	_10			
Summ	ary:		-CSCF rece eter it forwa		MESSAGE request containing P-Ce AS.	harging-Vector header inclu	ding
Clause	:	5.3.2.1, par	agraph 2				
Refere	References: - Config Ref: CF_2Gm1ISC						
IUT Role: IMS Selection Expression: PICS A.2/3					PICS A.2/3		
Entities					Conditi	on	
	UE1	IUT	AS1	UE2			
	✓	✓		✓	UE1 and UE2 registered in IUT		
		✓			IUT configured for forwarding M	ESSAGE directly to AS1	
	UE1	IUT	AS1	UE2			
Step		Direc	ction		Messaş	<u>ge</u>	IF
1	\$				MESSAGE ✓ P-Charging-Vector header ✓ icid parameter		
2		\$	Ð		MESSAGE ✓ P-Charging-Vector header ✓ icid parameter		ISC

					Test Purpose		
Identif	ier:	TP_IMST2	2_ISC_STA	_11			
Summ	ary:				MESSAGE request containing P-Ch rameter prior to forwarding it to the		ncluding
Clause	: :	5.3.2.1, par	agraph 2				
Refere	nces:	-			Config Ref:	CF_2Gm1ISC	
IUT Role: IMS					Selection Expression:	PICS A.2/3	
Entities					Condition	n	
	UE1	IUT	AS1	UE2			
	✓	✓		✓	UE1 and UE2 registered in IUT		
		✓			IUT configured for forwarding ME	SSAGE directly to AS1	
	UE1	IUT	AS1	UE2			
Step		Direc	ction		Message		IF
1	₽	卦			MESSAGE ✓ P-Charging-Vector header × icid parameter		
2		₩	ਜੁੰ		MESSAGE ✓ P-Charging-Vector header ✓ icid parameter		ISC

6.3.5 Subsequent requests on a dialogue procedures

					Test Purpose	
Identif	fier:	TP_IMST	2_ISC_SUI	B_01		
Summ	ary:	When S-CS	SCF receive	s a SIP AC	CK request then it forwards it to an AS outside the trusted dom	ain.
Clause	:	5.4.3.2				
Refere	ences:	-			Config Ref: CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression: PICS A.2/3	
		Ent	ities		Condition	
	UE1	IUT	AS1	UE2		
	✓	✓		✓	UE1 and UE2 registered in IUT	
	✓	✓		✓	IUT has received INVITE from UE1 addressed to UE2	
		✓	✓		IUT configured with an iFC designed to contact AS1 for INVITE	
		✓		✓	IUT has sent INVITE to UE2 via GM	
		✓	✓		IUT has sent INVITE to AS1 via ISC	
		✓		✓	IUT has received 200 response from UE2	
	✓	✓			IUT has sent 200 response to UE1	
		×	×		AS1 not configured for being in the same trust domain as IUT	
		✓	✓		AS1 has indicated the handling of the whole dialogue to IUT	,
	UE1	IUT	AS1	UE2		
Step		Dire	ction		Message	IIF
1	₽	Ð			ACK	
2		\$	Ð		ACK ➤ P-Access-Network-Info header ✓ P-Charging-Vector header ➤ access-network-charging-info parameter	ISC

6.4.6 Target refresh request procedures

					Test Purpose	
Identif	fier:	TP_IMST	2_ISC_TAI	R_01		
Summ	ary:				served user a target refresh request for a dialogue then it f and returns a 100 response to the UE.	forwards it to
Clause	:	5.4.3.2				
Refere	ences:	-			Config Ref: CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression: PICS A.2/3	
	Entities				Condition	
	UE1	IUT	AS1	UE2		
	✓	✓			UE1 registered in IUT	
	✓	✓		✓	IUT has received INVITE from UE1 addressed to UE2	
		✓	✓		IUT configured with an iFC designed to contact AS1 for INVITE	
		✓		✓	IUT has sent INVITE to UE2 via GM	
		✓	✓		IUT has sent INVITE to AS1 via ISC	
		×	×		AS1 not configured for being in the same trust domain a IUT	ıs
		✓	✓		AS1 has indicated the handling of the whole dialogue to	IUT
	UE1	IUT	AS1	UE2		
Step		Dire	ction		Message	IF
1	₩	卦			target refresh INVITE	
2		₩	ਜੁੰਮ		INVITE ➤ P-Access-Network-Info header ✓ P-Charging-Vector header ➤ access-network-charging-info parameter	
3	ŶĿ	和			100 response	Gm

					Test Purpose			
Identif	fier:	TP_IMST	2_ISC_TAI	R_02				
Summ	ary:				NVITE request from a UE within arome network of the S-CSCF and retu			
Clause	:	5.4.3.2						
Refere	ences:	-			Config Ref:	CF_2Gm1ISC		
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/3			
		Ent	ities		Condition	on		
	UE1	IUT	AS1	UE2				
	✓	✓		✓	UE1 and UE2 registered in IUT			
	✓	~		✓	IUT has received INVITE from U - INVITE	E1 addressed to UE2 -		
		~	✓		IUT configured with an iFC desig INVITE	IUT configured with an iFC designed to contact AS1 for INVITE		
		✓		✓	IUT has sent INVITE to UE2 via	GM		
		✓	✓		IUT has sent INVITE to AS1 via l	SC		
		✓	✓		AS1 has indicated the handling of	the whole dialogue to IUT		
			✓		AS1 configured for being within s S-CSCF	ame IMS network as IUT		
	UE1	IUT	AS1	UE2				
Step		Dire	ction		Messag		IF	
1	₽	卦			target refresh INVITE			
2		₩,	ਜੁੰ		INVITE ✓ P-Access-Network-Info head ✓ P-Charging-Vector header ✓ access-network-charging-in		ISC	
3	ŶĿ;	ŶĮ.			100 response		Gm	

