



**Core Network and Interoperability Testing (INT);
Conference (CONF) using IP Multimedia (IM)
Core Network (CN) subsystem;
Conformance test specification
(3GPP™ Release 10);
Part 2: Test Suite Structure and Test Purposes (TSS&TP)**

Reference

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Keywords

CONF, IMS, PICS, testing

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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 Conformance Test Specification of Conference (CONF) using IP Multimedia (IM) Core Network (CN) subsystem, as identified below:

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

Modal verbs terminology

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

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1 Scope

The present document provides the Implementation Conformance Statement (ICS) pro forma for the Conference (CONF) service based on stage one and two of the ISDN CONF supplementary service defined in ETSI TS 124 605 [1] in compliance with the relevant requirements

2 References

2.1 Normative references

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

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

- [1] ETSI TS 124 605: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Conference (CONF) using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification (3GPP TS 24.605 version 10.1.0 Release 10)".
- [2] ETSI TS 124 147: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Conferencing using the IP Multimedia (IM) Core Network (CN) subsystem; Stage 3 (3GPP TS 24.147 Release 10)".
- [3] ETSI TS 186 010-1: "Core Network and Interoperability Testing (INT); Conference (CONF) using IP Multimedia (IM) Core Network (CN) subsystem; Conformance test specification (3GPP Release 10); Part 1: Protocol Implementation Conformance Statement (PICS)".

2.2 Informative 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.

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

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] ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ETSI TS 124 605 [1] and the following apply:

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

PICS pro forma: Refer to ISO/IEC 9646-1 [i.1].

Point of Control and Observation: Refer to ISO/IEC 9646-1 [i.1].

Protocol Implementation Conformance Statement (PICS): Refer to ISO/IEC 9646-1 [i.1].

System Under Test (SUT): Refer to ISO/IEC 9646-1 [i.1].

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

NOTE: This may contain additional information.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 124 605 [1] and the following apply:

CONF	CONFeRence calling
IUT	Implementation Under Test
SUT	System Under Test
UE	User Equipment

4 Test Suite Structure (TSS)

4.0 Introduction

Table 4.0-1: Test suite structure

ConferenceFocus	CreateConf	CONF_N01_xxx
	JoinConf	CONF_N02_xxx
	InviteToConf	CONF_N03_xxx
	LeaveConf	CONF_N04_xxx
	RemoveFromConf	CONF_N05_xxx
	TerminateConf	CONF_N06_xxx
UserEquipment		CONF_U01_xxx
Interaction	TIR	CONF_N08_xxx
	OIR	CONF_N09_xxx
	ACR-CB	CONF_N10_xxx

4.1 Configuration

4.1.0 Introduction

The scope of the present document is to test the signalling and procedural aspects of the stage 3 requirements as described in ETSI TS 124 605 [1]. The stage 3 description respects the requirements to several network entities and also to requirements regarding to end devices. Therefore several interfaces (reference points) are addressed to satisfy the test of the different entities.

4.1.1 Testing of the AS

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

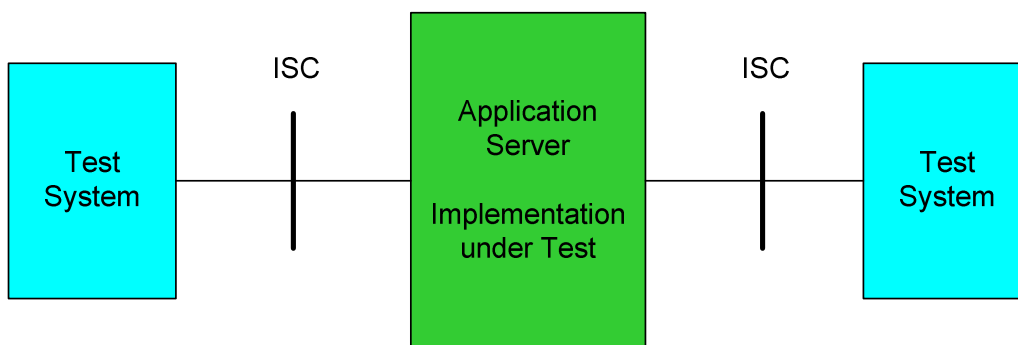


Figure 4.1-1: Applicable interface to test AS functionalities

If the ISC interface is not accessible it is also possible to perform the test of the AS using any NNI (Mw, Mg, Mx) interface (see figure 4.1-2). In case only the Gm interface is accessible this interface can be used instead for testing, but the verification of all requirements may not be possible.

