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Core Network and Interoperability Testing (INT);
IMS specific use of Session Initiation Protocol (SIP) and
Session Description Protocol (SDP);
Conformance Testing;
(3GPP Release 10);

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

Reference

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Contents

Intelle	ectual Property Rights	5
Forew	vord	5
Moda	ıl verbs terminology	5
1	Scope	6
2	References	6
2.1	Normative references	
2.2	Informative references.	
3	Definitions and abbreviations	
3.1 3.2	Definitions	
3.2	Abbreviations	
4	Test configurations	
4.1	Test configurations using Gm interface only	
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	11
5.3	The tabular symbolic TP presentation format	12
6	Test Purposes (TP)	1.4
6.1	Test purposes (17)	
6.1.1	General	
6.1.2	Registration procedures	
6.1.3	Initial request procedures	
6.1.4	Standalone requests procedures	
6.1.5	Subsequent request procedures	
6.1.6	Target refresh request procedures	
6.1.7	Emergency procedures	58
6.1.8	Exceptional procedures	61
6.1.9	SDP procedures	64
6.1.10	1 · · · · · · · · · · · · · · · · · · ·	
6.2	Test purposes for the Mw interface	
6.2.1	General	
6.2.2	Registration procedures	
6.2.3	Initial request procedures	
6.2.4 6.2.5	Standalone requests 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	Subsequent requests on a dialogue procedures	
6.3.6	Target refresh request procedures	
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	204

6.3.5 6.4.6	• •		21 21	
Annex A (i	nformative):	Bibliography	22	0
History				1

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Foreword

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

Modal verbs terminology

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

"must" and "must not" are NOT allowed in ETSI deliverables except when used in direct citation.

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.

29 (V10.14.0): "Digital cellular telecommunications system (Phase 2+); Universal munications System (UMTS); LTE; IP multimedia call control protocol based on on Protocol (SIP) and Session Description Protocol (SDP); Stage 3 29 version 10.14.0 Release 10)".
1: "Information technology Open Systems Interconnection Conformance ology and framework Part 1: General concepts".
7: "Information technology Open Systems Interconnection Conformance ology and framework Part 7: Implementation Conformance Statements".
406: "Methods for testing and Specification (MTS); Protocol and profile sting specifications; Standardization methodology".
1

- [6] ETSI TS 102 790-1: "Core Network and Interoperability Testing (INT); IMS specific use of Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Conformance Testing; (3GPP Release 10); Part 1: Protocol Implementation Conformance Statement (PICS)".
- [7] IETF RFC 4028: "Session Timers in the Session Initiation Protocol (SIP)".

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.

[i.1] Void.

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 abbreviations given in TS 124 229 [1] and the following apply:

AS Application Server ATS Abstract Test Suite

AUTS AUThentication Synchronization

CS Circuit Switched

CSCF Call Session Control Function

E-CSCF Emergency CSCF

FQDN Fully Qualified Domain Name

IBCF Interconnection Border Control Function

I-CSCF Interrogating CSCF

IF InterFace

IMPU IMS Public Identity

IMS AKA IMS-Authentication and Key Agreement

IMS IP Multimedia Subsystem

IP Internet Protocol

IUT Implementation Under Test

P-CSCF Proxy CSCF

PICS Protocol Implementation Conformance Statement
PIXIT Protocol Implementation eXtra Information for Testing

S-CSCF Serving CSCF

SDP Session Description Protocol

SE Session-Expires

SIP Session Initiation Protocol
SUT System Under Test
TP Test Purpose
TS Test System

TSS Test Suite Structure

UDP Unreliable Datagram Protocol

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 visualize 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.

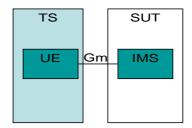


Figure 1: Test configuration CF_1Gm

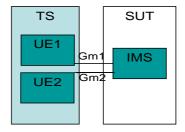


Figure 2: Test configuration CF_2Gm

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.

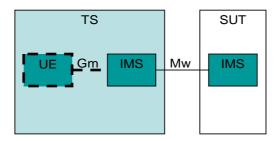


Figure 3: Test configuration CF 1Mw

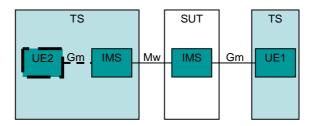


Figure 4: Test configuration CF_1Mw1Gm

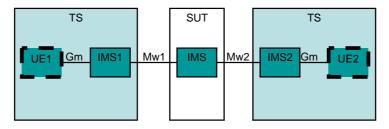


Figure 5: Test configuration CF_2Mw

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.

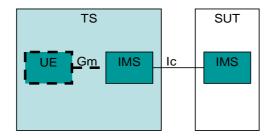


Figure 6: Test configuration CF_1Ic

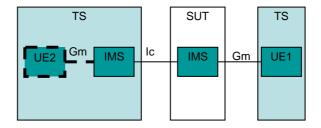


Figure 7: Test configuration CF_1lc1Gm

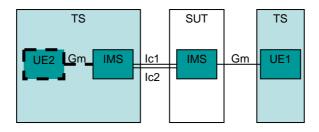


Figure 8: Test configuration CF_2lc1Gm

4.4 Test configurations using the ISC interface

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

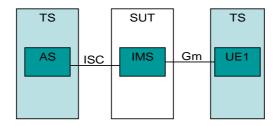


Figure 9: Test configuration CF_1ISC1Gm

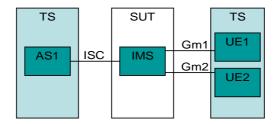


Figure 10: Test configuration CF_1ISC2Gm

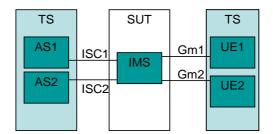


Figure 11: Test configuration CF_2ISC2Gm

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:	TP_ <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 [6] 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 [6].

EXAMPLE 2: A.5/4 is the reference to the answer of item 4 in table A.5 of TS 102 790-1 [6].

5.3 The tabular symbolic TP 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 "\scrtw" or "\scrtw" marks to indicate all the entities affected by this condition. "\scrtw" marks indicates a positive condition, e.g. "A is registered in B", whereas "\scrtw" 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

Ent	ities	Condition
А	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 "\$\operatorname{O}" or "\$\operatorname{O}"), e.g. entity A sends the message, to a destination entity (identified by the direction symbols "\$\operatorname{O}" or "\$\operatorname{O}"), e.g. entity B receives the message. The use of the "||" symbol in combination with the direction symbols, e.g. "||\$\operatorname{O}", 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.

A В some request ✓ this header ✓ this one parameter → this value ₡> 1 Ð $\mathbf{X}\mathbf{x}$ ✓ this other parameter →|| that value * that parameter * that header failure response Ŷ Œ 2a $\mathbf{X}\mathbf{x}$ no message 2b **&**|| 1144 $\mathbf{X}\mathbf{x}$

Table 3: Example TP body section

6 Test Purposes (TP)

6.1 Test purposes for the Gm interface only

6.1.1 General

Test Purpose							
Identif	ier:	TP_IMST2_GM_	GEN_01				
Summ	ary:	All IMS CN comp	onents shall sup	pport SIP messages which are	greater than 1 300 bytes in length	h.	
Clause	:	4.2A, paragraph 1					
Refere	nces:	-		Config Ref:	CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1		
	Entities			Co.	ndition		
	UE1	IUT	UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT			
		✓		IUT configured for establish security association	ing digest without TLS as		
	UE1	IUT	UE2				
Step		Direction		Message		IF	
1	₽	MESSAGE for UE2 ✓ Message Body greater than 1 300 bytes					
2		4	Ð	MESSAGE		Gm	

6.1.2 Registration procedures

				Test Purpose		
Identif	fier:	TP_IMST2	2_GM_REG_01			
withou			tection, and the Sec	EGISTER request from the UE are curity-Client header is not present		
Clause	:	5.2.2.2 first	numbered list 2 a			
Refere	ences:	-		Config Ref:	CF_1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		ties	Co.	ndition	
	τ	JE1	IUT			
		×	×	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	Direction		etion	Message		IF
1		₿	Ð	unprotected REGISTER * Security-Client header		
2		€	領	4xx response		Gm

			Test Purpose		
Identif	fier: TP_IMST	T2_GM_REG_02			
Summ			tected REGISTER request from nall return a suitable SIP 4xx res	the UE and the Security-Verify has ponse.	eader is
Clause	5.2.2.2 firs	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 401 response		
	✓		UE1 has initiated IMS AKA establishment	security association	
	UE1	IUT			
Step	Dire	ection	Message		IF
1	₩ #		protected REGISTER ★ Security-Verify header		
2	Ĉī.	ŶĮ.	4xx response		Gm

			Test Purpose		
Identif	ier: TP_I	MST2_GM_REG_03			
Summ			ected REGISTER request from the all return a suitable SIP 4xx respo		eader is
Clause	5.2.2.	2 first numbered list 3)a			
Refere	nces: -		Config Ref:	CF_1Gm	
IUT R	ole: IMS		Selection Expression:	PICS A.2/1	
		Entities	Cond	ition	
	UE1	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	curity association	
	UE1	IUT			
Step		Direction	Message		IF
1	₩, #		protected REGISTER ★ Security-Client header		
2	Œ	¢ħ.	4xx response		Gm

	Test Purpose						
Identif	fier: TP_IMST	2_GM_REG_04					
Summary: When a P-CSCF receives an unproheader is not present, then the P-Cs					nt		
Clause	5.2.2.2 firs	t numbered list 3)b					
Refere	ences: -		Config Ref:	CF_1Gm			
IUT R	ole: IMS		Selection Expression:	PICS A.2/1			
Enti		ities	Condition				
	UE1	IUT					
	×	×	UE1 not registered in IUT				
		✓	IUT configured for establishing IMS AKA security association				
	✓		UE1 has initiated IMS AKA establishment	security association			
	UE1	IUT					
Step	Dire	ction	M	lessage	IF		
1	₩,	₽	unprotected REGISTER ★ Security-Client header				
2	€ E	¢ħ	4xx response		Gm		

				Test Purpose		
Identif	ier: TP_	IMST2	2_GM_REG_05			
identity con		veyed in the Authoriz or authenticated, the I	cted REGISTER request from a cation header of the request are of P-CSCF shall reject the REGIST	different from the ones previous	sly	
Clause	5.2.2	2.2 first	numbered list 3)c			
Refere	nces: -			Config Ref:	CF_1Gm	
IUT R	ole: IMS	S		Selection Expression:	PICS A.2/1	
		Enti	ties	Con	dition	
	UE1		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 s establishment	ecurity association	
	UE1		IUT			
Step	ep Direction		Message		IF	
1	₩ \$		protected REGISTER ✓ Authorization header → invalid private user ide	ntity		
2	Ŷ.		ф	403 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2	C_GM_REG_06			
identity con		veyed in the Autho or authenticated, th	ortected REGISTER request from orization header of the request ar e P-CSCF shall reject the REGI	re different from the ones prev	iously	
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	
	Entities		ties	Co	Condition	
		UE1	IUT			
		✓	✓	UE1 registered in IUT		
			✓	IUT configured for establishing IMS AKA security association		
		✓		UE1 has initiated IMS AKA establishment	A security association	
		UE1	IUT			
Step		Direc	tion	Message		IF
1		<i>p</i>	ъ́	protected REGISTER ✓ Authorization header → invalid private user identity		
2		(E	Ą	403 response		Gm

				Test Purpose		
Identi	fier:	TP_IMST2	2_GM_REG_07			
Summ	ary:		CSCF receives an unpr P 401 response.	otected REGISTER request from	om a non-registered UE it acc	epts it and
Clause	Clause: 5.2.2.2 second numbered list		ond numbered list			
Refere	ences:	-		Config Ref:	CF_1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Enti		ities	Cor	ndition	
	1	UE1	IUT			
	×		×	UE1 not registered in IUT		
			✓	IUT configured for establishing IMS AKA security association		
		✓		UE1 has initiated IMS AKA security association establishment		
	1	UE1	IUT			
Step		Direc	ction	Mo	essage	IF
1		\$	£	unprotected REGISTER		
2		िंच	ф	401 response ✓ Security-Server header ✓ static signalling plane ✓ WWW-Authenticate hea × CK parameter × IK parameter	der	Gm

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_REG_08			
Summ	v		and/or the Expires	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	nces:	-		Config Ref:	CF_1Gm	
IUT R	IUT Role: IM			Selection Expression:	PICS A.2/1	
		Enti	ties	Co	ondition	
		UE1	IUT			
		x x		UE1 not registered in IUT	UE1 not registered in IUT	
			✓	IUT configured for establish association	ning IMS AKA security	
		✓		UE1 has sent unprotected Riresponse	EGISTER and has received 401	
		✓		UE1 has initiated IMS AKA establishment	security association	
		UE1	IUT			
Step		Direc	ction	M	lessage	IF
1		₩	£	protected REGISTER		
2		Œ	ŶĴ	200 response		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM	_REG_09			
Summa	ary:		TER request fro		the visited network and a P-CSCF return a SIP 504 (Server Time-ou	
Clause: 5.2.2.1 second numbered list 5)						
Refere	nces:	-		Config Ref:	CF_1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities			Co	ondition	
	UE1	IUT	IMS			
	✓	✓		UE1 is visiting IUT		
		✓		IUT configured for establish association	hing digest without TLS security	
		✓		IUT configured for topolog	y hiding	
		×	×	IUT not configured with an entry point to IMS		
	UE1	IUT	IMS			
Step		Direction		N	Iessage	IF
1	₩	卦		REGISTER		
2	Œ	¢ħ		504 response		Gm

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_REG_11			
Summ					ed UE and the value of the Expire is set to zero it sends a 200 (OK	
Clause	:	5.2.5.1				
Refere	nces:	-		Config Ref:	CF_1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities			Со	ndition	
	U	Œ1	IUT			
	✓		✓	UE1 registered in IUT		
			✓	IUT configured for establish association	ing digest without TLS security	
	U	JE1	IUT			
Step		Direc	ction	M	essage	IF
1		₩	∌	REGISTER ✓ Expires header → 0		
2		Ĉ:	Å	200 response ✓ Expires header → 0		Gm

6.1.3 Initial request procedures

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	INI_01			
Summ	ary:			al request for a dialogue from 100 (Trying) response to the	a UE then it forwards the request originating UE.	to
Clause	:	5.2.1 before first n	umbered list; 5	5.2.6.3.3 item 1,4,5; 5.2.6.4.3	item 5,7; 5.2.7.2	
Refere	nces:	-		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	Iessage	IF
1	₩	£		INVITE for UE2		
2	Ŷ.	Ŷħ		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:	matching the store	d Service-Rout nation UE witl	al request for a dialogue from a UE te header then it either returns a SIP h an updated Route header and retur	400 response to the UE or f	orwards		
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	on			
	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 storage. 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	: :	5.2.	6.3.4; 5.2.6.4.4	first numbered	l 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			Ŷ.	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	nitial
Clause	:	5.2.1 before first n	umbered list; 5	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		€	섞	180 response for UE1 ✓ P-Preferred-Identity header	
2	€द	ф		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			
Summ	ary:				alid SIP 2xx response as a result of a form to the originating UE.	orwarded request for an	initial
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			
	✓		✓	✓	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		क्ष		200 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	INI_04A			
Summ				id SIP 2xx response as a result of a forto the originating UE.	orwarded request for an in	itial
Clause: 5.2.1 before first numbered list; 5.2.6.3.4; 5.2.6.4				.2.6.3.4; 5.2.6.4.4 first numbered list		
Refere	ences:	-		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 received INVITE from UE1		
		✓	✓	IUT has sent INVITE to UE2		
	UE1	IUT	UE2			
Step		Direction		Message		IF
1		₹	¢ħ	200 response for UE1 ✓ P-Preferred-Identity header		
2	€	ф		 200 response P-Charging-Vector header P-Charging-Function-Addresse P-Preferred-Identity header 	s header	Gm

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	INI_05			
Summ	ary:	When a P-CSCF refor a dialogue it fo		ner response other than a SIP 1xx or e originating UE.	a 2xx to an initial request to	a UE
Clause	:	5.2.6.4.4 second no	umbered list			
Refere	ences:	-		Config Ref:	CF_2Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities			Condition		
	UE1	UE1 IUT UE2				
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing diassociation	gest without TLS security	
		✓	✓	IUT has sent INVITE to UE2		
	UE1	IUT	UE2			
Step		Direction		Messag		IF
1		₹ L	4	4xx response for UE1		
2	Œ	[⟨] n		4xx response		Gm

				Test Purpose	
Identif	ier:	TP_IMST2_GM_	INI_06		
Summ	-	for a dialogue and i	f the list of V	her response other than a SIP 1xx or a 2xx to an initial request in headers does not match the saved list of Via headers received the dialog, it either sends no message or forwards it to the original transfer of the content of the	l in the
Clause	:	5.2.6.4.4 second nu	mbered list		
Refere	nces:	-		Config Ref: CF_2Gm	
IUT R	ole:	IMS		Selection Expression: PICS A.2/1, A.3/25.4.1	
	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		Message	
1		₹	ф.	4xx response for UE1 ✓ Via header not matching stored Via header	
2a	€ ∥	¢¤		no message	
2b	Ŷ Ŀ	⇔ _n		4xx response ✓ Via header → stored Via header	Gm

				Test Purpose				
Identi	fier:	TP_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 [7]					
Refere	ences:	-		Config Ref:	CF_1Gm			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/26.1.1			
		Entities		Cone	dition			
		UE1	IUT					
		✓	✓	UE1 registered in IUT				
			✓	IUT configured for establishing digest without TLS security association				
		UE1	IUT					
Step		Direc	ction	Mes	ssage	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_	INI_08			
request from a UE and the Session			and the Sessio	c refreshment of a session establishe n-Expires header of the INVITE req quest to the destination UE and return	uest indicates acceptable re	fresh
Clause	:	5.2.7.2, 5.2.8.3, RF	FC 4028 [7]			
Refere	nces:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/26.1.1	
		Entities		Condition	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	Æ.	ф		100 response		
3		₽\$	±Ŷ	INVITE ✓ Session-Expires header		Gm

6.1.4 Standalone requests procedures

				Test Purpose		
Identif	ïer:	TP_IMST2_GM_	STA_01			
Summary: When a P-CSCF receives a request for a standalone transaction from a UE with preloaded matching the stored Service-Route header then it either returns a SIP 400 response to the U the request to destination UE with an updated Route header and returns a SIP 100 (Trying the originating UE.						forwards
Clause: 5.2.6.3.7 item 2						
Refere		-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1, A.3/24.8.1	
		Entities		Condit	ion	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing association	digest without TLS security	
	UE1	IUT	UE2			
Step		Direction		Messa	ge	IF
1	₽\$	£		MESSAGE for UE2 ✓ Route header not matching stored Service-Route header		
2a	₹£	ф		400 response		
3a		\$∥	🗗	no message		Gm
2b	Ýt <u>.</u>	ф.	100 response			
3b		₩,	र्ज	MESSAGE		Gm