					Test Purpose				
Identif	fier:	TP_IMST2	2_ISC_TAI	R_03					
Summ	ary:		to an AS or	itside the h	reINVITE request from a UE with ome network of the S-CSCF with UE.				
Clause	:	5.4.3.2							
Refere	ences:	-			Config Ref:	CF_2Gm1ISC			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3			
		Ent	ities		Cond	ition			
	UE1	IUT	AS1	UE2					
	✓	✓			UE1 registered in IUT				
	✓	✓		✓	IUT has received INVITE from	UE1 addressed to UE2			
		✓	✓		IUT configured with an iFC de INVITE	IUT configured with an iFC designed to contact AS1 for INVITE			
		✓		✓	IUT has sent INVITE to UE2 v	ia GM			
		✓	✓		IUT has sent INVITE to AS1 v	ia ISC			
		✓	✓		AS1 has indicated the handling	of the whole dialogue to IUT			
			×		AS1 not configured for being v IUT S-CSCF	vithin same IMS network as			
	UE1	IUT	AS1	UE2					
Step		Direc	ction		Mess	sage	IF		
1	₩	卦			target refresh INVITE				
2		\$	ਜੁੰ		INVITE ★ P-Access-Network-Info header ✓ P-Charging-Vector header ★ access-network-charging-info parameter				
3	र्दे	ŶĬ			100 response		Gm		

					Test Purpose						
Identif	fier:	TP_IMST	2_ISC_TAI	R_04							
Summ	ary:		When S-CSCF receives a SIP 200 (OK) response to a SIP reINVITE request then forwards it to an A outside the home network of the S-CSCF without charging information.								
Clause	:	5.4.6.1.3, p	aragraph 1								
Refere	ences:	-			Config Ref:	CF_2Gm1ISC					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3					
		Ent	ities		Conc	lition					
	UE1	IUT	AS1	UE2							
	✓	✓			UE1 registered in IUT						
	✓	✓	✓ IUT has received INVITE from UE1 addressed to UE2								
		✓	✓		IUT configured with an iFC de INVITE	IUT configured with an iFC designed to contact AS1 for INVITE					
		✓		✓	IUT has sent INVITE to UE2	IUT has sent INVITE to UE2 via GM					
		✓	✓		IUT has sent INVITE to AS1 v	via ISC					
		×	×		AS1 not configured for being within same IMS network as IUT						
		✓	✓		AS1 has indicated the handling of the whole dialogue to IUT						
	✓	✓			IUT has received target refresh	INVITE from UE1					
		✓		✓	IUT has sent target refresh INV	/ITE to UE2 via Gm					
		✓	✓		IUT has sent target refresh INV	VITE to AS1 via ISC					
	UE1	IUT	AS1	UE2							
Step		Dire	ction		Mes	sage	IF				
1		€ <u>z</u>		4J	200 response ✓ P-Charging-Vector header ✓ access-network-charging-info parameter						
2		₽	Ð		200 response ✓ P-Charging-Vector heade * access-network-charging		ISC				

					Test Purpose			
Identifier:		TP_IMST2_ISC_TAR_05						
Summary:		When S-CSCF receives a SIP 200 (OK) response to a SIP reINVITE request then it forwards it to an AS located inside the home network of the S-CSCF.						
Clause	:	5.4.6.1.3, p	aragraph 1					
References:		-			Config Ref:	CF_2Gm1ISC		
IUT Role:		IMS			Selection Expression:	PICS A.2/3		
		Entities			Conditio	n		
	UE1	IUT	AS1	UE2				
	✓	✓			UE1 registered in IUT			
	✓	✓		✓	IUT has received INVITE from UE1 addressed to UE2			
		✓	✓		IUT configured with an iFC designed to contact AS1 for INVITE			
		✓		✓	IUT has sent INVITE to UE2 via C	GM		
		✓	✓		IUT has sent INVITE to AS1 via ISC			
		✓	✓		AS1 configured for being within sa	ame IMS network as IUT		
		✓	✓		AS1 has indicated the handling of	the whole dialogue to IUT		
	✓	✓			IUT has received target refresh IN	VITE from UE1		
		✓		✓	IUT has sent target refresh INVITI	E to UE2 via Gm		
		✓	✓		IUT has sent target refresh INVITE to AS1 via ISC			
	UE1	IUT	AS1	UE2				
Step		Direction			Messago	e	IF	
1		€		Ą	200 response ✓ P-Charging-Vector header ✓ access-network-charging-info parameter			
2		₽	Ð		200 response ✓ P-Charging-Vector header ✓ access-network-charging-info parameter IS		ISC	

Annex A (normative): TPLan code

The test purposes defined in the present document have been automatically generated from the text files in the archive file ts_10279002v020101p0.zip which accompanies the present document. The raw text file has been converted to a table format to allow better readability.

The two formats shall be considered equivalent. In the event that there appears to be syntactical or semantic differences between the two then the textual TPlan representation takes precedence over the table format.

Annex B (informative): Bibliography

IETF RFC 3261: "SIP: Session Initiation Protocol".

ISO/IEC 9646-2: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 2: Abstract Test Suite specification".

ETSI EG 202 568: "Methods for Testing and Specification (MTS); Internet Protocol Testing (IPT); Testing: Methodology and Framework".

History

Document history						
V1.1.1	March 2010	Publication				
V2.1.1	February 2013	Publication				