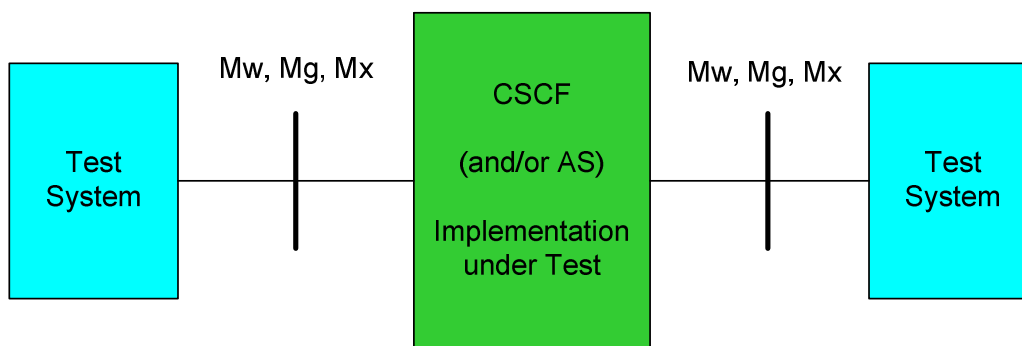


Figure 4.1-2: Applicable interfaces for tests using a (generic) NNI interface

4.1.2 Testing of the UE

There are special clauses in the protocol standard describing the procedures that apply at the originating and terminating user equipment. Therefore the test configuration in figure 4.1-3 has been chosen.

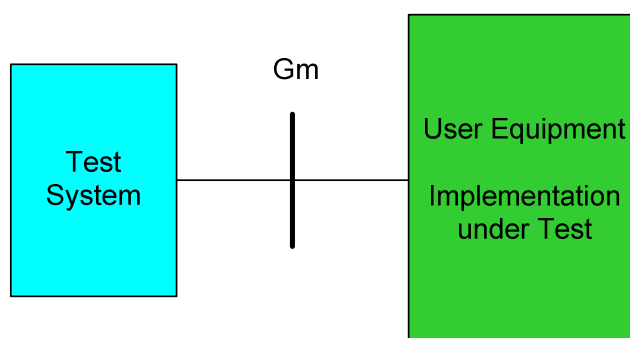


Figure 4.1-3: Applicable configuration to test UE functionalities

5 Test Purposes (TP)

5.1 Introduction

5.1.1 TP naming convention

TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see table 5.1-1).

Table 5.1-1: TP identifier naming convention scheme

Identifier: <ss>_<iut><group>_<nnn>			
<ss>	=	supplementary service:	e.g. "CONF"
<iut>	=	type of IUT:	U User N Network yyy service
<group>	=	group	2 digit field representing group reference according to TSS
<nnn>	=	sequential number	(001-999)

5.1.2 Test strategy

As the base standard ETSI TS 124 605 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification ETSI TS 186 010-1 [3].