				Test Purpose				
Identif	ier:	TP_IMST2_GM_	STA_02					
Summary:		When a P-CSCF receives a request for a standalone transaction from a UE with preloaded Route matching the stored Service-Route header then it forwards the request to destination UE and returns a SIP 100 (Trying) response to the originating UE.						
Clause	:	5.2.1 before first nu	umbered list; 5	5.2.6.3.7 item 1,4; 5.2.6.4.7 item 3	1			
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 security association				
	UE1	IUT	UE2					
Step		Direction		Message		IF		
1	₩	卦		MESSAGE for UE2				
2	Œ	Ŷд		100 response				
3	3		Ð	MESSAGE ✓ Route header × SIP URI of IMS P-CSCF ✓ Via header → address of IUT P-CSCF or FQDN address of IUT P-CS × P-Charging-Vector header × P-Charging-Function-Addresse × P-Preferred-Identity header		Gm		

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	STA_03			
Summ	ary:	When a P-CSCF reforwards the reque		00 response to a forwarded request fating UE.	for a standalone transaction	then it
Clause	:	5.2.1 before first n	umbered list; 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		Conditio	n	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing diassociation	gest without TLS security	
		✓	✓	IUT has sent MESSAGE to UE2		
	UE1	IUT	UE2			
Step		Direction		Message	e	IF
1		Ŷ _E	Ŷħ	200 response for UE1		
2	₽ ₽			 200 response P-Charging-Vector header P-Charging-Function-Addresses header P-Preferred-Identity header 		Gm

				Test Purpose			
Identif	ier:	TP_IMST2_GM_	STA_04				
Summ			eceives any 4xx response to a forwarded request for a standalone transaction then it est to the originating UE.				
Clause	:	5.2.1 before first n	umbered list; 5	5.2.6.3.8, 5.2.6.4.8			
Refere	nces:	-		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 sent MESSAGE to UE2			
	UE1	IUT	UE2				
Step		Direction		Mes	sage	IF	
1		(E	Å,	4xx response for UE1			
2	€द	ħ		4xx response P-Charging-Vector header P-Charging-Function-Addr P-Preferred-Identity header		Gm	

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	STA_05			
Via headers does not match the say				sponse for a standalone request to a Uaved list of Via headers received in the essage or forwards it to the originating	he request corresponding to	
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		Conditio	n	
	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		Message	2	IF
1		€च	4	4xx response for UE1 ✓ Via header not matching stored Via header		
2a	€ ∥	⇔		no message		
2b	€ _c	Ŷ.		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		osequent request for non-existing any further.	dialogue it rejects it with a SIF	9 403
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		Cone	lition	
	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		Mes	sage	IF
1	₩	卦		BYE for UE2		
2	Œ	¢ħ		403 response		
3		\$∥	 ∌	no message		Gm

				Test Purpose		
Identif	ïer:	TP_IMST2_GM_	SUB_02			
				osequent request with unknown UR ards it with an updated Route heade		ects 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		Condit	ion	
	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		Messa	ge	IF
1	∌	∌		BYE for UE2 ✓ Route header not matching stored Record-Route header		
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	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	e	IF
1		(c	Ŷħ	BYE for UE1 ✓ Route header not matching street. Record-Route header	ored	
2a		₩	£	400 response		
3a	€	∜		no message		
2b	(t	¢ħ		ВУЕ		Gm

					Test Purpose		
Identif	ier:	TP_II	MST2_GM_S	SUB_04			
Summ	ary:				equent request for existing dialogue without a P-Charging-Vector header.		į
Clause	:	5.2.11	before first nu	ımbered list; 5.	2.6.3.9; 5.2.6.4.9		
Refere	nces:	-			Config Ref:	CF_2Gm	
IUT R	UT Role: 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 dia	alogue from UE1 to UE2	
	UE1		IUT	UE2			
Step			Direction		Message		IF
1	\$		र्छ		BYE for UE2		
2			₽	Đ	BYE * P-Charging-Vector header * P-Charging-Function-Addresses header		Gm

					Test Purpose		
Identif	ier:	TP_	IMST2_GM_	SUB_05			
Summ	ary:				sequent request for existing dialowithout a P-Charging-Vector here		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	ole:	IMS			Selection Expression:	PICS A.2/1	
	Entities		Cond	lition			
	UE1		IUT	UE2			
	✓		✓	✓	UE1 and UE2 registered in IUT		
			✓		IUT configured for establishing digest without TLS security association		
	✓		✓	✓	IUT has established an INVITI	E dialogue from UE1 to UE2	
	UE1		IUT	UE2			
Step			Direction		Mes	sage	IF
1			Ŷ£	Å	BYE for UE1		
2	¢ _T		Ϋ́D		BYE ★ P-Charging-Vector header ★ P-Charging-Function-Address	resses header	Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM	[_SUB_06			
Summ	ary:	When the P-CSC terminating UE.	F receives a SI	P 200 to subsequent request from the origi	inating UE it forwards i	it to the
Clause: 5.2.6.4.10						
Refere	nces:	-		Config Ref: CF_	_2Gm	
IUT R	ole:	IMS		Selection Expression: PIC	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 UE1 for U	E2	
		✓	✓	IUT has sent BYE to UE2		
	UE1	IUT	UE2			
Step		Direction		Message		IF
1		Ŷ _E	¢ħ	200 response for UE1		
2	Œ	Ŷħ		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	n	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IUT		
		✓		IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVITE dia	alogue 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		€	Ŷħ	200 response for UE1		
2	Œ	ф		200 response * P-Charging-Vector header * P-Charging-Function-Addresse	es 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 terminati	ng UE it forwards i	it to the
Clause: 5.2.6.4.10						
Refere	nces:	-		Config Ref: CF_2Gr	n	
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 established an INVITE dialogue from UE1 to UE2		
	✓	✓	✓	IUT has received BYE from UE2 for UE1		
	✓	✓		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			
Summa	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	.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 digest without TLS security association		
	✓	✓	✓	IUT has established an INVITE dialogue from UE1 to UE2		
	✓	✓	✓	IUT has received BYE from UE2 for	or UE1	
	✓	✓		IUT has sent BYE to UE1		
	UE1	IUT	UE2			
Step		Direction		Message		IF
1	₩	卦		200 response for UE2		
2		4	£	200 response * P-Charging-Vector header * P-Charging-Function-Addresse	s header	Gm

				Test Purpose	
Identif	ïer:	TP_IMST2_GM_	SUB_08		
Summ				P 200 with unknown Via header to a subsequent ret t forward it or updates the Via heading prior to for	
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			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 U	JE1 to UE2
	✓	✓	✓	IUT has received BYE from UE1 for UE2	
		✓	✓	IUT has sent BYE to UE2	
	UE1	IUT	UE2		
Step		Direction		Message	IF
1		€.	Ŷħ	200 response for UE1 ✓ Via header not matching stored Via header	
2a	€	II&		no message	
2b	Ŷ <u>t</u>	Ą		200 response ✓ Via header → stored Via header	Gm

				Test Purpose	
Identif	ier:	TP_IMST2_GM_	SUB_09		
Summ	ary:			P 200 with unknown Via header to a subsequent request from the forward it or updates the Via heading prior to forwarding it.	ne
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			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 UE1	
	✓	✓		IUT has sent BYE to UE1	
	UE1	IUT	UE2		
Step		Direction		Message	IF
1	₩	र्च		200 response for UE2 ✓ Via header not matching stored Via header	
2a		\$∥	🖈	no message	
2b		4	Ð	200 response ✓ Via header → stored Via header	Gm

				Test Purpose			
Identif	ier:	TP_IMST2_GM_	SUB_10				
Summ				ialogue for which the P-CSCF h Transaction Does Not Exist) resp	nas already initiated session relea conse.	se, the	
Clause	:	5.2.8.1.3 paragraph 1					
Refere	nces:	_		Config Ref:	CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1		
	Entities			Cor	ndition		
	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			
	✓	✓		IUT has sent BYE to UE1			
	UE1	IUT	UE2				
Step		Direction		Me	essage	IF	
1	♦	卦		BYE for UE2			
2	Œ.	¢ħ		481			
3		₩,	Ð	200		Gm	

6.1.6 Target refresh request procedures

				Test Purpose		
Identif	fier:	TP_IMST2_GM_	TAR_01			
Summ	-	When the P-CSCF response.	receives a ref	resh request for non-existing dialog	ue it shall reject it with a SII	P 403
Clause	:	5.2.6.3.5 item 1a				
Refere	ences:	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 not established an INVIT UE2	E dialogue from UE1 to	
	UE1	IUT	UE2			
Step		Direction		Messag	ge	IF
1	₽	卦		target refresh UPDATE for UE2	,	
2	Ŷŧ	¢ħ		403 response		
3		\$∥	£	no message		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_02			
Summ		When the P-CSCF or forward it with a		fresh request with unknown URI oute header.	in 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		Cone	dition	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IU	Т	
		✓		IUT configured for establishing digest without TLS security association		
	✓	✓	✓	IUT has established an INVIT	E dialogue from UE1 to UE2	
	UE1	IUT	UE2			
Step		Direction		Message		IF
1	₽Ş	∌		target refresh INVITE for U. ✓ Route header not matchin Record-Route header		
2a	€	¢ħ		400 response		
3a		\$∥	🗗	no message		
2b	Ŷ Ŀ	ф		100 response		
3b		₩,	£	INVITE		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_03			
Summ		When the P-CSCF SIP 100 and forwar		resh request for existing dialogu	ue from originating UE it shall re	eturn a
Clause	::	5.2.1 before first n	umbered list; 5	5.2.6.3.5 items 1A,3; 5.2.6.4.5		
Refere	nces:	es: - Config Ref: CF_2Gm		CF_2Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	,
		Entities		Cor	ndition	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IU	JT	
		✓		IUT configured for establishing digest without TLS security association		
	✓	✓ ✓		IUT has established an INVI	IUT has established an INVITE dialogue from UE1 to UE2	
	UE1	IUT	UE2			
Step		Direction		Message		IF
1	₩	卦		target refresh INVITE for U	JE2	
2	Œ	¢ħ		100 response		
3		₩	±Ŷ	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		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_04			
Summ	ary:	When the P-CSCF SIP 100 and forwar		resh request for existing dialogu	e from terminating UE it shall 1	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			Cone	lition	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IU	Γ	
		✓		IUT configured for establishing digest without TLS security association		
	✓ ✓ ✓		✓	IUT has established an INVIT	E dialogue from UE1 to UE2	
	UE1	IUT	UE2			
Step		Direction		Message		IF
1	l.	€ _a	¢ħ	target refresh INVITE for U	Ε1	
2		Ω̈́	Đ	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		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_05			
Summa		When the P-CSCF response to the original		d 180 response to refresh request fro	m terminating UE it forwa	rds the
Clause	:	5.2.1 before first n	umbered 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 UE1 for UE2	
		✓	✓	IUT has sent target refresh INVITE	to UE2	
	UE1	IUT	UE2			
Step		Direction	•	Message		IF
1		Ŷ a	ф	180 response for UE1		
2	€t.	À		180 response * P-Charging-Vector header * P-Charging-Function-Addresse	s header	Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_06			
Summ	ary:	When the P-CSCF response to the terr		d 180 response to refresh request fro	om originating UE it forwar	rds the
Clause	::	5.2.1 before first n	umbered list; 5	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	VITE 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		₩,	Ð	180 response * P-Charging-Vector header * P-Charging-Function-Addresse	s header	Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_07			
Summ	ary:			id 200 response to refresh reque to the originating UE.	st from terminating UE, it retur	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			Cone	lition	
	UE1	IUT	UE2			
	✓	✓	✓	UE1 and UE2 registered in IU	Т	
		✓		IUT configured for establishin association	g digest without TLS security	
	✓	✓	✓	IUT has established an INVIT	E dialogue from UE1 to UE2	
	✓	✓	✓	IUT has received target refresh INVITE from UE1 for UE2		
		✓	✓	IUT has sent target refresh IN	VITE to UE2	
	UE1	IUT	UE2			
Step		Direction		Mes	ssage	IF
1		Ŷ a	Ϋ́D	200 response for UE1		
2		4	Ð	ACK		
3	Ŷ a	Ą		200 response * P-Charging-Vector header * P-Charging-Function-Add		Gm

				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 r	eturns a
Clause	Clause: 5.2.1 before first numbered list;			.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 establishin association	g digest without TLS security	
	✓	✓	✓	IUT has established an INVIT	E dialogue from UE1 to UE2	
	✓	✓	✓	IUT has received target refres	h INVITE from UE2 for UE1	
	✓	✓		IUT has sent target refresh IN	VITE to UE1	
	UE1	IUT	UE2			
Step		Direction		Mes	ssage	IF
1	₩	£		200 response for UE2		
2	Ŷz.	¢ħ		ACK		
3		₩,	Ð	200 response * P-Charging-Vector header * P-Charging-Function-Add		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_09			
Summa	ary:	When the P-CSCF response to the original		d 4xx response to refresh request fro	om terminating UE it forwa	rds the
Clause	:	5.2.1 before first n	umbered 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		est without TLS security		
	✓	✓	✓	IUT has established an INVITE dia	logue from UE1 to UE2	
	✓	✓	✓	IUT has received target refresh INV	VITE from UE1 for UE2	
		✓	✓	IUT has sent target refresh INVITE	to UE2	
	UE1	IUT	UE2			
Step		Direction		Message		IF
1		(E	Ŷħ	4xx response for UE1		
2	Œ	Å		4xx response * P-Charging-Vector header * P-Charging-Function-Addresse	s header	Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	TAR_10			
Summ	ary:	When the P-CSCF the response to the		d SIP 4xx response to refresh reques E.	t from originating UE it fo	rwards
Clause	:	5.2.1 before first n	umbered 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	
	Entitie			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 dia	logue 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		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 terminessage or forwards it with an updated Via header.	nating UE
Clause	:	5.2.6.4.6 second n	umbered 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	
	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 UE	2
	✓	✓	✓	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		€.	ŶÄ	4xx response for UE1 ✓ Via header not matching stored Via header	
2a	€ ∥	∥ ∜		no message	
2b	Ŷ <u>t</u>	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 refresh request from tage or forwards it with an updated Via header.	he originating 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	
	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 UE	1 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		Message	IF
1	₩	Ð		4xx response for UE2 ✓ Via header not matching stored Via header	
2a		\$∥	ച	no message	
2b		₩	£	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 emerg	gency service with 380 when e	mergency calls have to use the	CS
Clause	::	5.2.10.5 I);	7.6.4.1			
Refere	nces:	-		Config Ref:	CF_1Gm	
IUT R	T Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		ties	Con	ndition	
	UE1 IUT					
	×		×	IUT not configured for emergency sessions		
	τ	J E1	IUT			
Step		Direc	tion	M	essage	IF
1	₩ #		INVITE ✓ Request URI → emergency service ide	entifier		
2	<i>€</i> ⁴ μ		380 response ✓ Content-Type header ✓ application/3gpp-ims+ ✓ P-Asserted-Identity head ✓ SIP URI of IMS P-CSO	ler	Gm	

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_EME_02			
Summ	ary:	P-CSCF accresponse.	cepts INVITE to emerg	gency service from unregistered u	user and returns SIP 100 (Tryi	ng)
Clause	:	5.2.10.2				
Refere	nces:	-		Config Ref:	CF_1Gm	
IUT R	UT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		ties	Condi	tion	
	U.	E1	IUT			
	x x		×	UE1 not registered in IUT		
			✓	IUT configured for emergency sessions		
	U.	E1	IUT			
Step		Direc	ction	Message		IF
1	۲	ţ>	Ð	INVITE ✓ Request URI → emergency service identifier		
2	<	Çī.	¢ħ	100 response		Gm
3	Ŷ	<u> </u>	¢¤	4xx response		Gm

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_EME_03			
		P-CSCF rej response.	ects INVITE to not	n-emergency service from user w	rith emergency registration	on with SIP 403
Clause	Clause: 5.2.10.3					
Refere	References: -			Config Ref:	CF_1Gm	
IUT Role:		IMS		Selection Expression:	PICS A.2/1	
		Entities		Con	ndition	
		UE1	IUT			
	I	✓	✓	UE1 emergency registered in	IUT	
		UE1	IUT			
Step		Direc	ction	M	essage	IF
1		₩	INVITE ✓ Request URI → emergency service identifier			
2		₹ ₽		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	1 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	etion	M	lessage	IF
1	\$		INVITE ✓ Request URI → emergency service id	entifier		
2		Œ	100 response		Gm	
3		€ ∥	&	4xx response		Gm

				Test Purpose		
Identif	ier:	TP_IMST2	2_GM_EME_05			
Summ	ary:	P-CSCF accresponse.	cepts INVITE to eme	rgency service from user with norm	mal registration and returns S	IP 100
Clause	: :	5.2.10.4				
Refere	nces:	-		Config Ref:	CF_1Gm	
IUT R	ole:	IMS Selection Expression: PICS A.2/1		PICS A.2/1		
		Enti	ties	Condi	tion	
	U	UE1 IUT				
	,	✓	✓	UE1 registered in IUT		
	U	E1	IUT			
Step		Direc	etion	Messa	nge	IF
1	₽\$		र्ज	INVITE ✓ Request URI → emergency service identified	fier	
2	4	, T	Ćμ	100 response		Gm
3	Q	Z	⇔	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 du	e to unacceptable SDP offer in SI	P 200 response.	
Clause	2:	5.2.8.1.2 item 3 an	d 4, 6.2			
Refere	ences:	-		Config Ref:	CF_2Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Cond	ition	
	UE1					
	✓	✓	✓	UE1 and UE2 registered in IU7	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	Å	200 response for UE1 ✓ unacceptable SDP offer		
2	Œ	ŶД		200 response		
3	₩	₽Ĵ		ACK ✓ SDP answer		
4	€त	₽		BYE ✓ Reason header → 503 response code or 48	88 response code	
5		₩	∌	ACK		Gm
6		₩,	£Ŷ	BYE ✓ Reason header → 488 response code		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_GM_	EXE_01A			
Summ				t valid SIP 200 response to refresh re to unacceptable SDP offer in SIP 20		
Clause	:	5.2.8.1.2 item 1 an	d 2, 6.2			
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 di association	gest without TLS security	
	✓	✓	√	IUT has established an INVITE di	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	₩	€		200 response for UE1 ✓ unacceptable SDP offer		
2		₩	Ð	200 response		Gm
3		€.	Ŷħ	ACK ✓ SDP answer		
4		₩,	卦	BYE ✓ Reason header → 503 response code or 488 r	esponse code	Gm
5	Ć.	₩		ACK		
6	Ŷz.	Ą		BYE ✓ Reason header → 488 response code		

				Test Purpose		
Identif	ier:	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	nces:	-		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 association	digest without TLS security	
	✓			IUT has received INVITE from	UE1	
		✓ ✓		IUT has sent INVITE to UE2		
		✓	✓ IUT configured to reject en		ted SDP offers	
	UE1	IUT	UE2			
Step		Direction		Messa	age	IF
1		Œ	ф	200 response for UE1 ✓ encrypted SDP offer		
2	€	ŶŊ.		200 response		
3	₩	£Ŷ		ACK ✓ SDP answer		
4	ŶĿ	₩		BYE ✓ Reason header → 503 response code or 488	3 response code	
5		4	卦	ACK		Gm
6		₩,	£	BYE ✓ Reason header → 488 response code		Gm

6.1.9 SDP procedures

				Test Purpose		
Identif	fier:	TP_IMST2	2_GM_SDP_01			
Summ	ary:	P-CSCF rej	ects INVITE with SDI	P offer with unacceptable media par	ameter with SIP 488 respor	ise.
Clause	6.2					
Refere	ences:	-		Config Ref:	CF_1Gm	
IUT R	Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		ities	Conditio	n	
	Ul	E1	IUT			
	٧		✓	UE1 registered in IUT		
			✓	IUT configured for establishing digest without TLS security association		
	Ul	E1	IUT			
Step		Direc	ction	Message		IF
1	Ŕ	>	£Ŷ	INVITE ✓ SDP offer → unacceptable media parame	ter	
2	Q	Ęz.	Å	488 response ✓ SDP offer		Gm