5.2 Signalling requirements

5.2.1 Conference Focus

5.2.1.1 Conference creation

TSS	TP	Reference	Selection expression
ConferenceFocus/CreateConf	CONF_N01_001	5.3.2.3.1, 5.3.3 [2]	PICS 4.1/2
Test purpose			
<i>Conference creation with a conference factory URI. Conference event package subscribed.</i>			
Ensure that a conference can be created by a UE using the conference factory URI. The "isfocus" feature parameter indicated in Contact header is received in the 200 OK (INVITE). In addition the conference participant subscribes to the conference event package and receives a NOTIFY request describing the conference status.			
SIP header values:			
INVITE:	Request URI indicating the conference factory URI		
200 OK:	conference URI and "isfocus" feature parameter included in Contact header field		
SUBSCRIBE:	Request URI indicating the conference URI		
	Event header contains "conference"		
NOTIFY:	Event contains conference ; Subscription-State contains active; expires=xxxx		
Comments:			
ISC#1		Focus	
INVITE	→		
200 OK (INVITE)	←		
ACK	→		
SUBSCRIBE	→		
200 OK (SUBSCRIBE)	←		
NOTIFY	←		
200 OK NOTIFY	→		
Apply post test routine			

TSS	TP	Reference	Selection expression
ConferenceFocus/CreateConf	CONF_N01_002	5.3.2.3.1 [2]	PICS 4.1/2
Test purpose <i>Conference creation with a conference factory URI. Conference event package not subscribed.</i>			
Ensure that a conference can be created by a UE using the conference factory URI. The "isfocus" feature parameter indicated in Contact header is received in the 200 OK (INVITE). The conference participant does not subscribe to the conference event package.			
SIP header values: INVITE: Request URI indicating the conference factory URI 200 OK: conference URI and "isfocus" feature parameter included in Contact header field			
Comments: ISC#1			
INVITE	→	Focus	
200 OK (INVITE)	←		
ACK	→		
Apply post test routine			

TSS	TP	Reference	Selection expression
ConferenceFocus/CreateConf	CONF_N01_003	5.3.2.3.2, 5.3.3 [2]	PICS 4.1/2
Test purpose <i>Conference creation with a conference URI. Conference event package subscribed.</i>			
Ensure that a conference can be created by a UE using the conference URI. The "isfocus" feature parameter indicated in Contact header is received in the 200 OK (INVITE). In addition the conference participant subscribes to the conference event package and receives a NOTIFY request describing the conference status.			
SIP header values: INVITE: Request URI indicating the conference URI 200 OK: "isfocus" feature parameter included in Contact header field conference URI contained in the Contact header field SUBSCRIBE: Request URI indicating the conference URI Event header contains "conference" NOTIFY: Event contains conference ; Subscription-State contains active ; expires=xxxx			
Comments: ISC#1			
INVITE	→	Focus	
200 OK (INVITE)	←		
ACK	→		
SUBSCRIBE	→		
200 OK (SUBSCRIBE)	←		
NOTIFY	←		
200 OK NOTIFY	→		
Apply post test routine			

TSS	TP	Reference	Selection expression
ConferenceFocus/CreateConf	CONF_N01_004	5.3.2.3.2 [2]	PICS 4.1/2
<p>Test purpose <i>Conference creation with a conference URI. Conference event package not subscribed.</i></p> <p>Ensure that a conference can be created by a UE using the conference URI. The "isfocus" feature parameter indicated in Contact header is received in the 200 OK (INVITE). The conference participant does not subscribe to the conference event package.</p>			
<p>SIP header values: INVITE: Request URI indicating the conference URI 200 OK: "isfocus" feature parameter indicated in Contact header field conference URI contained in the Contact header field</p>			
<p>Comments:</p> <p>ISC#1 Focus</p> <p>INVITE →</p> <p>200 OK (INVITE) ←</p> <p>ACK →</p> <p style="text-align: center;">Apply post test routine</p>			

TSS	TP	Reference	Selection expression
ConferenceFocus/CreateConf	CONF_N01_005	5.3.2.3.1 [2]	PICS 4.1/2 AND PICS 4.3/4
<p>Test purpose <i>Conference creation with a conference factory URI. Preconditions indicated a conference URI is sent in the first provisional response.</i></p> <p>Ensure that a conference can be created by a UE using the conference factory URI. Preconditions are requested by the originating UE. The "isfocus" feature parameter indicated in Contact header is received in the 200 OK (INVITE).</p>			
<p>SIP header values: INVITE: Request URI indicating the conference factory URI SDP a=curr:qos local none a=curr:qos remote none a=des:qos mandatory local sendrecv a=des:qos none remote sendrecv</p> <p>183 conference URI contained in the Contact header field SDP a=curr:qos local none a=curr:qos remote none a=des:qos mandatory local sendrecv a=des:qos mandatory remote sendrecv a=conf:qos remote sendrecv</p> <p>UPDATE: SDP a=curr:qos local sendrecv a=curr:qos remote none a=des:qos mandatory local sendrecv a=des:qos mandatory remote sendrecv</p> <p>200 OK UPDATE SDP a=curr:qos local sendrecv a=curr:qos remote sendrecv a=des:qos mandatory local sendrecv a=des:qos mandatory remote sendrecv</p> <p>200 OK: "isfocus" feature parameter included in Contact header field conference URI contained in the Contact header field</p>			

Comments:	
ISC#1	Focus
INVITE	→
183 Session Progress	←
PRACK	→
200 OK PRACK	←
UPDATE	→
200 OK UPDATE	←
200 OK (INVITE)	←
ACK	→
Apply post test routine	

TSS	TP	Reference	Selection expression
ConferenceFocus/CreateConf	CONF_N01_006	5.3.2.3.1 [2]	PICS 4.1/2
Test purpose			
<i>Conference creation with a conference factory URI not allocated in the focus, unsuccessful.</i>			
Ensure that a conference cannot be created by a UE using a conference factory URI not allocated in the focus. The request is rejected by the focus with a 488 Not Acceptable Here final response.			
SIP header values:			
INVITE: Request URI indicating a conference factory URI not allocated in the focus			
Comments:			
ISC#1	Focus		
INVITE	→		
488 Not Acceptable Here	←		
ACK	→		

5.2.1.2 Joining a conference

TSS	TP	Reference	Selection expression
ConferenceFocus/JoinConf	CONF_N02_001	5.3.2.4.1 [2]	PICS 4.1/2
Test purpose			
<i>Participant dial-in the conference, the conference URI is used.</i>			
UE1 (via ISC#1) established a conference. UE2 (via ISC#2) joins in that conference by sending an INVITE request to the conferencing AS (the conference URI is known at the UE2). The request is successful.			
SIP header values:			
INVITE 2: Request URI indicating the conference URI			
18x "isfocus" feature parameter included in Contact header field			
200 OK: "isfocus" feature parameter included in Contact header field conference URI contained in the Contact header field			
Comments:			
ISC#1	Focus	ISC#2	
	Conference creation		
INVITE	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
	UE#2 joining in the conference		
		INVITE	←
		18x	→
		200 OK INVITE	→
		ACK	←
		INVITE 2	
		18x	
		200 OK INVITE	
		ACK	
Apply post test routine			

TSS ConferenceFocus/JoinConf	TP CONF_N02_002	Reference 5.3.2.4.1 [2]	Selection expression PICS 4.1/2
Test purpose <i>Participant dial-in the conference, the conference URI is not allocated, the request is rejected.</i>			
UE2 (via ISC#2) tries to join in a conference but the conference URI in the INVITE request is not allocated at the focus. The request is rejected with the final response 4xx.			
SIP header values: INVITE: Request URI contained the conference URI not allocated in the focus (PIXIT)			
Comments:			
ISC#1	Focus UE#2 joining in the conference		ISC#2
		INVITE ←	INVITE 2
		4xx →	4xx
		ACK ←	ACK