				Test Purpose		
Identif	fier:	TP_IMST2	2_GM_SDP_02			
Summ	ary:	OPTIONAL	L: P-CSCF rejects IN	VITE with encrypted SDP offer.		
Clause	2:	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	Conc	lition		
	τ	JE1	IUT			
	✓		✓	UE1 registered in IUT		
			✓	IUT configured for establishing digest without TLS security association		
			✓	IUT configured to reject encry	pted SDP offers	
	U	JE1	IUT			
Step		Direc	tion	Mes	sage	IF
1		4	Ð	INVITE ✓ encrypted SDP offer		
2		€ ±	ф	4xx response		Gm

					Test Purpose		
Identif	fier:	TP_	IMST2_GM_	SDP_03			
Summ	ary:		SCF forwards Sinating UE.	SIP response	with unacceptable SDP media parameter	offer in SIP 180 respons	se to
Clause: 6.2							
Refere	ences:	-			Config Ref: CF	F_2Gm	
IUT R	ole:	IMS			Selection Expression: PI	ICS A.2/1	
Entities		Condition					
	UE1		IUT	UE2			
	✓		✓		UE1 registered in IUT		
			✓		IUT configured for establishing digest association	without TLS security	
	✓		✓		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	ist item 2a		
Refere	nces: -			Config Ref:	CF_1Gm	
IUT R	ole:	MS		Selection Expression:	PICS A.2/1	
	Entities		ties	Condition		
	UE	1	IUT			
	×		×	UE1 not registered in IUT		
			✓	IUT configured for establishing IMS AKA security association		
	✓			UE1 has initiated IMS AKA securit establishment	y association	
	UE	1	IUT			
Step		Direc	tion	Message		IF
1	₩, ±		Đ	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	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					
					lary of a trust domain shall remove the from any SIP message sent out of the trust domain.				
Clause	e:	4.4.3, para	4.4.3, paragraph 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				
		x	×		IMS not configured for being in the same trust domain as IUT				
	UE1	IMS	IUT	UE2					
Step		Direc	etion		Message	IF			
1	₩,		Ð		MESSAGE to UE2				
2		€	ŶŊ.		MESSAGE * P-Access-Network-Info header	Mw			

					Test Purpose						
Identif	Identifier: TP_IMST2_MW_GEN_03										
Summary:		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, paraş	4.5.2, paragraph 2								
Refere	ences:	-			Config Ref:	CF_1Mw1Gm					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1					
		Enti	ties		Conditi	on					
	UE1	IMS	IUT	UE2							
	✓		✓		UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry po	int to IMS					
			×		IUT not configured for topology	hiding					
	UE1	IMS	IUT	UE2							
Step		Direc	ction		Messag	ge	IF				
1	₽		Ď		MESSAGE to UE2		Gm				
2		€ि	Å		MESSAGE ✓ P-Charging-Vector header ✓ icid parameter		Mw				

				Test Purpose						
Identi	dentifier: TP_IMST2_MW_GEN_04									
Summary:			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	on					
	UE1	IMS	IUT							
			×	IUT not configured for topology hiding						
	✓		✓	UE1 visiting IUT						
	UE1	IMS	IUT							
Step		Direction		Messag	ge	IF				
1	₩		Ð	unprotected REGISTER		Gm				
2		Ĉī.	Ą	unprotected REGISTER ✓ P-Charging-Vector header ✓ ioi parameter → type1		Mw				

				Test Purpose					
Identifier: TP_IMST2_MW_GEN_05									
			REGISTER responses exchanged between a P-CSCF in the visited network and the S-CSCF in the nome network shall include the type 1 inter operator identifier (IOI).						
Clause	e:	4.5.4, paragraph 4							
Refere	ences:	-		Config Ref:	CF_1Mw				
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1				
		Entities		Cone	dition				
	UE1	UE1 IMS IUT							
			x	IUT not configured for topology hiding					
	✓	✓		UE1 visiting IMS					
			✓	IUT has sent unprotected RE 401 response via Mw	GISTER and has received				
	UE1	IMS	IUT						
Step		Direction		Mes	ssage	IF			
1		₩	Ð	protected REGISTER		Mw			
2		€ ±	Ŷħ	200 response ✓ P-Charging-Vector head ✓ ioi parameter → type1	er	Mw			

					Test Purpose						
Identif	fier:	TP_IMST	2_MW_G	EN_07							
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	e:	4.5.4, paraş	4.5.4, paragraph 4								
Refere	ences:	-			Config Ref:	CF_1Gm1Mw					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1					
		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 INVITE add	ressed to UE1 via Mw					
	✓		✓		IUT has sent INVITE to UE1	via Gm					
	UE1	IMS	IUT	UE2							
Step		Direc	ction		Mess	sage	IF				
1	₩		Ď		200 response to UE2		Gm				
2		A	Å		200 response to UE2 ✓ P-Charging-Vector header ✓ ioi parameter → type2 ✓ orig-ioi parameter of ini		Mw				

					Test Purpose			
Identi	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 respond to a visited network or UE.						
Clause	e:	4.5.5, para	graph 3					
Refere	ences:	-			Config Ref:	CF_1Gm1Mw		
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1		
	Entities			Condi	tion			
	UE1	IMS	IUT	UE2				
			×		IUT not configured for topolog	gy hiding		
	✓		✓		UE1 registered in IUT	UE1 registered in IUT		
		✓		✓	UE2 registered in IMS			
		✓	✓		IUT configured with an entry p	IUT configured with an entry point to IMS		
	✓				UE1 has sent INVITE and has	received 200 response		
	UE1	IMS	IUT	UE2				
Step		Direction		Mess	age	IF		
1	₩		Ð		ACK to UE2		Gm	
2		€.	Ϋ́		ACK to UE2 * P-Charging-Function-Addr	resses header	Mw	

					Test Purpose					
Identif	fier:	TP_	IMST2_MW	_GEN_09						
Summary:		P-Ch	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 present.							
Clause	:	5.2.1	before first n	umbered list						
Refere	ences:	-			Config Ref:	CF_1Mw1Gm				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1				
			Entities		Condition	n				
	UE1		IMS	IUT						
	✓			✓	UE1 registered in IUT					
			✓	✓	IUT configured with an entry poin	t to IMS				
				×	IUT not configured for topology hiding					
	UE1		IMS	IUT						
Step			Direction		Message		IF			
1	₩ ₩		£	MESSAGE to UE1 ✓ P-Charging-Vector headers ✓ P-Charging-Function-Address	ses header	Mw				
2	ींच			ĆΩ	MESSAGE to UE1 ★ P-Charging-Vector headers ★ P-Charging-Function-Address	es header	Gm			

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_GI	EN_10					
Summary:		When the P-CSCF sends a SIP 200 response to the UE, it shall remove the P-Charging-Function-Addresses and P-Charging-Vector headers before sending the message, it present.							
Clause	:	5.2.1 before first numbered list							
Refere	ences:	-			Config Ref: CF_1Mw1Gm				
IUT R	ole:	IMS			Selection Expression: PICS A.2/1				
		Enti	ities		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 addressed to UE2				
			✓	✓	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		₽	£		200 response originated by UE2 ✓ P-Charging-Vector headers ✓ P-Charging-Function-Addresses header				
2	₹		¢ኪ		200 response to UE1 ★ P-Charging-Vector headers ★ P-Charging-Function-Addresses header				

					Test Purpose		
Identi	fier:	TP_IMST	2_MW_GI	EN_11			
Summ	ary:		_		AGE request received from a UE, a P-CSCF shall remove any and P-Charging-Vector headers received.		
Clause	Clause: 5.2.1 first numbered list item			st item 1			
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	etion		Messa	age	IF
1	₽		Ð		MESSAGE to UE2 ✓ P-Charging-Vector headers ✓ P-Charging-Function-Addr		Gm
2		Ŷ£.	Ŷħ		MESSAGE to UE2 * P-Charging-Vector headers * P-Charging-Function-Addr		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.	CF shall remove any P-Cha	arging-	
Clause	:	5.2.1 first 1	numbered li	st item 1				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm		
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1		
	Entities			Condition	1			
	UE1 IMS IUT UE2							
	✓		✓		UE1 registered in IUT	UE1 registered in IUT		
		✓		✓	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 t	o UE1		
			×		IUT not configured for topology h	iding		
	UE1	IMS	IUT	UE2				
Step		Direc	ction		Message		IF	
1	∌		र्च		200 response to UE2 ✓ P-Charging-Vector headers of UE1 ✓ P-Charging-Function-Addresses header of UE1			
2		Ŷ _t	Ϋ́		200 response to UE2 * P-Charging-Vector headers of * P-Charging-Function-Address		Mw	

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_G	EN_13			
Summ	ary:				AGE request received from a UE f such header contains a "netwo		
Clause	Clause: 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		Mess	age	IF
1	₩		£		MESSAGE to UE2 ✓ P-Access-Network-Info header ✓ network provider parameter		Gm
2		ŶŦ	Ą		MESSAGE to UE2 * P-Access-Network-Info he	ader	Mw

					Test Purpose			
Identif	fier:	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	first numbered list item 3					
Refere	ences:	-			Config Ref:	CF_1Mw1Gm		
IUT Role:		IMS			Selection Expression:	PICS A.2/1		
		Ent	ities		Condition	on		
	UE1	IMS	IUT	UE2				
	✓		✓		UE1 registered in IUT			
		✓		✓	UE2 registered in IMS			
		✓	✓		IUT configured with an entry point to IMS			
	√	IUT has received MESSAGE addressed to UE1 originated by UE2 via Mw		lressed to UE1 originated				
	✓		✓		IUT has sent MESSAGE via Gm	to UE1		
			×		IUT not configured for topology	hiding		
	UE1	IMS	IUT	UE2				
Step		Dire	ction		Messag	e	IF	
1	\$		∌		200 response to UE2 ✓ P-Access-Network-Info header ✓ network provider parameter		Gm	
2		€.	Å		200 response to UE2 * P-Access-Network-Info head	er	Mw	

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_GI	EN_15			
Summ	ary:	A P-CSCF UE before			Iedia-Authorization header from a ge.	SIP MESSAGE request fro	om the
Clause	:	5.2.1 befor	e NOTE 9				
References:		-			Config Ref:	CF_1Mw1Gm	
IUT Role: IMS				Selection Expression:	PICS A.2/1		
Entities			Condition	on			
	UE1	IMS	IUT	UE2			
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry poi	nt to IMS	
			×		IUT not configured for topology	hiding	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Messag	e	IF
1	\$		卦		MESSAGE to UE2 ✓ P-Media-Authorization header		Gm
2		Ŷ _t	Ŷħ		MESSAGE to UE2 * P-Media-Authorization heade	er	Mw

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_Gl	EN_16			
Summ	ary:	A P-CSCF before forv			ledia-Authorization header from	m a SIP 200 response from th	e UE
Clause	Clause: 5.2.1 before NOTE 9						
References:		-			Config Ref:	CF_1Mw1Gm	
IUT Role:		IMS			Selection Expression:	PICS A.2/1	
	Entities				Cond	lition	
	UE1	IMS	IUT	UE2			
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry	point to IMS	
	✓			✓	UE1 has received MESSAGE	originated by UE2	
			×		IUT not configured for topolo	gy hiding	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Mes	sage	IF
1	₩		Ð		200 response to UE2 ✓ P-Media-Authorization header		Gm
2		ŶĿ.	Å		200 response to UE2 * P-Media-Authorization ho	eader	Mw

					Test Purpose			
Identif	ier:	TP_IMST	2_MW_G	EN_17				
Summ	ary:	request for	warded fro	m the UE,	edirect response (3xx), other than a 305 (Use Proxy) response, to a it shall not resend the original message to any of the URIs specified e 3xx response.			
Clause	:	5.2.1 befor	e NOTE 10)				
Refere	nces:	-			Config Ref: CF_1Mw1	Gm		
IUT Role:		IMS			Selection Expression: PICS A.2	1		
		Ent	ities		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 addressed to U	E2 via Gm		
			✓	✓	IUT has sent MESSAGE addressed to UE2 v	a Mw		
			×		IUT not configured for topology hiding			
	UE1	IMS	IUT	UE2				
Step		Dire	ction		Message	IF		
1		₽,	£		3xx response different to 305 response ✓ contact header ✓ Contact URI			
2		℃ ∥	114		MESSAGE to Contact URI	Mw		

6.2.2 Registration procedures

				Test Purpose		
Identi	fier:	TP_IMST2_M	IW_REG_01			
Summ		containing SIP header with the not including to network at the	URI identifying icid parameter erm-ioi paramete	SISTER request from the UE, it g the P-CSCF, Require header w and a type 1 orig-ioi parameter er, and insert a P-Visited-Netwo	ith path option tag, P-Chargin identifying the sending netwo	ng-Vector ork but
Refere		- Second	numbered list to	Config Ref:	CF_1Mw1Gm	
IUT R		IMS		Selection Expression:	PICS A.2/1	
	Entities			_	dition	
	UE1 IMS IUT		IUT			
			×	IUT not configured for topol	ogy hiding	
		✓	✓	IUT configured with an entry	IUT configured with an entry point to IMS	
	✓		✓	UE1 visiting IUT		
	UE1	IMS	IUT			
Step		Direction		Message		IF
1	₩		卦	unprotected REGISTER		Gm
2		\	की	unprotected REGISTER ✓ Path header ✓ SIP URI of IMS P-CSO ✓ Require header ✓ path tag parameter ✓ P-Charging-Vector heado ✓ icid parameter ✓ orig-ioi parameter → type1 of the sending × term-ioi parameter → type1 ✓ P-Visited-Network-ID how ✓ visited network pre-pro-	er g network eader	Mw

				Test Purpose					
Identif	fier:	TP_IMST2_MW	_REG_02						
Summ	ary:	protected" with a	then a P-CSCF receives REGISTER request from the UE, it shall insert the parameter "integrity-otected" with a value "yes" into the Authorization header field if the REGISTER request was ceived protected with the security association and includes an authentication challenge response.						
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			Conditio	n				
	UE1	IMS	IUT						
			×	IUT not configured for topology hiding					
			✓	IUT configured for IMS AKA authentication					
	✓		✓	UE1 visiting IUT					
	✓	1	✓	UE1 has sent unprotected REGISTER and has received 401 response					
	✓			UE1 has established an IMS AKA security association					
	UE1	IMS	IUT						
Step		Direction		Messag	e	IF			
1	Ð		±Ĵ	protected REGISTER ✓ authentication challenge resp	onse parameter	Gm			
2	€ ₽		ф	REGISTER ✓ Authorization header ✓ integrity-protected parameter → yes		Mw			

					Test Purpose		
Identi	fier:	TP_	IMST2_MW	_REG_03			
Summ	ary:	prot	ected" with a v	alue "yes" int	STER request from the UE, it shall to the Authorization header field if tion created during the last successf	the REGISTER request wa	as
Clause	:	5.2.	2.2 first numbe	ered list item 1			
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS	S		Selection Expression:	PICS A.2/1	
	Entities			Condition	n		
	UE1 IMS IU'		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		Message)	IF
1	₩			Ð	protected REGISTER		Gm
2			₹ ±	Å	REGISTER ✓ Authorization header ✓ integrity-protected paramete → yes	er	Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_04			
Summ	·	protected" with a received protected	value "no" int I with the secu	ISTER request from the UE, it shall to the Authorization header field if arity association and remove the Seeived parameter of the Via header	the REGISTER request was curity-Client header if the	as not header
Clause		5.2.2.2 first numb	ered list item	,	T	
Refere		-		Config Ref:	CF_1Mw1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		1	Condition	on	
	UE1	IMS	IUT			
			×	IUT not configured for topology	hiding	
			✓	IUT configured for IMS AKA au	thentication	
	✓		✓	UE1 visiting IUT		
	×			UE1 has not established a securit	y association	
	UE1	IMS	IUT			
Step		Direction		Messag	e	IF
1	Ð		Ð	unprotected REGISTER ✓ Security-Client header		Gm
2		€व	क्ष	REGISTER ✓ Authorization header ✓ integrity-protected parame → no × Security-Client header ✓ Via header ✓ rPort parameter → received source port ✓ received parameter → received source IP addre		Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_05			
Summ	ary:			STER request from the UE with shall return a SIP 4xx response.		ecurity-
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	
	Ent			Condition		
	UE1	IMS	IUT			
			×	IUT not configured for topolo	gy hiding	
			✓	IUT configured for IMS AKA authentication		
	✓		✓	UE1 visiting IUT		
	UE1	IMS	IUT			
Step		Direction		Mess	sage	IF
1	₩		र्ज	unprotected REGISTER Security-Client header		Gm
2		€ :	114	REGISTER		Mw
3	Œ		ŶĮ.	4xx response to UE1		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MV	V_REG_06			
Summ	ary:		security assoc	ISTER request from the UE if the ciation but without a Security-Ve		
Clause	:	5.2.2.2 first num				
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities		Cond	ition		
	UE1	IMS	IUT			
			×	IUT not configured for topolog	gy hiding	
			✓	IUT configured for IMS AKA	authentication	
	✓		✓	UE1 visiting IUT	UE1 visiting IUT	
	✓			UE1 has sent unprotected REGISTER and has received 401 response		
	✓			UE1 has established a tempora association	ary IMS AKA security	
	UE1	IMS	IUT			
Step		Direction		Mess	sage	IF
1	₩		Ð	protected REGISTER ★ Security-Verify header		Gm
2		€	¢ħ	REGISTER		Mw
3	ŶĿ		Ŷħ	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 I ation 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 secur	y-Verify and the Security-C	lient	
Clause	Clause: 5.2.2.2 first numbered 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	TER and has received		
	√			UE1 has established a temporary association	IMS AKA security		
	UE1	IMS	IUT				
Step		Direction		Messag	e	IF	
1	₩		£Ŷ	protected REGISTER ✓ Security-Verify header differ header of 401 response ✓ Security-Client header equal of unprotected REGISTER	•	Gm	
2	k	€ ±	¢¤	REGISTER		Mw	
3	Œ		ф	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 Rition 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	3a		
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 h	iding	
			✓	IUT configured for IMS AKA auth	nentication	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent unprotected REGISTER and has received 401 response		
	✓			UE1 has established a temporary I association	MS AKA security	
	UE1	IMS	IUT			
Step		Direction	•	Message		IF
1	₽		±Ŷ	protected REGISTER ✓ Security-Verify header equal to do not seem of 401 response ✓ Security-Client header equal to funprotected REGISTER	·	Gm
2		₹ E	Ŷħ	REGISTER * Security-Verify header * Security-Client header		Mw