5.2.1.3 Inviting other users to a conference

TSS ConferenceFocus/InviteToConf	TP CONF_N03_001	Reference 5.3.2.5.2, 5.3.2.5.4 [2]	Selection expression PICS 4.1/2 AND NOT PICS 4.3/3
Test purpose <i>Inviting participant by sending REFER to the focus.</i>			
UE1 (via ISC#1) established a conference and invites UE2 (connected via ISC#2) to join into the conference. UE1 sends a REFER to the focus; the focus sends an INVITE request to UE2 to invite it to the conference.			
SIP header values:			
REFER: Request URI indicating the conference URI Refer-To contains the URI of UE2 , method=INVITE Referred-By contains SIP URI of UE1			
INVITE 2: Request URI indicating the address of UE2 The P-Asserted-Identity contains the conference URI. conference URI and "isfocus" feature parameter indicated in Contact header field Referred-By contains SIP or tel URI of UE1			
NOTIFY 1 Event contains refer ; Subscription-State contains active message/sipfrag contains SIP/2.0 100 Trying			
NOTIFY 2 Event contains refer ; Subscription-State contains terminated message/sipfrag contains SIP/2.0 200 OK			
Comments:			
ISC#1	Focus		ISC#2
	Conference creation		
INVITE	→ INVITE		
200 OK (INVITE)	← 200 OK (INVITE)		
ACK	→ ACK		
	UE#1 invites UE#2 to the conference		
REFER	→ REFER		
202 Accepted	← 202 Accepted		
	Focus dials out to invite UE#2		
		INVITE 2 →	INVITE
NOTIFY	← NOTIFY 1		
200 OK NOTIFY	→ 200 OK NOTIFY		
		180 Ringing ←	180 Ringing
		200 OK INVITE ←	200 OK INVITE
		ACK →	ACK
NOTIFY	← NOTIFY 2		
200 OK NOTIFY	→ 200 OK NOTIFY		
	Apply post test routine		

TSS ConferenceFocus/InviteToConf	TP CONF_N03_002	Reference 5.3.2.5.3, 5.3.2.5.4 [2]	Selection expression PICS 4.1/2 AND PICS 4.3/3
Test purpose <i>Inviting participant by sending a participant list to the focus.</i>			
UE1 (via ISC#1) established a conference. A participant list is contained in the INVITE to create the conference. The AS establishes a communication to the UE2 (via ISC#2) indicated in the participant list.			
SIP header values: INVITE 1: Request URI=Focus <resource-lists <entry uri="sip:UE#2 cp:copycontrol="to" />			
INVITE 2: Request URI = UE#2 The P-Asserted-Identity contains the conference URI. conference URI and "isfocus" feature parameter indicated in Contact header field			
Comments:			
ISC#1	Focus	ISC#2	
	Conference creation		
INVITE 1	➔ INVITE		
200 OK (INVITE)	← 200 OK (INVITE)		
ACK	➔ ACK		
	Focus dials out to invite UE#2		
	INVITE 2	➔ INVITE	
	200 OK INVITE	← 200 OK INVITE	
	ACK	➔ ACK	
	Apply post test routine		

TSS ConferenceFocus/InviteToConf	TP CONF_N03_004	Reference 5.3.1.3.3, 5.3.1.5.2 [2]	Selection expression PICS 4.1/2 AND NOT PICS 4.3/3																																																																																																																																																																																																																									
<p>Test purpose Three-way session creation. REFER is sent to the participants.</p> <p>Ensure that it is possible that two active sessions S1 and S2 towards UE2 (via ISC#2) and UE3 (via ISC#3) are joined in a three way session by UE1 and that the existing sessions S1 and S2 can be released by the served user UE1. The remote users receive a REFER request with the Refer-To header containing the address of the Focus directly from UE1. The remote users use the URI of the Refer-To header as the Request URI of the INVITE request.</p>																																																																																																																																																																																																																												
<p>SIP header values:</p> <p>REFER (S1): Request line=UE#2 Refer-To=Focus; method=INVITE Referred-By=UE#1</p> <p>REFER (S2): Request line=UE#3 Refer-To=Focus; method=INVITE Referred-By=UE#1</p> <p>INVITE (S4): Request URI=Focus Referred-By=UE#1</p> <p>INVITE (S5): Request URI=Focus Referred-By=UE#1</p>																																																																																																																																																																																																																												
<p>Comments:</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 25%;">ISC#1</th> <th style="text-align: center; width: 10%;"></th> <th style="text-align: center; width: 25%;">Focus</th> <th style="text-align: center; width: 10%;"></th> <th style="text-align: center; width: 20%;">ISC#2</th> <th style="text-align: center; width: 10%;"></th> <th style="text-align: center; width: 10%;">ISC#3</th> </tr> </thead> <tbody> <tr> <td colspan="7" style="text-align: center;">Establish session #1</td> </tr> <tr> <td colspan="7" style="text-align: center;">Session #1 on hold</td> </tr> <tr> <td colspan="7" style="text-align: center;">Establish session #2</td> </tr> <tr> <td colspan="7" style="text-align: center;">Session #2 on hold</td> </tr> <tr> <td colspan="7" style="text-align: center;">Conference creation (session #3)</td> </tr> <tr> <td>INVITE (S3)</td> <td style="text-align: center;">→</td> <td>INVITE</td> <td></td> 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TSS	TP	Reference	Selection expression
ConferenceFocus/InviteToConf	CONF_N03_005	5.3.1.3.3, 5.3.1.5.3, 5.3.2.5.2 [2]	PICS 4.1/2
Test purpose			
<i>Three-way session creation. REFER is sent to the Focus.</i>			
Ensure that it is possible that two active sessions S1 and S2 towards UE2 (via ISC#2) and UE3 (via ISC#3) are joined in a three way session by UE1 and that the existing sessions S1 and S2 can be released by the served user UE1. UE1 sends two REFER requests to the conference focus which then sends INVITE requests to UE2 and UE3 containing the Referred-By header indicating UE1.			
SIP header values:			
REFER (S1): Request line=Focus Refer-To=UE#2; method=INVITE Referred-By=UE#1			
REFER (S1): Request line=Focus Refer-To=UE#3; method=INVITE Referred-By=UE#1			
INVITE (S4): Request URI=UE#2 Referred-By=UE#1			
INVITE (S5): Request URI=UE#3 Referred-By=UE#1			
Comments:			
ISC#1	Focus	ISC#2	ISC#3
	Establish session #1 Session #1 on hold Establish session #2 Session #2 on hold Conference creation (session #3)		
INVITE (S3)	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
REFER (S1)	→	REFER	
202 Accepted	←	202 Accepted	
NOTIFY (100)	←	NOTIFY (100)	
200 OK (NOTIFY)	→	200 OK (NOTIFY)	
		INVITE (S4) →	INVITE
		200 OK (INVITE) ←	200 OK (INVITE)
		ACK →	ACK
NOTIFY (200)	←	NOTIFY (200)	
200 OK (NOTIFY)	→	200 OK (NOTIFY)	
BYE (S1)	→		→
200 OK (BYE)	←		←
			BYE (S1)
			200 OK (BYE)
REFER (S2)	→	REFER	
202 Accepted	←	202 Accepted	
NOTIFY (100)	←	NOTIFY (100)	
200 OK (NOTIFY)	→	200 OK (NOTIFY)	
		INVITE (S5) →	→
		200 OK (INVITE) ←	←
		ACK →	→
NOTIFY (200)	←	NOTIFY (200)	
200 OK (NOTIFY)	→	200 OK (NOTIFY)	
BYE (S1)	→		→
200 OK (BYE)	←		←
			BYE (S2)
			200 OK (BYE)
Apply post test routine			