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_09			
Summ	ary:		ıblished securi	STER request from the UE if the ty association, then the P-CSCF s 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			Conditi	on	
	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	ge	IF
1	₩		Ð	protected REGISTER ✓ Security-Verify header ✓ Security-Client header		Gm
2		€ ±	Å	REGISTER * Security-Verify header * Security-Client header		Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_10			
Summ	When a P-CSCF receives REGI via an already established secur return a suitable 4xx response.					
Clause	:	5.2.2.2 first numb	ered list item	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 AKA security association		
	UE1	IMS	IUT			
Step		Direction		Mes	ssage	IF
1	₩		£	protected REGISTER ★ Security-Client header		Gm
2		€ ±	114	REGISTER		Mw
3	Ŷz.		Å	4xx response to UE1		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_11			
Summ	ary:	via an already esta	ablished securi	STER request from the UE if the R ty association and private user identected REGISTER request, then the	tity in the Authorization he	eader
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		Condition		
	UE1	IMS	IUT			
			×	IUT not configured for topology h	iding	
			✓	IUT configured for IMS AKA autl	nentication	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent unprotected REGIS 401 response	ΓER and has received	
	✓			UE1 has established an IMS AKA	security association	
	UE1	IMS	IUT			
Step		Direction	•	Message		IF
1	∌		ъ́	protected REGISTER ✓ Authorization header ✓ private user identity different of unprotected REGISTER	nt to private user identity	Gm
2		€ :	ll⇔n	REGISTER		Mw
3	Æ.		ф	403 response to UE1		Gm

				Test Purpose		
Identif	ier:	TP_IMST2_MW	_REG_12			
Summ	•			01 (Unauthorized) response to a R 1 in the 401 (Unauthorized) respon		
Clause	:	5.2.2.2 second nu	mbered list ite	em 2 and 3		
Refere	nces:	-		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 au	thentication	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent REGISTER		
	UE1	IMS	IUT			
Step		Direction		Messaş	ge	IF
1		\$	∌	401 response		Mw
2	Ĉ u		Ĥ	401 response to UE1 ✓ WWW-Authenticate header × CK parameter × IK parameter ✓ Security-Server header ✓ P-CSCF security list the p security association setup		Gm

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_REG_14			
Sumn	nary:	Upon receipt of a the visited networ	SIP 200 (OK k shall send a) response to an initial SIP REG a SIP SUBSCRIBE request to the	GISTER request, a P-CSCF loc ne entry point of the home netw	ated in vork.
Claus	e:	5.2.3 item 1 and 2				
Refer	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities		Con	dition		
	UE1	IMS	IUT			
			×	IUT not configured for topol	ogy hiding	
			✓	IUT configured for establish security association	ing digest without TLS	
	✓		✓	UE1 visiting IUT		
	✓			UE1 has sent initial REGISTER		
	UE1	IMS	IUT			
Step		Direction		Message		IF
1		₩	Ð	200 response		Mw
2		Œ	Ą	SUBSCRIBE ✓ Request-URI ✓ From header ✓ SIP URI of IUT P-CSO ✓ To header ✓ SIP URI → public user identity ✓ Event header ✓ reg parameter ✓ Expires header ✓ a value higher than the ✓ P-Asserted-Identity head ✓ SIP URI of IUT P-CSO header during the registration ✓ P-Charging-Vector head ✓ icid parameter	e value in the 200 response der CF inserted into the Path n of UE1	Mw

					Test Purpose		
Identif	ier:	TP_	IMST2_MW	_REG_15			
When an S-CSCF receives SIP REGI its Authorization header is set to the videntity which has previously been us yet expired and authentication is succunexpired public user identities previously clause: 5.4.1.2.1, 5.4.1.2.2, 5.4.1.5				neader is set to spreviously be athentication is user identities	the value "no", the Authorization here used to register one or more pube successful, it shall perform network	neader specifies a private uplic user identities which h	iser nave not
Refere		_	, , , , , , , , , , , , , , , , , , ,	, - · · · · -	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	iiding	
			✓		IUT configured for IMS AKA autl	hentication	
	✓			✓	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	₽		ъ́		REGISTER originated by UE2 ✓ Authorization header ✓ integrity protected paramete → no	er	Mw
2	Ŷij.		ĆΠ		401 response ✓ WWW-Authenticate header		Mw
3	₽		Ð		REGISTER originated by UE2 ✓ Authorization header ✓ integrity protected parameter → yes		Mw
4	ф		ф		200 response		Mw
5	(E		Ŷħ		NOTIFY ✓ NOTIFY body ✓ registered public user identi	ty	Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_16			
Summ	the Authorization header is set the S-CSCF shall send a 401 (WWW-Authenticate header w			REGISTER request in which the to "no" and the To field contain Unauthorized) 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	₽\$	∌		REGISTER originated by UE2 ✓ Authorization header ✓ integrity protected parameter → no ✓ To header ✓ a not registered public user identity		Mw
2	€	क्ष		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.	ure for receipt of a REGISTE	R
Clause	Clause: 5.4.1.2.1D					
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Conc	lition	
	IMS	IUT	UE2			
		×		IUT not configured for topolo	ogy hiding	
	✓		✓	UE2 visiting IMS		
	✓	✓	✓	UE2 registered public user ideaddress 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	₩,	∌		REGISTER originated by U. ✓ Authorization header × integrity protected para ✓ Contact header × registered public user ice	meter	Mw
2	₹£	¢ħ		200 response	200 response	
3	€त	ħ		NOTIFY ✓ NOTIFY body ✓ registered public user in	dentity	Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_18			
Summ	Authorization header 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	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Conditi	ion	
	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	oint to IMS	
	IMS	IUT	UE2			
Step		Direction		Messa	ge	IF
1	₩	∌		REGISTER originated by UE2 for registered public user identity ✓ Authorization header x integrity-protected parameter		Mw
2	€	Ŷħ		200 response		Mw

					Test Purpose		
Identif	fier:	TP_	IMST2_MW	_REG_19			
Summ	ary:	cont		n, it shall proc	GISTER request without an Author cess the REGISTER request as the t to "yes".		_
Clause	:	5.4.1	1.2.1D				
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 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 poi	nt to IMS	
	IMS		IUT	UE2			
Step			Direction		Messag	e	IF
1	₩		£		REGISTER originated by UE2 for registered public user identity * Authorization header		Mw
2	Œ		ф		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-I	S-CSCF is able to process, it	
Clause	e:	5.4.1.2.3				
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
	Entities		ties	Cond	Condition	
	IMS		IUT			
			×	IUT not configured for topolo	gy hiding	
			×	IUT not configured for IMS AKA authentication		
		✓	✓	IUT configured with an entry point to IMS		
		IMS	IUT			
Step		Direc	tion	Mes	sage	IF
1		₩,	zŷ	REGISTER originated by UI ✓ Expires header → duration smaller than n		Mw
2		(E	Ŷħ	423 response ✓ Min-Expires header		Mw

				Test Purpose		
Identii	fier:	TP_IMST2_MW	_REG_21			
Summ	ary:	the Authorization S-CSCF shall send	header is set t d a 401 (Unau	REGISTER request in which the orange of the	unregistered public user ide ating UE including WWW-	entity, the
Clause: 5.4.1.2.2						
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Conc	lition	
	IMS	IUT	UE2			
		×		IUT not configured for topolo	ogy hiding	
	✓		✓	UE2 visiting IMS		
		✓		IUT configured for IMS AKA	authentication	
	✓	✓		IUT configured with an entry	point to IMS	
	IMS	IUT	UE2			
Step		Direction		Mes	sage	IF
1	₽\$	£		REGISTER originated by U. ✓ Authorization header ✓ integrity protected para → yes ✓ To header ✓ a not registered public	meter	Mw
2	€	Å		401 response ✓ WWW-Authenticate head ✓ 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	ary:	from the UE and t	he integrity-p	REGISTER request containing an a protected parameter in the Authoriza a SIP 200 (OK) response to the UE.	tion header is set to the va	
Clause	2:	5.4.1.2.2, 5.4.1.2.2	2F			
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities	T	Condition	n	
	IMS	IUT	UE2			
		×		IUT not configured for topology	niding	
	✓		✓	UE2 visiting IMS		
	✓		✓	UE2 has sent unprotected REGIS 401 response	TER and has received	
	✓			IUT configured for IMS AKA authentication		
	✓			IUT configured with an entry poi	nt to IMS	
	IMS	IUT	UE2			
Step		Direction		Messag	e	IF
1	₩,	₽		REGISTER originated by UE2 ✓ Authorization header ✓ integrity protected paramet → yes ✓ algorithm parameter → AKAv1-MD5 ✓ username parameter → private user identity ✓ response parameter → valid challenge response ✓ initial CallID parameter	er	Mw
2	Ŷŧz	.₩		200 response ✓ Path header ✓ P-Associated-URI header ✓ registered public user ident ✓ Service-Route header ✓ SIP URI → IUT S-CSCF ✓ P-Charging-Function-Addres ✓ P-Charging-Vector header ✓ Contact header ✓ address of public user ident	ses header	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 it e value "yes", the S-CSCF shall	ntegrity-protected parameter	in the
Clause	:	5.4.1.2.3 last para	graph, 5.4.1.2.	3A paragraph 1		
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Condition		
	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		Mess	sage	IF
1	₩	∌		REGISTER originated by UE2 ✓ Authorization header ✓ integrity-protected parameter → yes ✓ unknown CallID parameter		Mw
2	Ŷ Ŀ	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 (AUTS) direct	REGISTER request from the UE of tive indicating that the Sequence N (Unauthorized) or 403 (Forbidden	Sumber (SQN) was out of ra	
Clause	:	5.4.1.2.3 last para	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		Condit	ion	
	IMS	IUT	UE2			
		×		IUT not configured for topology	hiding	
		✓		IUT configured for IMS AKA at	uthentication	
	✓		✓	UE2 visiting IMS		
	✓	✓	✓	UE2 has sent unprotected REGI 401 response	STER and has received	
	✓	✓		IUT configured with an entry po	oint to IMS	
	IMS	IUT	UE2			
Step		Direction		Message		IF
1	₩	∌		✓ Authorization header ✓ AUTS parameter	REGISTER originated by UE2 ✓ Authorization header	
2a	Œ.	À		401 response to UE2 ✓ P-Charging-Vector header ✓ orig-ioi parameter → type1		Mw
2b	€ ±	ĥ		403 response to UE2 ✓ P-Charging-Vector header ✓ orig-ioi parameter → type1		Mw

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_REG_25			
	Authorization header set to "private user identity received			PREGISTER request with the "ires" and neither the user identity report the Authorization header of the healt return a SIP 500 (Server Interport 2.2.4 page	eceived in the To header nor t REGISTER request match ar rnal Error) response to the UE	he ny of the
Refere		3.4.1.2.3 fast paraş	grapii, 5.4.1.2	Config Ref:	CF_1Mw	
IUT R		IMS		Selection Expression:	PICS A.2/3	
ICIK	Entities			Cond		
	IMS	IUT	UE2	Conc		
	21.10	×	022	IUT not configured for topolo	gy hiding	
		✓		IUT configured for IMS AKA		
	✓		✓	UE2 visiting IMS		
	✓	✓	✓	UE2 has sent unprotected REGISTER and has received 401 response		
	✓	✓		IUT configured with an entry	IUT configured with an entry point to IMS	
	IMS	IUT	UE2			
Step		Direction		Mes	sage	IF
1	₽\$	∌		REGISTER originated by UI ✓ Authorization header ✓ integrity-protected para → yes × private user identity mapublic user identity ✓ To header → public user identity not registered public user identity	meter tching previous registered	Mw
2	Ŷŧ.	₽		500 response to UE2 ✓ P-Charging-Vector heade ✓ orig-ioi parameter → type1	r	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 indicat ameter was invalid in the challeng UE.	challenge response from the ch	he UE
Clause	2:	5.4.1.2.3 last parag	graph, 5.4.1.2.	3A paragraph 2 before NOTE 2	1	
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	UT Role: IMS Selection Expression: PICS A.2/3		PICS A.2/3			
		Entities		Condition		
	IMS	IUT	UE2			
		×		IUT not configured for topology	hiding	
		✓		IUT configured for IMS AKA aut	hentication	
	✓	✓	✓	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	4	∌		subsequent REGISTER originate ✓ Authorization header × authentication challenge res × AUTS parameter → invalid MAC parameter	·	Mw
2	Ŷŧ.	Ŷ		403 response to UE2 ✓ P-Charging-Vector header ✓ orig-ioi parameter → type1		Mw

6.2.3 Initial request procedures

				Test Purpose		
Identi	fier:	TP_IMST2_MW	/_INI_01			
Sumn	public user identity and the res			onse indicates that continued subsciption 600 seconds before the expiral 200 seconds.	cription is required, it shal	
Clause: 5.2.3 last paragraph						
Refer	ences:	-		Config Ref: CF_1Mw1Gm		
IUT R	Role:	IMS		Selection Expression:	PICS A.2/1	
	Entities Condition		n			
	UE1	IMS	IUT			
			×	IUT not configured for topology hiding		
			✓	IUT configured for continuous subscription		
	✓		✓	UE1 visiting IUT		
	✓	✓	✓	UE1 registered in IMS via IUT		
		✓	✓	IUT has sent SUBSCRIBE contain indicating duration parameter gre		
	UE1	IMS	IUT			
Step		Direction		Messago	2	IF
1		₽	र्ज	200 response		Mw
2		Ŷ Ŀ	À	SUBSCRIBE 600 seconds before parameter time	e expiration of duration	Mw

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_INI_02			
Sumn	When a P-CSCF receives SIP 2 public user identity and the responding automatically refresh the subsection was for 1 200 seconds or less.			onse indicates that continued su	bscription is required, it shall	
Claus	e:	5.2.3 last paragrap	oh			
Refer	ences:	-		Config Ref: CF_1Mw1Gm		
IUT F	Role:	IMS		Selection Expression:	PICS A.2/1	
		Entities Condition		ition		
	UE1	IMS	IUT			
			×	IUT not configured for topolo	gy hiding	
			✓	IUT configured for continuous subscription		
	✓		✓	UE1 visiting IUT		
	✓	✓	✓	UE1 registered in IMS via IU	T	
		✓	✓	IUT has sent SUBSCRIBE in equal or less than 1 200 secon		
	UE1	IMS	IUT			
Step		Direction		Mess	sage	IF
1		\$	Ð	200 response		Mw
2		Œ	Ą	SUBSCRIBE after half of the has elapsed	e duration parameter time	Mw

					Test Purpose						
Identi	fier:	TP_IMST	2_MW_IN	NI_03							
Sumn	nary:	Route head registration and not for of the Serv	When a P-CSCF receives an initial request for a dialog from a UE, containing a list of URIs Route header different to the stored values of the Service-Route header from the last successf registration or re-registration, then the P-CSCF shall either return a SIP 400 (Bad Request) re and not forward the request or replace the received Route header value in the request with the of the Service-Route header received during the last SIP 200 (OK) response for a registration reregistration								
Claus		5.2.6.3.3 it	tem 2								
Refere	ences:	-			Config Ref:	CF_1Mw1Gm					
IUT R	Role:	IMS			Selection Expression:	PICS A.2/1, A.3/10.1.1					
		Ent	ities		Condition						
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topol	ogy hiding					
	✓		✓		UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry	point to IMS					
	UE1	IMS	IUT	UE2							
Step		Dire	ction		Mes	ssage	IF				
1	₩,		ⅎ		INVITE to UE2 ✓ Route header not matchi header	ng stored Service-Route	Gm				
2a		€ ∥	⇔		INVITE		Mw				
3a	Ŷ£		<\ful>		400 response to UE1		Gm				
2b		Œ.	Ŷħ		INVITE ✓ Route header from 200 r	response of last registration	Mw				

					Test Purpose		
Identi	fier:	TP_IMST	2_MW_IN	I_04			
Summ		the Via hea SIP URI to number of P-CSCF F	ader and a a the Record the P-CSC	dd a P-Ch l-Route he F where it	tial request for a dialog from a U arging-Vector header with the icitader, build the P-CSCF SIP URI awaits subsequent requests from the IP address or the P-CSCF IP	d parameter, when adding in a format that contains t the called party, and eithe	its own the port
Refere		3.2.0.3.3 10	1,4,5,7		Config Ref:	CF_1Mw1Gm	
IUT R		IMS			Selection Expression:	PICS A.2/1	
			ities		Condit		
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topolog	y hiding	
	✓		✓		UE1 registered in IUT	, .	
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	UE1	IMS	IUT	UE2			
Step		Dire	ction		Messa	nge	IF
1	₽\$		₽		INVITE to UE2 ✓ topmost Route header → IMS		Gm
2		∜च	Фд		INVITE ✓ Via header ✓ address of IUT P-CSCF ✓ topmost Route header → IMS ✓ Record-Route header ✓ SIP URI of IUT P-CSCF → port number of IUT P- → FQDN address of IUT or IP address of IUT P- ✓ P-Charging-Vector header ✓ icid parameter	CSCF P-CSCF	Mw
3	Œ		ф		100 response		Gm

Test Purpose							
Identifier:		TP_IMST2_MW_INI_05					
Summary:		When a P-CSCF receives an initial request for a dialog from a UE, it shall remove the P-Preferred-Identity header, if present, and insert a P-Asserted-Identity header with a value, including the display name if previously stored during registration representing the initiator of the request					
Clause:		5.2.6.3.3 item 6					
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		
	UE1	IMS	IUT	UE2			
Step Direction				Message		IF	
1	Ð		ਜੁੰ		INVITE to UE2 ✓ P-Preferred-Identity header ✓ topmost Route header → IMS		Gm
2		िच	Å		INVITE to UE2 ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ stored display name parameter		Mw
3	Œ.		¢ħ		100 response Gm		

					Test Purpose					
Identi	fier:	TP_IMST	2_MW_IN	II_06						
Summ	ary:	2xx respon own Recor	If a security association exists between the UE and P-CSCF, when a P-CSCF receives any SIP 12 2xx response as a result of a forwarded request for an initial dialog, it shall replace in the response own Record Route entry with its own SIP URI with the protected server port number of the secur association and either the P-CSCF FQDN or the P-CSCF IP address.							
Clause	:	5.2.6.3.4 it	em 4							
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	iding				
	✓		✓		UE1 registered in IUT					
	✓			UE1 has established a security association						
		✓			UE2 registered in IMS					
		✓	✓		IUT configured with an entry poir	nt 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		₩	∌		180 response to UE1		Mw			
2	Œ.		Ŷħ		180 response to UE1 ✓ Record Route header ✓ SIP URI of IUT P-CSCF → port number of IUT P-CSCF for security association → IP address of IUT P-CSCF or FQDN address of IUT P-CSCF		Gm			

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_IN	I_07						
Summ	ary:	2xx respon own Recor	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 request for an initial dialog, it shall replace in the response its own Record Route entry with its own SIP URI with the protected server port number of the security association and either the P-CSCF FQDN or the P-CSCF IP address.							
Clause	:	5.2.6.3.4 it	em 4							
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	iding				
	✓		✓		UE1 registered in IUT					
	✓				UE1 has established a security ass	ociation				
		✓			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		क्		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	II_08				
Summ		shall remothe value s registration	ve the P-Pro aved from to display na	eferred-Id the P-Call	xx or 2xx response to an initial entity header, if present, and insed-Party-ID header that was recilable.	ert a P-Asserted-Identity head	der with	
Clause		5.2.6.4.4 it	em 1		Ţ			
Refere		<u> -</u>			Config Ref:	CF_1Mw1Gm		
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1		
		Ent	1		Cond	ition		
			UE2					
			×		IUT not configured for topolo	gy hiding		
	✓		✓		_	UE1 registered in IUT		
	✓	√			IUT has stored display name of	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	of UE1		
	UE1	IMS	IUT	UE2				
Step		Dire	ction		Mes	sage	IF	
1	₽\$		∌		180 response to UE2 ✓ P-Preferred-Identity header		Gm	
2	€ ¢		180 response ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ stored display name parameter		Mw			

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_IN	I_09			
Summ	ary:	shall remov	ve the P-Pro aved from t	eferred-Ide he P-Calle	exx or 2xx response to an initial re entity header, if present, and inser- ed-Party-ID header that was received.	t a P-Asserted-Identity hea	der with
Clause		5.2.6.4.4 it	em 1		T		
Refere		-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1	
		Enti	ities	T	Condit	ion	
	UE1 IMS IUT UE2		UE2				
			×		IUT not configured for topology	hiding hiding	
	✓		✓		UE1 registered in IUT		
	✓		✓		IUT has stored display name of		
		✓		✓	UE2 registered in IMS		
		✓ ✓ IUT configured with an entry point to IMS		oint to IMS			
	✓		✓	✓	IUT has received INVITE via Maddressed to UE1	1w originated by UE2	
	✓		✓		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		Direc	ction		Messa	ge	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	II_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 correspond he same dialog, it either discards the response or replaces the Via header with the ones from the nitial request.								
Clause	:	5.2.6.4.4 it	em 2								
Refere	ences:	- IMS			Config Ref:	CF_1Mw1Gm					
IUT R	ole:				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	UE1 registered in IUT					
		✓ ✓		✓	UE2 registered in IMS						
		✓ ✓		IUT configured with an entry po	oint to IMS						
	✓		✓	✓	IUT has received INVITE via Maddressed to UE1	Iw 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	₽		卦		180 response to UE2 ✓ Via header not matching sto	ored Via header	Gm				
2a		℃	4J		180 response		Mw				
2b	2b			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 corresponding the same dialog, it either discards the response or replaces the Via header with the ones from the nitial 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 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		200 response to UE2 ✓ Via header not matching sto	red Via header	Gm				
2a		℃	4J		200 response		Mw				
2b		₹ L z	ф		200 response ✓ Via header → stored Via header		Mw				

					Test Purpose				
Identi	fier:	TP_IMST	2_MW_IN	II_12					
Summ	ary:	with a Record-Ro Record-Ro header valu adds to the URI and the	ord-Route I ute header ues with the Record-Ro ee port num F FQDN th	header inc of the init ose receive oute heade ber where	xx or 2xx response to an initial required luding a list of URIs different to the ial request, discards the response of ed in the initial request. If a securiter the port number of its own Record it awaits subsequent requests from s to its IP address; or the P-CSCF I	e one received in the r replaces the Record-Rout y association exists, the P-0 d-Route entry with its own the calling party and with	ce CSCF SIP either		
Clause		5.2.6.4.4 it	em 3		T	T			
Refere		-			Config Ref:	CF_1Mw1Gm			
IUT R	ole:	IMS		_	Selection Expression:	PICS A.2/1, A.3/25.4.2			
	T 177.4	Enti	ı		Condition	on			
	UE1	IMS	IUT	UE2	THE COLUMN TO SERVICE AND ADDRESS OF THE COLUMN				
	✓		×		IUT not configured for topology	niding			
	∀		V		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 via Maddressed to UE1				
	✓		✓		IUT has sent INVITE to UE1				
			✓		IUT has stored Record-Route hea	nder			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Messag	e	IF		
1	₽		Ð		180 response to UE2 ✓ Record-Route header not ma Route header	tching stored Record-	Gm		
2a		€	114		180 response		Mw		
2b		₹ a	ФД		180 response ✓ Record-Route header → stored Record-Route header → port number of Record-Route header of IUT P-CSCF → SIP URI port number of IUT P-CSCF → FQDN address of IUT P-CSCF or IP address of IUT P-CSCF * comp parameter		Mw		

					Test Purpose					
Identi	fier:	TP_IMST	2_MW_IN	II_13						
Summ	ary:	with a Reco Record-Ro header 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 Unit a Record-Route header including a list of URIs different to the one received in the Record-Route header of the initial request, discards the response or replaces the Record-Route header values with those received in the initial request. If a security association exists, the P-C adds to the Record-Route header the port number of its own Record-Route entry with its own URI and the port number where it awaits subsequent requests from the calling party and with the P-CSCF FQDN that resolves to its IP address; or the P-CSCF IP address; and remove the parameter if present.							
Clause	e:	5.2.6.4.4 it	em 3							
Refere	ences:	-			Config Ref:	CF_1Mw1Gm				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.4.2				
		Enti	ties		Condition	n				
			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 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	etion		Messag	e	IF			
1	\$		£		200 response to UE2 ✓ Record-Route header not ma Route header	tching stored Record-	Gm			
2a		€ :	114		200 response		Mw			
2b		₽	φ	200 response ✓ Record-Route header → stored Record-Route header → port number of Record-Route header of IUT P-CSCF → SIP URI port number of IUT P-CSCF → FQDN address of IUT P-CSCF or IP address of IUT P-CSCF * comp parameter		Mw				

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_IN	VI_14			
Summ	ary:	UE for a din the initia	ialogue and al request c	l if the list orrespondi	her response other than a SIP 1xx of Via headers does not match the ng to the same dialog, it shall eith received in the initial request.	e saved list of Via headers re	eceived
Clause	:	5.2.6.4.4 se	econd numl	bered 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	hiding	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓ ✓			IUT configured with an entry po	oint to IMS	
	✓		✓	✓	IUT has received INVITE via Maddressed to UE1	Iw 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	∌		Ð		4xx response to UE2 ✓ Via header not matching sto	ored Via header	Gm
2a		℃	¢µ		4xx response		Mw
2b	2b ← ♂			4xx response ✓ Via header → stored Via header		Mw	

					Test Purpose						
Identif	fier:	TP_IMST	2_MW_IN	I_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	2.7.2, RFC 4028 [7], clause 8								
Refere	ences:	-			Config Ref: CF_1M	Iw1Gm					
IUT Role: IM		IMS			Selection Expression: PICS A	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 refre	eshment					
	✓		✓		UE1 registered in IUT						
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry point to IMS	5					
	UE1	IMS	IUT	UE2							
Step		Direc	ction		Message		IF				
1	Ð		卦		INVITE to UE2 * Session-Expires header		Gm				
2		₹ a	Ŷħ		INVITE ✓ Session-Expires header × refresher parameter						
3	¢₩		À		100 response		Gm				

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_IN	I_16						
Summ	ary:	request from	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 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 [7]	, 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	n				
	UE1	IMS	IUT	UE2						
			×		IUT not configured for topology h	iding				
			✓		IUT configured for requiring period	odic refreshment				
	✓		✓		UE1 registered in IUT					
		✓		✓	UE2 registered in IMS					
		✓	✓		IUT configured with an entry poir	nt to IMS				
	UE1	IMS	IUT	UE2						
Step		Direc	ction		Message		IF			
1	Ð		∌		INVITE to UE2 ★ Session-Expires header ★ Min-SE header		Gm			
2		ŶŁ.	ф		INVITE ✓ Session-Expires header ✓ duration parameter greater than Min-SE header		Mw			
3	Ŷŧ.		Ŷħ		100 response		Gm			

					Test Purpose					
Identif	ier:	TP_IMST2	_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	FC 4028 [7], clause 8							
Refere	ences:	-			Config Ref:	CF_1Mw1Gm				
IUT Role:		IMS			Selection Expression:	PICS A.2/1, A.3/26.2.1				
	Entities				Condition	n				
	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	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	ऀद		Ð		INVITE to UE1 ✓ Session-Expires header × refresher parameter		Gm			
3		Ŷ Ŀ	4		100 response		Mw			

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_IN	I_19			
Summ	ary:	request des before forv	stined for a varding it if	UE the P- none was	efreshment of a session established CSCF shall insert a Session-Expire a present in the request. The duration in the request, if it is present.	es header field in the reques	st
Clause	Clause: 5.2.7.2, RFC 4028 [7], cla						
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/26.2.1	
		Enti	ities		Condition	on	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology hiding		
			✓		IUT configured for requiring per	odic refreshment	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry point to IMS		
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Messag	e	IF
1		\$	Ð		INVITE originated by UE2 to UE1 ★ Session-Expires header ✓ Min-SE header		Mw
2	ŶĿ		Ϋ́A		INVITE to UE1 ✓ Session-Expires header ✓ duration parameter greater than Min-SE header		Gm
3		ŶĿ.	ÝЛ		100 response		Mw

					Test Purpose		
Identif	fier:	TP_IMST	2_MW_IN	II_20			
Summ	ary:				tial SIP INVITE request destined for a UE it shall respond with a SIP se before forwarding the INVITE to the UE.		
Clause	e:	5.2.7.3 par	agraph 2				
Refere	ences:	-			Config Ref:	CF_1Mw1Gm	
IUT R	IUT Role: IM				Selection Expression:	PICS A.2/1	
		Enti	ities		Condi	tion	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topolog	y hiding	
	✓		✓		UE1 registered in IUT		
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry p	oint to IMS	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Messa	age	IF
1		₩	∌		INVITE to UE1		Mw
2		₹£	Ýħ.		100 response		Mw
3	Ŷ <u>c</u>		Ýħ.		INVITE to UE1		Gm

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_IN	I_21						
Summ	ary:	parameters	and is not	destined f	onse to an initial request and the reforming and AS, the S-CSCF shall remove fore forwarding the response.		rs from			
Clause	:	5.4.3.2 bef	4.3.2 before NOTE 20							
Refere	ences:	-			Config Ref:	CF_1Gm1Mw				
IUT Role:		IMS			Selection Expression:	PICS A.2/3				
		Enti	ities		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 poi	an entry point to IMS				
	✓		✓	✓	IUT has sent INVITE from UE1	to UE2 via Mw				
	UE1	IMS	IUT	UE2						
Step		Direc	ction		Messag	e	IF			
1			Œ	À	200 response to UE1 ✓ P-Charging-Vector header ✓ ioi parameter		Mw			
2	Ŷ Ŀ		ŶД		200 response to UE1 ★ P-Charging-Vector header ✓ ioi parameter		Gm			

					Test Purpose		
Identif	fier:	TP_IM	ST2_MW	_INI_22			
Summ	ary:		public user		nitial request for a new dialogue -CSCF shall reject the request b		
Clause	:	5.4.3.3 t	first numbe	ered list item 1			
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 in IMS		
			×	×	UE2 not registered in IUT		
	✓		✓		IUT configured with an entry point to IMS		
	IMS		IUT	UE2			
Step		Di	irection		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				nitial request and the Request URI oby sending a SIP 4xx response.	contains an invalid GRUU	, the
Clause	:	5.4.3.3 first numb				
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Conditio	n	
	IMS	IUT	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	<i>€</i> \$P		INVITE ✓ Request URI ✓ invalid GRUU parameter		Mw	
2	Œ	Å		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	abscribed service	
	IMS		IUT	UE2			
Step			Direction		Me	ssage	IF
1			È	Ą	INVITE ✓ P-Asserted-Service header → unsubscribed service		Mw
2	Œ		¢ħ		403 response to UE2		Mw

				Test Purpose			
Identi	fier:	TP_IMST2_MV	V_INI_25				
Summ	ary:		e that is not sul	bscribed-to by the user, the S-0	ed-Service header and the SDI CSCF shall reject the request b		
Clause	:	5.4.3.3 first num	bered list 3D				
Refere	ences:	-		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		
	✓	✓		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	€ ₽		INVITE ★ P-Asserted-Service header ✓ SDP offer → unsubscribed service		Mw		
2	Œ	Ŷħ		403 response to UE2		Mw	

6.2.4 Standalone requests procedures

					Test Purpose						
Identif	fier:	TP_IMST	2_MW_S1	TA_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 equest with the value of the Service-Route header received during the last SIP 200 (OK) response or a registration or reregistration.								
Clause	:	5.2.6.3.7 it	em 2								
Refere	ences:	-			Config Ref:	CF_1Mw1Gm					
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/1, A.3/24.8.1					
	Entities				Cond	ition					
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topolog	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		Mess	sage	IF				
1	\$		£Ŷ		MESSAGE to UE2 ✓ Route header not matchin header	g stored Service-Route					
2a		€	4		MESSAGE		Mw				
3a	ŶĿ		Ą		400 response		Gm				
2b		€ ±	Ą		MESSAGE ✓ Route header ✓ stored Record-Route header	ader	Mw				

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_S1	TA_02						
Summ	ary:	P-Preferred representing	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	ences:	-			Config Ref:	CF_1Mw1Gm				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1				
		Enti	ities		Condit	ion				
	UE1	IMS	IUT	UE2						
			×		IUT not configured for topology	y hiding				
	✓		✓ UE1 registered in IUT							
	✓		✓		IUT has stored display name of	UE1				
		✓		✓	UE2 registered in IMS					
		✓	✓		IUT configured with an entry po	oint to IMS				
	UE1	IMS	IUT	UE2						
Step		Direc	ction		Messa	ge	IF			
1	₩		∌		MESSAGE to UE2 ✓ P-Preferred-Identity header					
2		ĈE.	Å		MESSAGE ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ stored display name parameter		Mw			

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_S7	ΓΑ_03						
Summ	ary:		When a P-CSCF receives request for a standalone transaction from a UE it shall add a P-Charging- lector header with the icid parameter.							
Clause	:	5.2.6.3.7 it	5.2.6.3.7 item 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		A	ф		MESSAGE ✓ P-Charging-Vector heade ✓ icid parameter	r	Mw			

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_S7	TA_04					
Summ	ary:	When a P-G			esponse to a forwarded request for a	standalone transaction, it	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	1			
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topology h	iding			
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry poin	t to IMS			
	✓		✓	✓	IUT has received MESSAGE from to UE2	uE1 via Gm addressed			
			✓		IUT has sent MESSAGE via Mw				
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Message		IF		
1		₩	∌		200 response originated by UE2 to UE1				
2	Ŷ Ŀ		Ą		200 response to UE1		Gm		

					Test Purpose		
Identi	fier:	TP_IMST	2_MW_S7	TA_05			
Summ	ary:	(that does the receive security as	not relate to d list of Via sociation, in es to the IP	o an existin a header in f establishe	st for a standalone transaction or a range dialog) destined for a UE, it shall a format that contains the protected, between the UE and the P-CSCI the security association or the P-C	I add its own address to the d server port number of the F and either the P-CSCF F	e top of e QDN
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	etion		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	Then a P-CSCF receives any response to a request for a standalone transaction destined for a UE, if e list of Via headers does not match the saved list of Via headers received in the request, either scard the response or replace the Via header values with those received in the request.							
Clause	:	5.2.6.4.8 it	2.6.4.8 item 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 topology hiding					
	✓		✓		UE1 registered in IUT	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	₩		∌		200 response ✓ Via header not matching stored Via header		Gm			
2a		℃ ∥	114		200 response		Mw			
2b	2b & &		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	sponse to a request for a standalo header, if present, and insert a P he P-Called-Party-ID header of tion.	-Asserted-Identity header wit	th the	
Clause	:	5.2.6.4.8 it	em 2		T			
Refere	ences:	-			Config Ref:	CF_1Mw1Gm		
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1		
		Enti	ities		Condi	tion		
	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	nge	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 parameter			

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	When a P-CSCF receives a subsequent request, other than a target refresh request, that does not relate to an existing dialogue in which the originator is involved then the P-CSCF shall send a SIP 403 (Forbidden) response back to the originator and not forward the request.								
Clause	:	5.2.6.3.9 it	em 1a								
Refere	nces:	-			Config Ref:	CF_1Mw1Gm					
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1					
		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					
	✓			✓	UE1 has established an INVIT	E dialogue with UE2					
	UE1	IMS	IUT	UE2							
Step		Direc	ction		Mess	sage	IF				
1	\$		ъ́р		BYE ✓ Call-ID header → existent dialog		Gm				
2	2					Mw					
3	Ŷ Ŀ		Ą		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, containing a list of URIs in the Route header different to the stored values of the Service-Route header for the existing dialogue 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 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		Condition	on					
	UE1	IMS	IUT	UE2							
			×		IUT not configured for topology hiding						
	✓		✓		UE1 registered in IUT						
	✓		✓		IUT has stored Record-Route hea	ider of UE1					
		✓		✓	UE2 registered in IMS						
		✓	✓		IUT configured with an entry poi	nt to IMS					
	✓			✓	UE1 has established an INVITE	dialogue with UE2					
	UE1	IMS	IUT	UE2							
Step		Direc	ction		Messag	e	IF				
1	Ð		Ð		BYE ✓ Route header not matching s header	tored Record-Route	Gm				
2b		€	∜		ВУЕ						
3b	Ŷŧ		4		400 response						
2a		\	Ð		BYE ✓ Route header ✓ stored Record-Route heade	er	Mw				

					Test Purpose				
Identifier: TP_IMST2_MW_SUB_03									
Summ	ary:				sequent request, other than a tai lialogues, it shall add a P-Charg				
Clause	: :	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		Conc	lition			
	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 a SUBSO	CRIBE dialogue with UE1			
	UE1	IMS	IUT	UE2					
Step		Direc	ction	,	Mes	sage	IF		
1	\$		卦		PUBLISH		Gm		
2 🖎 🗸		PUBLISH ✓ P-Charging-Vector heade ✓ icid parameter	or	Mw					

					Test Purpose					
Identif	fier:	TP_IMST	2_MW_SU	JB_04						
Summ	ary:	request doe	When a P-CSCF receives a subsequent request, other than a target refresh request, for a UE, if the request does not relate to an existing dialogue in which the originator is involved, then the P-CSCF shall send a SIP 403 (Forbidden) response back to the originator and not forward the request.							
Clause	:	5.2.6.3.9 it	em 1a							
Refere	nces:	-			Config Ref:	CF_1Mw1Gm				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1				
		Enti	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 point to IMS					
	✓			✓	UE2 has established an INVITE dialogue with UE1					
	UE1	IMS	IUT	UE2						
Step		Direc	ction		Messa	ge	IF			
1		₩	£		BYE to UE1 ✓ Call-ID header → existent dialog		Mw			
2	₹		114	_	BYE to UE1		Gm			
3		Ýt:	ф		403 response		Mw			

					Test Purpose		
Identi	fier:	TP_IMST	2_MW_SU	JB_05			
Summ	ary:	containing dialog, the	a list of Ron the P-CSO replace the	oute header CF shall ei Route hea	ther return a SIP 400 (Bad Req	rget refresh request, for a UE Record-Route headers for the squest) response and not forward he stored list of Record-Route h	d the
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		Conc	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 matchinheader	ng stored Record-Route	Mw
2a	€ ∥		4		BYE to UE1		Gm
3a	400 response			Mw			
2b	2b € ♦ 1			BYE to UE1 ✓ stored Record-Route header		Mw	