TSS	TP	Reference	Selection expression
ConferenceFocus/InviteToConf	CONF_N03_006	5.3.1.3.3, 5.3.1.5.3, 5.3.2.5.2 [2]	PICS 4.1/2
Test purpose			
<i>Three-way session creation. REFER is sent to the Focus. Replaces header included in the REFER.</i>			
Ensure that it is possible that two active sessions S1 and S2 towards UE2 (via ISC#2) and UE3 (via ISC#3) are joined in a three way session by UE1 and that the existing sessions S1 and S2 can be released by the remote users UE2 and UE3. UE1 sends two REFER requests including Replaces headers to the conference focus which then sends INVITE requests to UE2 and UE3 containing the Referred-By header indicating UE1 and containing the Replaces header indicating the original dialog sessions.			
SIP header values:			
REFER (S1): Request line=Focus Refer-To=UE#2; method=INVITE?Replaces=S1;to-tag=S1;from-tag=S1 Referred-By=UE#1			
REFER (S1): Request line=Focus Refer-To=UE#3; method=INVITE?Replaces=S2;to-tag=S2;from-tag=S2 Referred-By=UE#1			
INVITE (S4): Request URI=UE#2 Referred-By=UE#1 Replaces=S1;to-tag=S1;from-tag=S1			
INVITE (S5): Request URI=UE#3 Referred-By=UE#1 Replaces=S2;to-tag=S2;from-tag=S2			
Comments:			
ISC#1	Focus	ISC#2	ISC#3
	Establish session #1 Session #1 on hold Establish session #2 Session #2 on hold Conference creation (session #3)		
INVITE (S3)	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
REFER (S1)	→	REFER	
202 Accepted	←	202 Accepted	
NOTIFY (100)	←	NOTIFY (100)	
200 OK (NOTIFY)	→	200 OK (NOTIFY)	
		INVITE (S4) →	INVITE
		200 OK (INVITE) ←	200 OK (INVITE)
		ACK →	ACK
NOTIFY (200)	←	NOTIFY (200)	
200 OK (NOTIFY)	→	200 OK (NOTIFY)	
BYE (S1)	←		← BYE (S1)
200 OK (BYE)	→		→ 200 OK (BYE)
REFER (S2)	→	REFER	
202 Accepted	←	202 Accepted	
NOTIFY (100)	←	NOTIFY (100)	
200 OK (NOTIFY)	→	200 OK (NOTIFY)	
		INVITE (S5) →	→ INVITE
		200 OK (INVITE) ←	← 200 OK (INVITE)
		ACK →	→ ACK
NOTIFY (200)	←	NOTIFY (200)	
200 OK (NOTIFY)	→	200 OK (NOTIFY)	
BYE (S1)	←		← BYE (S2)
200 OK (BYE)	→		→ 200 OK (BYE)
Apply post test routine			