					Test Purpose		
Identi	fier:	TP_IMST	2_MW_SU	JB_06			
Summ	ary:				sequent request, other than a target lialogues, add a P-Charging-Vecto		
Clause	:	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	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 po	int to IMS	
	✓			✓	UE2 has established a SUBSCR	IBE dialogue with UE1	
	UE1	IMS	IUT	UE2			
Step		Direc	ction		Messaş	ge	IF
1		₩	Ð		PUBLISH to UE1		Mw
2	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 of the received list of Via header in a the security association if one is es FQDN that resolves to the IP addrecurity association.	format that contains the tablished between the UE	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		Conditio	n		
	UE1	IMS	IUT	UE2				
			×		IUT not configured for topology h	niding		
	✓		✓		UE1 registered in IUT			
	✓				UE1 has established an IMS AKA	security association		
		✓		✓	UE2 registered in IMS			
		✓	✓		IUT configured with an entry poin	nt to IMS		
	✓			✓	UE2 has established an INVITE I	Dialogue with UE1		
	UE1	IMS	IUT	UE2				
Step		Dire	ction		Messago	2	IF	
1		₩	Ð		BYE to UE1 originated by UE2		Mw	
2	∜⊒		ф		BYE 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		
Identi	fier:	TP_IMST	2_MW_SU	JB_07A			
Summ	ary:				equent request, other than a targe f the received list of Via header.	t refresh request, for a UE,	it shall
Clause	e:	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		Conditi	on	
	UE1	IMS	IUT	UE2			
			×		IUT not configured for topology	hiding	
	✓		✓		UE1 registered in IUT		
	✓				UE1 has established a digest wit association	hout TLS security	
		✓		✓	UE2 registered in IMS		
		✓	✓		IUT configured with an entry po	oint to IMS	
	✓			✓	UE2 has established an INVITE	Dialogue with UE1	
	UE1	IMS	IUT	UE2			
Step		Dire	ction	·	Messa	ge	IF
1		₩	Ð		BYE to UE1 originated by UE2		Mw
2	Œ.		BYE to UE1 ✓ Via header ✓ port number of IUT P-CSCF ✓ address of IUT P-CSCF		Gm		

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_SU	JB_08					
Summ	ary:	the list of V	/ia headers e P-CSCF s	does not r shall either	onse to a subsequent request, of match the saved list of Via head discard the response or replace est.	ers received in the subsequent			
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			
		Enti	ties		Cond	ition			
	UE1	IMS	IUT	UE2					
			×		IUT not configured for topology 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	TE Dialogue with UE1			
			✓		IUT has stored Via header				
	✓		✓	~	IUT has received BYE via My addressed to UE1	w originated by UE2			
	✓		✓		IUT has sent BYE via Gm to	UE1			
	UE1	IMS	IUT	UE2					
Step		Direc	ction		Mess	sage	IF		
1	∌		₽		200 response to UE2 ✓ Via header not matching stored Via header				
2a		€	4		200 response		Mw		
2b		ŶĿ.	Ŷħ		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 initial session release, the P-CSCF shall terminate the request and answer it with a SIP 481 (Call/Transaction Does Not Exist) response.								
Clause	e:	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		Cond	lition					
	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	ΓE dialog					
	✓		✓		IUT has received BYE from U	JE1					
			✓		IUT has sent BYE via Mw						
	UE1	IMS	IUT	UE2							
Step		Direction			Mes	sage	IF				
1		4	Ð		BYE to UE1		Mw				
2	2		481 response to UE2		Mw						

					Test Purpose			
Identifier:		TP_IMST2_MW_SUB_10						
Summary:		When the registration lifetime of the only public user identity currently registered of the calling user expires while there is still an active dialogue that include this user and where the session was initiated with the public user identity currently registered, then the S-CSCF shall send a SIP BYE request destined for the called user and shall send a SIP BYE request destined for the calling user.						
Clause:		5.4.5.1.2A; 5.4.5.1.2 item 1						
References:		-			Config Ref:	CF_1Gm1Mw		
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			
		✓		✓	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		Direction			Message		IF	
1					Registration of UE1 expires			
2	Œ		Ŷ <u>ħ</u>		BYE to UE1		Gm1	
3		€ta	Å		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 existing dialogue from a ling a SIP 403 (Forbidden) response back to the originator an	
Clause	: :	5.2.6.3.5 it	em 1a			
References: - Confi					Config Ref: CF_1Mw1Gm	
IUT R	IUT Role: 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	
	×		×	×	IUT has not established an INVITE dialogue from UE1 to UE2	
	UE1	IMS	IUT	UE2		
Step		Direc	ction		Message	IF
1	₽		∌		target refresh UPDATE to UE2	Gm
2		%	114		target refresh UPDATE to IMS	
3	Ŷ.		Ŷħ		403 response to UE1	Gm

					Test Purpose			
Identi	fier:	TP_IMST	2_MW_TA	AR_02				
Summ	ary:	header diff P-CSCF sh	erent to the all either red d Route he	e stored va eturn a SII	et refresh request from a UE, containing a list of URI lues of the Record-Route headers for the same dialog P 400 (Bad Request) response and not forward the recein the request with the stored list of Record-Route h	g, then the quest or replace		
Clause	:	5.2.6.3.5 it	em 2					
Refere	ences:	-			Config Ref: CF_1Mw1Gm			
IUT R	ole:	IMS			Selection Expression: PICS A.2/1, A.3	3/24.6.1		
		Enti	ities		Condition			
	UE1	IMS	IUT	UE2				
			×		IUT not configured for topology hiding			
	✓		✓		UE1 registered in IUT			
	✓		✓		IUT has stored Record-Route header of UE1			
		✓		✓	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			
1	\$		Ð		target refresh INVITE to UE2 ✓ Route header not matching stored Record-Rouheader	te		
2a		€	4		INVITE	Mw		
3a	¢.		ф		400 response	Gm		
2b		ŶŁ.	Å		INVITE ✓ Route header ✓ stored Record-Route header			
3b	Œ		Å		100 response	Gm		

					Test Purpose			
Identif	ier:	TP_IMST	2_MW_TA	AR_03				
Summa	ary:	header and the port nu Record-Ro address or	to the Recomber of the ute header) the P-CSCI	ord-Route P-CSCF from the F IP addre	et refresh request from a UE, it shall a header, the P-CSCF SIP URI shall be where it awaits responses (in Via head called party, and either the P-CSCF Fo ss and updated access-network-chargi or header field.	built in a format that co der) and subsequent requ QDN that resolves to the	ontains lests (in e IP	
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: P	PICS A.2/1		
	Entities			Condition				
	UE1 IMS IUT UE2		UE2					
			×		IUT not configured for topology hid	ing		
	✓		✓		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	₩		₽		target refresh INVITE to UE2			
2		Q	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-C ✓ Record-Route header ✓ SIP URI of IUT P-CSCF → port number of IUT P-CSC → FQDN address of IUT P-CSC or IP address of IUT P-CSC ✓ P-Charging-Vector header ✓ updated access-network-charg	F SCF CF	Mw	
3	€ t		₽.		100 response		Gm	

					Test Purpose			
Identif	fier:	TP_IMST	2_MW_TA	AR_04				
Summ	ary:	2xx respon	se as a resu its own Re	ılt of a for	between the UE and P-CSCF, when a P-CSCF receives any SI warded target refresh request, it shall replace the address and e entry to the same value as for the response to the initial request.	port		
Clause	:	5.2.6.3.6 item 1						
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 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		Direc	ction		Message	IF		
1		₩	₽		200 response	Mw		
2	ŶĿ		Ϋ́		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		
Identif	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	:	5.2.6.3.6					
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		
	✓		✓	✓	IUT has established an INVITE dialogue from UE1 to UE2	2	
	✓		✓		IUT has received target refresh INVITE from UE1		
			✓		IUT has sent target refresh INVITE via Mw		
	UE1	IMS	IUT	UE2			
Step		Direc	ction	•	Message	IF	
1		₽	Ð		200 response		
2	Œ.		¢ħ		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-CSCF the P-CSC	et refresh request for a dialogue destined for a UE it shall add its own d list of Via header in a format that if a security association exists F, contains the protected server port number of the security CF FQDN that resolves to the IP address of the security association esecurity association.			
Clause		5.2.6.4.5 it	em 1,3; 5.2	.9.2 paragi		T		
Refere		-			Config Ref:	CF_1Mw1Gm		
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1		
	Entities				Condition	1		
	UE1	IMS	IUT	UE2				
			×		IUT not configured for topology hiding			
	✓		✓		UE1 registered in IUT			
	✓				UE1 has established a security association with IUT P-CSCF			
		✓		✓	UE2 registered in IMS			
		✓	✓		IUT configured with an entry poin	t 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		\$	侴		target refresh INVITE to UE1		Mw	
2	Ŷŧ		Â		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			
3		L	ф		100 response		Mw	

					Test Purpose			
Identif	fier:	TP_IMST	2_MW_TA	AR_05A				
Summ	ary:	address to		ne receive	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	ences:	-			Config Ref:	CF_1Mw1Gm		
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1		
		Enti	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 established an INVIT	E dialogue from UE1 to UE2		
	✓		✓		IUT has received target refresh INVITE via Mw addressed to UE1			
	✓		✓		IUT has sent target refresh INV	VITE via Gm to UE1		
	UE1	IMS	IUT	UE2				
Step		Direc	ction		Mess	age	IF	
1		\$	卦		target refresh INVITE to UE	1	Mw	
2	∜च		¢ħ		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			
3		Ŷ Ŀ	Ŷħ		100 response		Mw	

					Test Purpose				
Identif	fier:	TP_IMST	2_MW_TA	AR_06					
Summ		for the UE, initial requ values with	if the list of est correspond those rece	of Via head onding to to vived in the	-	f Via headers received in the	ne		
Clause		5.2.6.4.6 fi	rst number	ed list item	Config Ref:	CF 1Mw1Gm			
IUT R		IMS			Selection Expression:	PICS A.2/1, A.3/25.7.1			
IUIK	oie.	Entities			Condition	· · · · · · · · · · · · · · · · · · ·			
	UE1 IMS IUT UE2			UE2	Condition				
			×		IUT not configured for topology h	iding			
	✓		✓		UE1 registered in IUT				
		✓		✓	UE2 registered in IMS				
		✓	✓		IUT configured with an entry point to IMS				
	✓			✓	UE2 has established an INVITE d	ialogue with UE1			
			✓		IUT has stored Via header				
	✓		✓	~	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	₩		侴		200 response ✓ Via header not matching store	d Via header	Gm		
2a		€	114		200 response				
2b		Ŷŧz	ф		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	exx or 2xx response to a target refresh request for a dialogue of the tion exists, rewrite the address and port number of its own Rest for the response to the initial request for the dialogue and red access-network-charging-info parameter shall be included in	ecord- emove		
Clause	:	5.2.6.4.6 fi	rst number	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		Ŷī.	ф		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	When a P-CSCF receives SIP 1xx or 2xx response to a target refresh request for a dialogue destined for the UE, if a digest without TLS exists, updated access-network-charging-info parameter shall be included in the P-Charging-Vector header field.							
Clause	:	5.2.6.4.6 fi	5.2.6.4.6 first numbered list item 2; 5.2.9.2 paragraph 2							
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					
	✓			✓	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		Dire	ction		Message	IF				
1	Þ		£		200 response	Gm				
2		Œ.	À		200 response ✓ P-Charging-Vector header ✓ updated access-network-charging-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 for the initial	sponse other than the SIP 1xx or 2x or the UE, if the list of Via headers of request corresponding to the same er values with those received in the	does not match the saved a dialog, either discard the	list of	
Clause	:	5.2.6.4.6 se	econd numb	bered list item 1				
Refere		-			Config Ref:	CF_1Mw1Gm		
IUT R	ole:	IMS			Selection Expression:	PICS A.2/1, A.3/25.8.1		
		Enti	ities	1	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	alogue with UE1		
			✓		IUT has stored Via header			
	✓		✓	~	IUT has received target refresh IN by UE2 addressed to UE1	VITE via Mw originated		
	✓		✓		IUT has sent target refresh INVITI	E to UE1		
	UE1	IMS	IUT	UE2				
Step		Direc	ction		Message		IF	
1	Ð		Ð		4xx response ✓ Via header not matching store	d Via header	Gm	
2a		€ ∥	114		4xx response			
2b		₹ a	£		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		A	Ŷμ		4xx response ✓ Record-Route header → IP address of IUT P-CSCF → port number of IUT P-CSCF * comp parameter	Mw				

					Test Purpose	
Identif	fier:	TP_IMST	2_MW_TA	AR_09A		
Summ	ary:				esponse other than the SIP 1xx or 2xx response to a target referred a UE, if digest without TLS exists, forward the response.	resh
Clause	:	5.2.6.4.6 se	econd numl	pered list		
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	
	✓			✓	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		Dire	ction		Message	IF
1	₩		Ð		4xx response	Gm
2		Ŷ.	क्र		4xx response	Mw

6.2.7 Emergency procedures

				Test Purpose			
Identif	fier:	TP_IMST2_MW	_EME_01				
Summ	When P-CSCF receives from an unregistered user an initial request other than a SIP REGIST a dialogue and the Request-URI contained in the request matches one of the emergency service dentifiers, it shall insert an emergency service URN into the Request-URI field and select ar E-CSCF and add the URI of the selected E-CSCF to the topmost Route header and continue normal initial SIP request process procedure.					ee	
Clause	:	5.2.10.2 paragraph 1; 5.2.7.2 paragraph 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			
	x		×	UE1 not registered in IUT			
		✓	✓	IUT configured with an entry poin	t to IMS		
			✓	IUT configured for emergency sessions			
	UE1	IMS	IUT				
Step		Direction		Message		IF	
1	∌		Ð	INVITE ✓ Request-URI matching an em	ergency service identifier		
2		₹ ±	ŶĬ	INVITE ✓ Request URI → emergency service URN ✓ Route header ✓ topmost SIP URI of IUT E-CSCF		Mw	
3	₹		Ą	100 response		Gm	

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_EME_02			
Summ	ary:	a dialogue and the identifiers, it shall E-CSCF and add t	Request-URI insert an eme he URI of the request proce	n unregistered user an initial request for contained in the request matches or gency service URN into the Request selected E-CSCF to the topmost R ss procedure but without removing tity header.	one of the emergency servicest-URI field and select an oute header and continue v	ce with
Clause	:	5.2.10.2 item 1,2,3	3,3A; 5.2.7.2	paragraph 3		
Refere	nces:	-		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 l	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	,	Message		IF
1	\$		₽	INVITE ✓ P-Preferred-Identity header		
2		Œ	Ŷħ	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	Ŷ Ŀ		ά	100 response		Gm

				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 gency service identifiers, the P-CSO I.	the Request-URI contained	d in the
Clause	Clause: 5.2.10.3 item 1; 5.2.7.2 paragraph 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 for emergency service in IUT		
		✓	✓	IUT configured with an entry point to IMS		
			✓	IUT configured for emergency sessions		
	UE1	IMS	IUT			
Step		Direction	,	Message		IF
1	₩		±Î	INVITE ✓ Request-URI matching an em	ergency service identifier	
2		Œ	Ϋ́	INVITE ✓ Request-URI → emergency service URN		Mw
3	€		Ą	100 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_EME_04			
service, an initial request that is request matches one of the eme service URN in the Request-Ul registered emergency public us with the registered emergency			request that is ne of the eme e Request-UI ncy public us I emergency p	a UE, that has previously registered and a SIP REGISTER request, and regency service identifiers the P-CSO and if the P-Preferred-Identity her identity, remove that header and bublic user identity a second P-Associated emergency public user identity	the Request-URI contained CF shall include an emerge ader is present and carries insert a P-Asserted-Identity erted-Identity header with the	d in the ncy the header
Clause	2:	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		Condition	on	
	UE1	IMS	IUT			
			×	IUT not configured for topology l	IUT not configured for topology hiding	
	✓		✓	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		Messag	e	IF
1	∌		Ð	INVITE ✓ Request-URI matching an emergency service identifier ✓ P-Preferred-Identity header ✓ emergency public user identity		
2		₹च	ŶÌ	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		ŶĮ.	100 response		Gm

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_EME_05			
service, an initial request that is request matches one of the emerger under the service URN in the Request-UR tel-URI associated with the region a P-Asserted-Identity header with the region and the service are the service.			request that is ne of the emen e Request-UR I with the regi tity header with	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 ity, remove that header and egistered emergency public	d in the ency the l insert c user
Clause	e:	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	Ť	Conditio	n	
	UE1	IMS	IUT			
			×	IUT not configured for topology l	IUT not configured for topology hiding	
	✓		✓	UE1 registered for emergency service in IUT		
			✓	IUT has stored display name		
		✓	✓	IUT configured with an entry poin	IUT configured with an entry point to IMS	
			✓	IUT configured for emergency sessions		
	UE1	IMS	IUT			
Step		Direction		Messag	2	IF
1	₩,		Ð	INVITE ✓ Request-URI matching an en ✓ P-Preferred-Identity header ✓ tel URI of emergency publi		
2		Ŷŧ.	क्र	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	€		Å.	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 d in the UE IP address and UE protect st-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			Conditio	n	
	UE1	IMS	IUT			
			×	IUT not configured for topology h	niding	
	✓		✓ UE1 registered for emer		vice in IUT	
	✓ ✓		✓	IUT configured with an entry point to IMS		
		✓		IUT configured for emergency sea	ssions	
	✓			UE1 has established an emergency session		
	UE1	IMS	IUT			
Step		Direction		Messago	e	IF
1	∌		£	target refresh INVITE ✓ Request-URI ✓ GRUU		Gm
2		€±	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 req	a UE that has registered for non-emergency service a uest, and the Request-URI contained in the request rs, the P-CSCF shall include an emergency service U	natches one of	
Clause	ause: 5.2.10.4 item 1; 5.2.7.2 paragraph 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	₩		र्च	INVITE ✓ Request-URI matching an emergency service i	dentifier	
2		€±	Υμ	INVITE ✓ Request-URI → emergency service URN		
3	Œ		47	100 response	Gm	

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_EME_08			
Summ	ary:	that is not a SIP R the emergency ser header matches or header from the re identity that was p	EGISTER revice identifies of the P-Cs eceived requestresent 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 I associated with the public user	ained in the request matcher uded in the P-Preferred-Ide ities remove the P-Preferred eader that includes the public add a second P-Asserted ide	s one of ntity d-Identity ic user
Clause	e:	5.2.10.4 item 1C)i)			
Refere		_		Config Ref:	CF_1Mw1Gm	
IUT R	tole:	IMS		Selection Expression:	PICS A.2/1	
		Entities	1	Cond	ition	
	UE1	IMS	IUT			
			×	IUT not configured for topolog	gy 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	₩		Ð	INVITE ✓ Request-URI ✓ emergency service URN ✓ P-Preferred-Identity header ✓ registered public user identity		Gm
2		₹	Ą	INVITE ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ registered public user identity ✓ second P-Asserted-Identity header ✓ tel URI of public user identity		Mw

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_EME_09			
Summary: When a P-CSCF receives from that is not a SIP REGISTER re the emergency service identificidentities is included in the P-F insert a P-Asserted-Identity header and add a second				s, if the tel URI associated with eferred-Identity header remove der that includes the tel URI tha	ained in the request matches of one of the registered public the P-Preferred-Identity head t was present in the P-Preferred.	one of iser er, ed-
Clause	e:	5.2.10.4 item 1C)i	i)	1		
Refere	ences:	-		Config Ref:	CF_1Mw1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
		Entities		Cond	ition	
	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	IF
1	₽\$		Ð	INVITE ✓ Request-URI ✓ emergency service URN ✓ P-Preferred-Identity header ✓ tel URI of public user identity		Gm
2	2 & &		ф	INVITE ★ P-Preferred-Identity header ✓ P-Asserted-Identity header ✓ tel URI of public user identity ✓ second P-Asserted-Identity header ✓ registered public user identity		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	n		
	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 ses	sions	
	✓			UE1 has established an emergency	UE1 has established an emergency session	
	UE1	IMS	IUT			
Step		Direction		Message	,	IF
1	₽		£	target refresh INVITE ✓ Request-URI ✓ GRUU		Gm
2		€	Ŷħ	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 figured 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 topolo	ogy hiding	
	✓		✓	UE1 registered in IUT		
		✓	✓	IUT configured with an entry point to IMS		
	✓	✓		UE1 visiting IMS		
			×	IUT not configured for emergency sessions		
	UE1	IMS	IUT			
Step		Direction		Mes	ssage	IF
1		₩,	Ð	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 perr Acceptable Here)	nitted by local response conta	Prequest containing a SDP offer in a policy or by user subscription, it slaining a SDP payload which container SDP parameters permitted by loc	nall send a SIP 488 (Not as all or an acceptable sub	set, of
Clause: 6.3 paragraph 1						
Refere	ences:	-		Config Ref:	CF_1Mw	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/1	
	Entities			Condition		
	UE1	IMS	IUT			
			x	IUT not configured for topology h	iding	
	✓		✓	UE1 registered in IUT		
	✓	✓		UE1 visiting IMS		
		✓	✓	IUT configured with an entry poin	t to IMS	
	UE1	IMS	IUT			
Step		Direction	·	Message		IF
1		₽\$	Ð	INVITE to UE1 ✓ SDP offer ✓ unacceptable media parameter		Mw
2		Œ	Ŷħ	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	request containing an encrypte	d SDP offer, it may reject the 1	request.
Clause	:	6.3 pa	aragraph 1				
Refere	References: -				Config Ref:	CF_1Mw	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3, A.6/34.1.1	
			Entities		Conc	lition	
	UE1		IMS	IUT			
				×	IUT not configured for topolo	ogy hiding	
	✓			✓	UE1 registered in IUT		
			✓	✓	IUT configured with an entry point to IMS		
	✓		✓		UE1 visiting IMS		
				✓	IUT configured to reject encrypted SDP offers		
	UE1		IMS	IUT			
Step			Direction		Mes	sage	IF
1			4	卦	INVITE to UE1 ✓ encrypted SDP offer		Mw
2			Œ	¢ħ	4xx response		Mw
3	\E			4	INVITE		Gm

				Test Purpose		
Identi	fier:	TP_IMST2_MW	_SDP_03			
Summ	ary:	contained in a pre	viously forwa	P request containing a SDP answerded SIP response, other than a Sin the received SDP offer.		all not
Clause	2:	6.2 paragraph 2				
Refere	ences:	-		Config Ref:	CF_1Gm1Mw	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/1	
	Entities			Condit	ion	
	UE1	IMS	IUT			
			×	IUT not configured for topology	hiding	
	✓		✓	UE1 registered in IUT		
	✓		✓	IUT has received INVITE via N	Iw 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 parameter		Mw
2		€	ll&	4xx response		Mw
3	(E		Å	180 response		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_SDP_04			
Summ	ary:	which was previou	ısly forwarde	PACK request containing an SDF ed in a SIP 200 (OK) response an t 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			Cond	ition	
	UE1	IMS	IUT			
			×	IUT not configured for topolog	gy hiding	
	✓		✓	UE1 registered in IUT		
	✓ IUT has recei		IUT has received INVITE via	Mw for UE1		
	✓	✓		IUT has sent INVITE via Gm	to UE1	
		✓	✓	IUT configured with an entry J	point to IMS	
	UE1	IMS	IUT			
Step		Direction		Message		IF
1	₩		£	200 response ✓ SDP offer ✓ unacceptable media para	nmeter	Gm
2		Œ	Ŷħ	200 response		Mw
3		₩,	ੜੀ	ACK ✓ SDP answer		Mw
4		€	Ą	ВУЕ		Mw
5	ŶĿ		Ϋ́A	ВУЕ		Gm

				Test Purpose		
Identif	fier:	TP_IMST2_MW	_SDP_05			
Summ	ary:			ACK request containing an SDP a 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 M	Iw for UE1	
	✓		✓	IUT has sent INVITE via Gm to	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		Message		IF
1	4		並	200 response ✓ encrypted SDP offer		Gm
2		€±	ф	200 response		Mw
3		₩,	<i>ਜੁੰ</i>	ACK ✓ encrypted SDP answer		Mw
4		Q	¢ħ	ВУЕ		Mw
5	Ŷ _G		क्र	ВУЕ		Gm

6.3 Test purposes for the lc interface

6.3.1 General

					Test Purpose		
Identif	ier:	TP_IN	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			
Refere	References: -			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	₩		卦		REGISTER		
2			₽	Ð	REGISTER ✓ topmost Path header → SIP URI of IUT IBCF		Ic1

6.3.2 Registration procedures

				Test Purpose		
Identif	fier:	TP_IMST2_IC_R	REG_01			
Summ	ary:	previously forward	led SIP REGIS	x (Redirection) response from a hon TER request, it shall resend the Reg as not previously forwarded the sam	gister request to another hon	ne
Clause	:	5.10.2.1 3) second	dash			
Refere	ences:	-		Config Ref:	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 from	n UE1	
		✓		IUT has sent REGISTER via Ic1		
	UE1	IUT	IMS			
Step		Direction		Messag	e	IF
1		Ŷ£.	⟨₽	3xx response		Ic1
2		₽	玠	REGISTER		Ic2

				Test Purpose		
Identif	fier:	TP_IMST2_IC_R	EG_02			
Summ	ary:	to a previously for	warded SIP RI	(Temporarily Unavailable) resp EGISTER request, it shall forwa as not previously forwarded the	ard the Register request to anoth	
Clause: 5.10.2.1 3) second dash						
Refere	ences:	-		Config Ref:	CF_2Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Con	dition	
	UE1	IUT	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		Me	essage	IF
1		Ŷ <u>.</u>	4	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 forwa	onse from a home network entry point and the Register request to another has same request.		
Clause	:	5.10.2.	.1 3) first das	h			
Refere	nces:	-			Config Ref:	CF_2Ic1Gm	
IUT R	IUT Role: IMS				Selection Expression: PICS A.2/4		
	Entities				Conditio	n	
	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			\$	Þ	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	1	IUT	IMS			
Step		Dir	ection		Message		IF
1			Ŷz	4	3xx response		Ic1
2a	€		¢ħ		408 response		
2b	Ŷ <u>E</u>		¢ħ		504 response		

				Test Purpose		
Identif	fier:	TP_IMST2_IC_F	REG_05			
Summ	ary:			emporarily Unavailable) response to er s home network, it shall send a SII		
Clause	:	5.10.2.1 3) second	dash			
Refere	ences:	-		Config Ref: CF_1Ic1Gm		
IUT R	IUT Role: IMS		Selection Expression:	PICS A.2/4		
	Entities			Condition	on	
	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		Direction		Messag	e	IF
1		€.	ф ф	480 response		Ic1
2a	€	Ŷħ		408 response		
2b	Ŷ Ŀ	¢ħ		504 response		

					Test Purpose		
Identif	ier:	TP_IMST2_	IC_REG_0	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) fin	rst dash				
Refere	nces:	-			Config Ref:	CF_1Ic1Gm	
IUT R	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		Directi	on		Message		IF
1		€ ∥		4	no response		Ic1
2a	Æ	4			408 response		
2b	¢ U	¢ħ			504 response		

				Test Purpose				
Identif	ier:	TP_IMST2_IC_F	REG_07					
Summary:		When an IBCF receives a SIP REGISTER request from an non-trusted domain outside its own network, it shall send a SIP 403 (Forbidden) response to the sender of the request.						
Clause	::	5.10.3.1 1)						
Refere	nces:	-		Config Ref:	CF_1Ic			
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4			
Entities				Condition				
	UE1	IUT	IMS					
		✓	✓	IMS configured as untrusted d	omain for IUT			
	UE1 IUT IMS		IMS					
Step	Step Direction			Mes	ssage	IF		
1		€	₩ ₩	REGISTER		Ic1		
2		₽	Ð	403 response		Ic1		

6.3.3 Initial request procedures

				Test Purpose						
Identifier:		TP_IMST2_IC_INI_01								
Summary:		When an IBCF receives an initial SIP INVITE request from within its own network it encrypts all Via neader URIs except the one of the IBCF prior to forwarding the request.								
Clause	:	5.10.2.2 1) 3) 8), 5	5.10.2.2 1) 3) 8), 5.10.4							
Refere	nces:	-		Config Ref:	CF_1Ic1Gm					
IUT R	ole:	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		Mes	ssage	IF				
1	₩	र्च		INVITE						
2	€ ¢¤		100 response							
3	3 ♥ ∌		ъ́	INVITE ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parame × P-Charging-Function-Add		Ic1				

				Test Purpose					
Identifier: TP_IMST2_IC_INI_02			NI_02						
Summary:		When an IBCF receives a 180 response to a forwarded initial INVITE request and network topology hiding is required it shall not encrypt Via header URIs when forwarding to the UE.							
Clause	::	5.10.2.2, 5.10.4	5.10.2.2, 5.10.4						
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 has received INVITE fro	om UE1				
		✓		IUT has sent INVITE via Ic1					
	UE1 IUT IMS		IMS						
Step		Direction		Me	essage	IF			
1		Œ	ф	180 response		Ic1			
2	Œ	ф		180 response ★ any header ✓ encrypted SIP URI → tokenized-by parame	eter				

					Test Purpose				
Identifier: TP_IMST2_IC_INI_03									
Summary:			When an IBCF receives a 200 response to a forwarded initial INVITE request and network topology hiding is required it shall not encrypt Via header URIs when forwarding to the UE.						
Clause	::	5.10	0.2.2, 5.10.4						
Refere	nces:	-			Config Ref:	CF_1Ic1Gm			
IUT R	ole:	IMS			Selection Expression:	PICS A.2/4			
Entities			Entities		Conditi	on			
	UE1		IUT	IMS					
			✓		IUT configured for topology hiding				
	✓		✓		IUT has received INVITE from U	JE1			
			✓		IUT has sent INVITE via Ic1				
	UE1 IUT IMS		IMS						
Step			Direction		Messag	ge	IF		
1			Œ	Ŷħ	200 response		Ic1		
2	₹		Ŷħ		200 response ★ any header ✓ encrypted SIP URI → tokenized-by parameter				

				Test Purpose					
Identif	fier:	TP_IMST2_IC_INI_04							
Summary:		domain and	When an IBCF receives any SIP request, other than a SIP REGISTER request, from a non-trusted domain and the topmost Route header in the request contains the orig parameter, the IBCF shall send a SIP 403 (Forbidden) response to the originator of the request.						
Clause	:	5.10.3.2, se	cond dashed list, se	econd dash					
Refere	ences:	-		Config Ref:	CF_1Ic				
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4				
	Entities			Con	dition				
		IUT	IMS						
		✓	✓	IMS configured as untrusted of	domain for IUT				
	IUT		IMS						
Step		Direc	ction	Me	ssage	IF			
1	€ ±		ÝД	INVITE ✓ topmost Route header ✓ orig parameter	✓ topmost Route header				
2		₩	Ŷ	403 response		Ic1			

				Test Purpose						
Identifier: TP_IMST2_IC_INI_		C_INI_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	5.10.3.2 1) 3), 5.10.4							
Refere	nces:	-		Config Ref:	CF_1Ic1Gm					
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4					
		Entities		Con	dition					
	UE1	IUT	IMS							
	✓			IUT configured for topology hiding						
	✓ ✓		✓	IMS configured as trusted domain for IUT						
	UE1	IUT	IMS							
Step		Direction Message		ssage	IF					
1		₹ta	<u>'</u> ম	INVITE ✓ Via header ✓ topmost SIP URI of IM ✓ encrypted SIP URI → tokenized-by parame		Ic1				
2	\$		100 response		Ic1					
3	€ें	Ф		INVITE * any header ✓ encrypted SIP URI → tokenized-by parame	ter					

				Test Purpose		
Identif	ier:	TP_IMST2_IC_II	NI_06			
Summ	ary:			TTE request and the IBCF requires the prior to forwarding it to the UE		he
Clause	: :	5.10.3.2, RFC 402	8 [7]			
Refere	References: -		Config Ref:	CF_1Ic1Gm		
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4, A.8/10.3.1	
	Entities		Condition			
	UE1	IUT	IMS			
		✓		IUT configured for requiring periodic refreshment		
	UE1	IUT	IMS			
Step		Direction		Messag		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	on-Addresses	80 response from within its own net header and add its own URI as the to ing the response to other networks.		ypt all
Clause	:	5.10.3.2 second nu	mbered list, 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 received INVITE via Ic1		
	✓	✓		IUT has sent INVITE to UE1		
	UE1	IUT	IMS			
Step		Direction		Message		IF
1	₩	立		180 response		
2		₽\$	₽	180 response ✓ 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_IN	NI_08			
Summ	ary:	P-Ch	arging-Function	on-Addresses l	00 response from within its own net neader and add its own URI as the tong the response to other networks.		ypt all
Clause	:	5.10.	.3.2, second nu	mbered list, 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 received INVITE via Ic1		
	✓		✓		IUT has sent INVITE to UE1		
	UE1		IUT	IMS			
Step			Direction		Message	e	IF
1	₩		∌		200 response		
2			ψ,	<i>ਜ਼ੀ</i>	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			
Summ	ary:		table User ager		quest or response that contains a cor), it shall replace the contact address		
Clause: 5.10.5, paragraph 4							
Refere	nces:	-			Config Ref:	CF_1Ic1Gm	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/4	
	Entities			Condition	n		
	UE1		IUT	IMS			
	IUT has received INVITE via Ic1 contain indicating GRUU		containing Contact header				
	✓		~		IUT has sent INVITE to UE1 containing Contact header indicating GRUU		
					configured for IMS-ALG		
	UE1		IUT	IMS			
Step			Direction		Message	2	IF
1	₩		∌		200 response		
2			於	£	200 response ✓ Contact header → GRUU		Ic1

6.3.4 Standalone requests procedures

				Test Purpose		
Identif	ier:	TP_IMST2_IC_	STA_01			
Summ	ary:	its own network,	it shall add its o	SIP request other than a SIP REGIS wn URI as the topmost Via header a prior to forwarding the request to other than the second s	nd encrypt all other Via hea	
Clause	:	5.10.2.2 3) 8), 5.	10.4			
Refere	nces:	-		Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Condition	Condition	
	UE1	IUT	IMS			
		✓		IUT configured for topology hiding		
	✓	✓		UE1 registered in IUT		
	UE1	IUT	IMS			
Step		Direction		Message	2	IF
1	₩	£		MESSAGE		
2		ψ,	∌	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	fier:	TP_	IMST2_IC_S	TA_02			
Summ	ary:				TTE request and the IBCF requires the pires prior to forwarding it to other n		he
Clause	Clause: 5.10.2.2, RFC 4028 [7]			8 [7]			
Refere	ences:	-			Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4, A.8/9.3.1		
			Entities		Condition		
	UE1 IUT IMS		IMS				
			✓		IUT configured for topology hidin	g	
			✓		IUT configured for requiring periodic refreshment		
	✓		✓		UE1 registered in IUT		
	UE1		IUT	IMS			
Step			Direction		Messag	e	IF
1	₩,		Ð		INVITE		
2			₽	र्च	INVITE ✓ Session-Expires header		Ic1

				Test Purpose		
Identif	fier:	TP_IMST2_IC	_STA_03			
Summ	ary:		omain outside its	own network it shall decrypt	TER request or a SIP INVITE all encrypted Via headers prior	
Clause	e:	5.10.3.2 3), 5.10	.4			
Refere	ences:	-		Config Ref:	CF_1Ic1Gm	
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Со	ndition	
	UE1	IUT	IMS			
	✓			IUT configured for topology	IUT configured for topology hiding	
	✓		✓	IMS configured as trusted do	IMS configured as trusted domain for IUT	
	UE1	IUT	IMS			
Step		Direction		Message		IF
1		€	Ŷħ	MESSAGE ✓ topmost Via header → SIP URI of IMS ✓ encrypted SIP URI → tokenized-by param	neter	Ic1
2	Œ	Å		MESSAGE	neter	

	Test Purpose								
Identif	ier:	TP_IMST2_IC_S	TA_04						
Summ	ary:	The IBCF shall had dialogue in which		ddressed to its currently valid GRUUs provided.	Js when received outside of	f the			
Clause	:	5.10.5							
Refere	nces:	-		Config Ref:	CF_1Ic1Gm				
IUT R	IUT Role: IMS			Selection Expression:	PICS A.2/4				
	Entities			Condition					
	UE1	IUT	IMS						
		✓		IUT configured for IMS-ALG					
	UE1	IUT	IMS						
Step		Direction		Message		IF			
1		₹ ±	ŶĬ	MESSAGE ✓ To header → GRUU of IUT IBCF		Ic1			
2	Æ.	Ŷħ		MESSAGE					

6.3.5 Subsequent requests on a dialogue procedures

				Test Purpose		
Identif	fier:	TP_IMST2_IC_S	UB_01			
Summ	ary:		its own URI as	YE request from within its own networks the topmost Via header and encrypetworks.		
Clause	:	5.10.2.3 3) 4), 5.10).4			
Refere	ences:	-		Config Ref: CF_1Ic1Gm		
IUT R	UT Role: IMS			Selection Expression:	PICS A.2/4	
	Entities			Condition	Condition	
	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	₽	∌		ВУЕ		
2		₩,	ਜ਼ੀ	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		IMS			
		✓		IUT configured for topology hiding		
	✓	✓		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		Ŷ Ŀ	和	200 response		Ic1
2	€ <u>.</u>	¢ _h		200 response ★ any header ✓ encrypted SIP URI → tokenized-by parame	ter	

				Test Purpose		
Identif	fier:	TP_IMST2_IC_S	SUB_03			
Summ	ary:			MESSAGE request from outside it headers prior to forwarding the		o an initial
Clause	:	5.10.3.3 3) 4), 5.10).4			
Refere	ences:	-		Config Ref:	CF_1Ic1Gm	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4	
	Entities		Con	dition		
	UE1	IUT	IMS			
		✓		IUT configured for topology hiding		
	✓	✓		IUT has established an INVIT	IUT has established an INVITE dialogue for UE1	
	UE1	IUT	IMS			
Step		Direction	"	Message		IF
1		€±	Å	MESSAGE ✓ topmost Via header → SIP URI of IMS ✓ encrypted SIP URI → tokenized-by parame	eter	Ic1
2	Ŷ Ŀ	Ϋ́		MESSAGE	eter	

				Test Purpose		
Identif	ier:	TP_IMST2_IC_S	UB_04			
Summ	ary:			TE request from outside its own headers prior to forwarding the	network subsequent to an initiar request to the UE.	al
Clause	:	5.10.3.3 3) 4), 5.10).4			
Refere	nces:	-		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	
	✓	✓		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	€ £	Å		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	response from within its own netw shall add its own URI to the Via heasponse to other networks.		
Clause	:	5.10.3.3, 5.10.4				
Refere	References: -			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 hidin	g	
	✓	✓		IUT has established an INVITE di	alogue for UE1	
		✓		IUT has received BYE via Ic1		
	✓	✓		IUT has sent BYE to UE1		
	UE1	IUT	IMS			
Step		Direction		Message	e	IF
1	₩	卦		200 response		
2		₩,	Ð	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_IC_T	'AR_01			
Summ	ary:		its own URI to	efresh request from within its own the Via header and encrypt all othe		
Clause	:	5.10.2.3 1) 2) 4), 5				
Refere	References: -			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		target refresh INVITE		
2	Œ	Ų.		100 response		
3		₩,	ъĴ	target refresh INVITE ✓ topmost Via header → SIP URI of IUT IBCF ✓ encrypted SIP URI → tokenized-by parameter		Ic1

				Test Purpose		
Identif	fier:	TP_IMST2_IC_T	CAR_02			
Summ				refresh request from outside its or ers before forwarding it to the UE		o an initial
Clause	:	5.10.3.3 1) 2) 4), 5	.10.4			
Refere	References: -		Config Ref:	CF_1Ic1Gm		
IUT R	ole:	IMS		Selection Expression:	PICS A.2/4	
Entities		Con	dition			
	UE1	IUT	IMS			
		✓ IUT configured for topology hiding				
	✓	✓ ✓		IUT has established an INVIT	IUT has established an INVITE dialogue for UE1	
	UE1	IUT	IMS			
Step		Direction		Me	ssage	IF
1	₽		Фп	target refresh INVITE ✓ topmost Via header → SIP URI of IMS ✓ encrypted SIP URI → tokenized-by parame	✓ topmost Via header → SIP URI of IMS	
2		₩	ΣŶ	100 response		Ic1
3	Œ.	ŶĬ		target refresh INVITE * any header ✓ encrypted SIP URI → tokenized-by parame	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	ter
Clause	::	4.5.4, parag	graph 4				
Refere	References: -			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	igned to contact AS1 for	
	UE1	IUT	AS1	UE2			
Step		Direc	ction		Message		IF
1	₩	±Ĵr			MESSAGE		
2		4	Đ		MESSAGE ✓ P-Charging-Vector header ✓ ioi parameter → type3		ISC

					Test Purpose		
Identif	fier:	TP_IMST	2_ISC_GE	N_02			
Summ	ary:		to SIP MES		uests that are exchanged between t r (IOI).	he S-CSCF and any AS shall	include
Clause	:	4.5.4, parag	graph 4				
Refere	ences:	-			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 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 o	f the whole dialogue to IUT	
	UE1	IUT	AS1	UE2			
Step		Dire	ction		Messa	ge	IF
1		₹ `		¢ħ	200 response		
2		<i>a</i> >	Ð		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	rpe 3	
Clause	:	4.5.4, parag	raph 4					
Refere	References: -				Config Ref:	CF_2Gm1ISC		
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/2		
		Enti	ties		Condition			
	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			
2		\$	Ð		MESSAGE ✓ P-Charging-Vector header ✓ ioi parameter → type3		ISC	

6.4.2 Registration procedures

				Test Purpose		
Identi	fier:	TP_IMST2_ISC_	REG_01			
Summ		An IMS shall supp		registration or registration with the Alegistration).	S in the same trust domain	(initial
Clause	:	5.4.1.7, paragraph	1			
Refere	ences:	-		Config Ref:	CF_1Gm1ISC	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Condition		
	UE1	IUT	AS1			
	×	x		UE1not registered in IUT		
		✓		IUT configured for establishing security association		
	✓			UE1 has sent unprotected REGISTER and has received 401 response		
		✓	✓	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	₩	卦		protected REGISTER		
2		₩	±Î	REGISTER ✓ P-Access-Network-Info header ✓ P-Visited-Network-ID header ✓ Request-URI → SIP URI of AS1 ✓ To header → a non barred IMPU from the profile of the processed iFC ✓ From header → SIP URI of IUT S-CSCF ✓ Contact header → SIP URI of IUT S-CSCF ✓ P-Charging-Vector header ✓ a type3 orig-ioi parameter be received orig-ioi parameters ✓ P-Charging-Function-Address	e service	ISC

				Test Purpose		
Identi	fier:	TP_IMST2_ISC	_REG_02			
Summ	ary:	An IMS shall sup registration and u		egistration or registration with the egistration).	AS outside the trust domain	(initial
Clause	:	5.4.1.7, paragraph	n 1			
Refere	ences:	-		Config Ref:	CF_1Gm1ISC	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Condi	tion	
	UE1	IUT	AS1			
	×	×		UE1 not registered in IUT		
		✓		IUT configured for establishing	security association	
	✓			UE1 has sent unprotected REGI response	STER and has received 401	
	✓		✓	IUT configured with an iFC designed to contact AS1 for REGISTER		
	x x		×	AS1 not configured for being in IUT	the same trust domain as	
	UE1	IUT	AS1			
Step		Direction		Message		IF
1	₩	Ð		protected REGISTER		
2		₩,	∌	REGISTER ★ P-Access-Network-Info header ★ P-Visited-Network-ID header ★ Request-URI → SIP URI of AS1 ★ To header → a non barred IMPU from the service profile of the processed iFC ★ From header → SIP URI of IUT S-CSCF ★ Contact header → SIP URI of IUT S-CSCF ▼ P-Charging-Vector header ★ a type3 orig-ioi parameter before the received orig-ioi parameters		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	e 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 designed to contact AS1 for REGISTER		lesigned to contact AS1 for			
		✓	✓	AS1 configured for being in the same trust domain as IUT		
	UE1	IUT	AS1			
Step		Direction		Me	essage	IF
1	₩	£		protected REGISTER ✓ Expires header → 0		
2		₹\$	£Ŷ	REGISTER ✓ P-Access-Network-Info ✓ P-Visited-Network-ID ho ✓ Request-URI → SIP URI of AS1 ✓ To header → a non barred IMPU from of the processed iFC ✓ From header → SIP URI of IUT S-CS ✓ Contact header → SIP URI of IUT S-CS	eader om the service profile CF	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		Œ.		¢ħ	180 response			
2		₩	Ð		180 response ✓ P-Charging-Function-Addresses header			

					Test Purpose			
Identif	fier:	TP_IMST	2_ISC_INI	_02				
Summ	ary:				or 2xx response for a UE subsequent the home network of the S-CSCF.	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		Condition	ı		
	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 IS	С		
		✓	✓		AS1 configured for being within sar	me IMS network as IUT		
		✓	✓		IUT configured with an iFC designe INVITE	ed to contact AS1 for		
		✓	✓		AS1 has indicated the handling of the	ne whole dialogue to IUT		
	UE1	IUT	AS1	UE2				
Step		Dire	ction		Message		IF	
1		€.		Ŷμ	200 response			
2		₽	卦		200 response ✓ P-Charging-Function-Addresse	es header	ISC	

					Test Purpose				
Identif	fier:	TP_IMST	2_ISC_INI	_03					
Summ	ary:				onse for a UE subsequent to the initial SIP INVITE then it forwards it network of the S-CSCF.				
Clause	e:	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		Cond	tion			
	UE1	IUT	AS1	UE2					
	✓	✓		✓	UE1 and UE2 registered in IUT	UE1 and UE2 registered in IUT			
	✓	✓			IUT has received INVITE from	IUT has received INVITE from UE1			
		✓		✓	IUT has sent INVITE to UE2				
			×		AS1not configured for being w IUT S-CSCF	ithin same IMS network as			
		✓	✓		IUT configured with an iFC des INVITE	signed to contact AS1 for			
		✓	✓		AS1 has indicated the handling	of the whole dialogue to IUT			
	UE1	IUT	AS1	UE2					
Step		Dire	ction		Mess	age	IF		
1		€z		क्र	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 ine network of the S-CSCF.	itial SIP INVITE then it f	orwards	
Clause	:	5.4.4.2.2, p	aragraph 2					
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	UE1 and UE2 registered in IUT		
	✓	✓			IUT has received INVITE from UE1	IUT has received INVITE from UE1		
		✓		✓	IUT has sent INVITE to UE2			
		✓	✓		IUT has sent INVITE to AS1 via ISC			
			×		AS1 not configured for being within same IMS network as IUT S-CSCF			
		✓	✓		IUT configured with an iFC designed INVITE	d to contact AS1 for		
		✓	✓		AS1 has indicated the handling of th	e whole dialogue to IUT		
	UE1	IUT	AS1	UE2				
Step		Dire	ction		Message		IF	
1		₹		ф	200 response ✓ P-Charging-Vector header ✓ access-network-charging-info parameter			
2		₩,	卦		200 response ✓ P-Charging-Vector header × access-network-charging-info	parameter	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 ha INATED then it does not forward the request to another AS an ing UE.		
Clause	:	5.4.3.2	, fifth par	ragraph a	fter the fi	irst numbered list 14)		
Refere	References: -					Config Ref: CF_2Gm2ISC		
IUT R	ole:	IMS				Selection Expression: PICS A.2/3		
			Entities			Condition		
	UE1	IUT	AS1	S1 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		
1		€ ∥	4			no response		
2	Ŷ Ŀ	ф				408 response		
3		₽		🕏		INVITE	ISC2	

6.4.4 Standalone requests procedures

				Test Purpose		
Identif	fier:	TP_IMST2_ISC_	STA_01			
Summ	ary:	When the S-CSCF trust domain as the		MESSAGE request it forwards the	request to an AS within the	e same
Clause	:	5.4.3.2 first numbe	red list 5)			
Refere	ences:	-		Config Ref:	CF_2Gm1ISC	
IUT R	ole:	IMS		Selection Expression:	PICS A.2/3	
		Entities		Condition	on	
	UE1	IUT	AS1			
	✓ ✓			UE1 registered in IUT		
		✓	✓	AS1 configured for being in the same trust domain as IUT		
		✓	✓	IUT configured with an iFC desig MESSAGE	ned to contact AS1 for	
	UE1	IUT	AS1			
Step		Direction		Message		IF
1	₩	卦		MESSAGE		
2	2 ♦ ૐ		±₽	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 be received orig-ioi parameter		ISC

						Test Purpose						
Identif	fier:	TP_IN	IST2_IS	C_STA_	02							
Summ	ary:		When S-CSCF receives 5xx from the AS for a SIP MESSAGE request and the iFC has set to SESSION_CONTINUED then it forwards the request to a second AS.									
Clause	:	5.4.3.2	, fifth pai	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				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 <u>t</u>	Ŷħ			5xx response						
2		₩		∌		MESSAGE	ISC2					

						Test Purpose			
Identif	fier:	TP_IN	AST2_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	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				
	✓	✓			✓	JE1 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 <u>c</u>	क्र			408 response			
2		\$		Ð		MESSAGE	ISC2		

						Test Purpose			
Identif	fier:	TP_IN	AST2_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 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				
	✓	✓			✓	JE1 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		%	114			no response			
2		₩		Ð		MESSAGE	ISC2		

						Test Purpose			
Identif	ier:	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: CF_2Gm2ISC			
IUT R	ole:	IMS				Selection Expression: PICS A.2/3			
			Entities			Condition			
	UE1	IUT	AS1	AS2	UE2	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		Ŷ <u>E</u>	⇔			5xx response			
2	Œ	ኅ				5xx response			
3		₽		🖈		MESSAGE	ISC2		

						Test Purpose		
Identif	ier:	TP_IN	IST2_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	agraph a	fter the fi	irst numbered list 14)		
Refere	References: -					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		Ŷ <u>E</u>	¢ħ			408 response	ISC1	
2	Ŷ <u>E</u>	Ą				408 response		
3		\$∥		🕏		MESSAGE	ISC2	

					Test Purpose		
Identif	fier:	TP_IMST2	2_ISC_STA	_07			
Summ	ary:	When S-CS to the UE.	SCF 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	References: -				Config Ref:	CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3	
		Enti	ities		Conditio		
	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	ned to contact AS1 for the	
		✓	✓		IUT has sent MESSAGE to AS1 v	ia ISC	
	UE1	IUT	AS1	UE2			
Step		Direc	ction		Messago	9	IF
1		Ŷŧ.	Ŷħ		200 response		ISC
2	Ŷz.	∜प्रे		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 a served ne standalone transaction.			
Clause	e:	5.4.3.2, fift	h paragraph	after the f	First 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 IU	Т		
	UE1	IUT	AS1	UE2				
Step		Dire	ction		Message	IF		
1		Ŷ <u>c</u>		ф	200_response			
2		π,	ਜੁੰ		200_response ✓ P-Charging-Vector header ✓ type3 orig-ioi parameter from the initial MESSAGE ✓ type3 term-ioi parameter	ISC		

					Test Purpose				
Identif	ier:	TP_IMST2	2_ISC_STA	_09					
Summ	ary:	When a S-C request to the		es a SIP N	MESSAGE request destined for an un	nregistered user it forwards	the		
Clause	:	5.4.3.3							
Refere	nces:	-			Config Ref:	CF_1Gm1ISC			
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/3			
	Entities				Condition				
	UE1	IUT	AS1	UE2					
	✓	✓			UE1 registered in IUT				
		×		×	UE2 not registered in IUT				
		✓	✓		IUT configured with an iFC design MESSAGE	ned to contact AS1 for			
	UE1	IUT	AS1	UE2					
Step		Direc	ction		Message				
1	₩	∌			MESSAGE				
2		₩	Ð		MESSAGE		ISC		

					Test Purpose		
Identif	ier:	TP_IMST2	2_ISC_STA	_10			
Summ	ary:	When the I-icid parame			MESSAGE request containing P-Che AS.	narging-Vector header inclu	ding
Clause	:	5.3.2.1, par	agraph 2				
Refere	nces:	-			Config Ref:	CF_2Gm1ISC	
IUT R	IUT Role: IMS				Selection Expression:	PICS A.2/3	
	Entities				Conditio	n	
	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		Message	e	IF
1	£.	Ð			MESSAGE ✓ P-Charging-Vector header ✓ icid parameter		
2		\$	ਤੰ⁄		MESSAGE ✓ P-Charging-Vector header ✓ icid parameter		ISC

	Test Purpose								
Identif	ier:	TP_IMST2	2_ISC_STA	_11					
Summ	ary:	When the I-CSCF receives a SIP MESSAGE request containing P-Charging-Vector header not including icid parameter then it adds this parameter prior to forwarding it to the AS.							
Clause	:	5.3.2.1, paragraph 2							
Refere	nces:	-			Config Ref:	CF_2Gm1ISC			
IUT R	ole:	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	Direction		Message		IF		
1	₹>	∌			MESSAGE ✓ P-Charging-Vector header × icid parameter				
2		€	£Ŷ		MESSAGE ✓ P-Charging-Vector header ✓ icid parameter		ISC		

6.3.5 Subsequent requests on a dialogue procedures

Test Purpose							
Identif							
Summ	ummary: When S-CSCF receives a SIP ACK request then it forwards it to an AS outside the trusted domain					n.	
Clause	ause: 5.4.3.2						
Refere	ences: - Config Ref: CF_2Gm1ISC		CF_2Gm1ISC				
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3	
	Entities Condition		1				
	UE1	IUT	AS1	UE2			
	✓	✓		✓	UE1 and UE2 registered in IUT		
	✓	✓		✓	IUT has received INVITE from UE	11 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 IUT	e same trust domain as	
		✓	✓		AS1 has indicated the handling of t	he whole dialogue to IUT	
	UE1	IUT	AS1	UE2			
Step		Dire	Direction		Message		IF
1	₩	Ð			ACK		
2		4	£		ACK ★ P-Access-Network-Info header ★ P-Charging-Vector header ★ access-network-charging-info		ISC

6.4.6 Target refresh request procedures

	Test Purpose							
Identif	ier:	TP_IMST2_ISC_TAR_01						
Summary: When S-CSCF receives from the served user a target refresh request for a dialogue the an AS outside the trusted domain and returns a 100 response to the UE.					rds it to			
Clause: 5.4.3.2								
Refere	nces:	-			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 UE	1 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 IS	C		
		×	×		AS1 not configured for being in the IUT	same trust domain as		
		✓	✓		AS1 has indicated the handling of t	he whole dialogue to IUT		
	UE1	IUT	AS1	UE2				
Step		Dire	ction		Message		IF	
1	₩	£			target refresh INVITE			
2		A	ਜੁੰ		INVITE ★ P-Access-Network-Info header ✓ P-Charging-Vector header ★ access-network-charging-info		ISC	
3	Ŷz.	Ą			100 response		Gm	

Test Purpose								
Identif	fier:	TP_IMST2	2_ISC_TAI	R_02				
Summ	ary:	When S-CSCF receives a SIP reINVITE request from a UE within an established dialogue then it forwards it to an AS inside the home network of the S-CSCF and returns a 100 response to the UE						
Clause	:	5.4.3.2						
Refere	ences:	-			Config Ref:	CF_2Gm1ISC		
IUT R	ole:	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 designed to contact AS1 for INVITE			
		✓		✓	IUT has sent INVITE to UE2 via	GM		
		✓	✓		IUT has sent INVITE to AS1 via I	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	₩	並			target refresh INVITE			
2		<i>#</i> >	£		INVITE ✓ P-Access-Network-Info head ✓ P-Charging-Vector header ✓ access-network-charging-in		ISC	
3	Ŷ Ŀ	ŶĮ.			100 response		Gm	

Test Purpose							
Identif	fier:	TP_IMST2	2_ISC_TAI	R_03			
Summ	When the S-CSCF receives a SIP reINVITE request from a UE within an established dialogue t forwards it to an AS outside the home network of the S-CSCF without charging information and a 100 response to the originating UE.						
Clause	:	5.4.3.2					
Refere	ences:	-			Config Ref:	CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3	
		Ent	ities		Condition	on	
	UE1	IUT	AS1	UE2			
	✓	✓			UE1 registered in IUT		
	✓	✓		✓	IUT has received INVITE from U	JE1 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 has indicated the handling of	f the whole dialogue to IUT	
			×		AS1 not configured for being with IUT S-CSCF	hin same IMS network as	
	UE1	IUT	AS1	UE2			
Step		Dire	ction		Messag	ge	IF
1	₩	Ð			target refresh INVITE		
2		₽,	ਜ਼ੀ		INVITE ★ P-Access-Network-Info head ✓ P-Charging-Vector header ★ access-network-charging-in		ISC
3	€	<i>₹</i> ÿ			100 response		Gm

	Test Purpose								
Identif	fier:	TP_IMST2	2_ISC_TAI	R_04					
Summary:			When S-CSCF receives a SIP 200 (OK) response to a SIP reINVITE request then forwards it to an AS 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			
		Enti	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 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 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	ITE to AS1 via ISC			
	UE1	IUT	AS1	UE2					
Step	Direction				Mess	age	IF		
1		\		Ą	200 response ✓ P-Charging-Vector header ✓ access-network-charging				
2		₽	£		200 response ✓ P-Charging-Vector header * access-network-charging		ISC		

Test Purpose							
Identif	fier:	TP_IMST	2_ISC_TAI	R_05			
Summary: When S-CSCF receives a SIP 20 located inside the home network			0 (OK) response to a SIP reINVIT of the S-CSCF.	E request then it forwards it to	an AS		
Clause: 5.4.6.1.3, paragraph 1							
Refere	ences:	-			Config Ref:	CF_2Gm1ISC	
IUT R	ole:	IMS			Selection Expression:	PICS A.2/3	
		Ent	ities		Condit	ion	
	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 configured for being within same IMS network as IUT		
		✓	✓		AS1 has indicated the handling of	of the whole dialogue to IUT	
	✓	✓			IUT has received target refresh I	NVITE from UE1	
		✓		✓	IUT has sent target refresh INVI	TE to UE2 via Gm	
		✓	✓		IUT has sent target refresh INVI	TE to AS1 via ISC	
	UE1	IUT	AS1	UE2			
Step		Dire	ction		Messa	age	IF
1		₹£		Å	200 response ✓ P-Charging-Vector header ✓ access-network-charging-	info parameter	
2		₩,	£		200 response ✓ P-Charging-Vector header ✓ access-network-charging-	info parameter	ISC

Annex A (informative): Bibliography

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History

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