TSS	TP	Reference	Selection expression																																																
ConferenceFocus/InviteToConf	CONF_N03_007	4.5.2.2.1 [2]	PICS 4.1/2																																																
<p>Test purpose <i>Referred-By value does not contain a valid identity of the requesting user.</i></p> <p>Ensure that the invalid identity in the Referred-By header received in the REFER request from UE1 is replaced with the valid value matching the REFER request's P-Asserted-Identity when sending the INVITE request to UE2.</p>																																																			
<p>SIP header values: REFER 1: Request line=Focus Refer-To=UE#2; method=INVITE Referred-By=any value not indicating UE#1 (PIXIT) P-Asserted-Identity=UE#1 INVITE 1: Request URI=UE#2 Referred-By=UE#1</p>																																																			
<p>Comments:</p> <table border="0"> <thead> <tr> <th>ISC#1</th> <th>Focus</th> <th>ISC#2</th> </tr> </thead> <tbody> <tr> <td></td> <td colspan="2" style="text-align: center;">Conference creation</td> </tr> <tr> <td>INVITE</td> <td>→ INVITE</td> <td></td> </tr> <tr> <td>200 OK (INVITE)</td> <td>← 200 OK (INVITE)</td> <td></td> </tr> <tr> <td>ACK</td> <td>→ ACK</td> <td></td> </tr> <tr> <td></td> <td colspan="2" style="text-align: center;">UE#1 invites UE#2 to the conference</td> </tr> <tr> <td>REFER 1</td> <td>→ REFER</td> <td></td> </tr> <tr> <td>202 Accepted</td> <td>← 202 Accepted</td> <td></td> </tr> <tr> <td></td> <td colspan="2" style="text-align: center;">Focus dials out to invite UE#2</td> </tr> <tr> <td></td> <td style="text-align: center;">INVITE 1</td> <td>→ INVITE</td> </tr> <tr> <td>NOTIFY</td> <td>← NOTIFY 1</td> <td></td> </tr> <tr> <td>200 OK NOTIFY</td> <td>→ 200 OK NOTIFY</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">200 OK INVITE</td> <td>← 200 OK INVITE</td> </tr> <tr> <td></td> <td style="text-align: center;">ACK</td> <td>→ ACK</td> </tr> <tr> <td>NOTIFY</td> <td>← NOTIFY 2</td> <td></td> </tr> <tr> <td>200 OK NOTIFY</td> <td>→ 200 OK NOTIFY</td> <td></td> </tr> </tbody> </table> <p style="text-align: center;">Apply post test routine</p>				ISC#1	Focus	ISC#2		Conference creation		INVITE	→ INVITE		200 OK (INVITE)	← 200 OK (INVITE)		ACK	→ ACK			UE#1 invites UE#2 to the conference		REFER 1	→ REFER		202 Accepted	← 202 Accepted			Focus dials out to invite UE#2			INVITE 1	→ INVITE	NOTIFY	← NOTIFY 1		200 OK NOTIFY	→ 200 OK NOTIFY			200 OK INVITE	← 200 OK INVITE		ACK	→ ACK	NOTIFY	← NOTIFY 2		200 OK NOTIFY	→ 200 OK NOTIFY	
ISC#1	Focus	ISC#2																																																	
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	ACK	→ ACK																																																	
NOTIFY	← NOTIFY 2																																																		
200 OK NOTIFY	→ 200 OK NOTIFY																																																		

5.2.1.5 Removing a conference participant from a conference

TSS ConferenceFocus/RemoveFromConf	TP CONF_N05_001	Reference 5.3.2.6.2.2, 5.3.2.6.2.3 [2]	Selection expression PICS 4.1/2
Test purpose <i>The conference owner asks the focus to remove a participant from the conference.</i>			
UE1 (via ISC#1) sends a REFER request to removes UE2 from the conference. The focus sends a BYE request to UE2 (via ISC#2).			
SIP header values: REFER 1: Request URI contained the URI of conference URI Refer-To contains the UE#2 URI , method=BYE Referred-By contains the URI of UE#1 URI NOTIFY 2 Event contains conference ; Subscription-State contains active message/sipfrag contains SIP/2.0 200 OK			
Comments:			
ISC#1	Focus	ISC#2	
	Conference creation		
INVITE	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
REFER 1	→		
202 Accepted	←		
	UE#2 joining in the conference		
NOTIFY	←	NOTIFY 1	
200 OK NOTIFY	→	200 OK NOTIFY	
		INVITE → INVITE 2	
		200 OK INVITE ← 200 OK INVITE	
		ACK → ACK	
NOTIFY	←	NOTIFY 2	
200 OK NOTIFY	→	200 OK NOTIFY	
	Conference communication		
	UE#1 wishes to remove UE#2 from the conference		
REFER 2	→	REFER	
202 Accepted	←	202 Accepted	
	Focus removes UE#2 from the conference		
		→ BYE	
		← 200 OK BYE	
NOTIFY	←	NOTIFY 3	
200 NOTIFY	→	200 NOTIFY	
	Apply post test routine		

TSS	TP	Reference	Selection expression
ConferenceFocus/RemoveFromConf	CONF_N05_002	5.3.2.6.2.2 [2]	PICS 4.1/2
Test purpose <i>The conference owner asks the focus to remove a user that is not participant from the conference.</i>			
UE1 (via ISC#1) sends a REFER request to removes a user that is not participant in the conference from the conference. The focus rejects the request.			
SIP header values: REFER 2: Request URI contained the URI of conference URI Refer-To contains the URI of a user that is not conference participant, method=BYE Referred-By contains the URI of UE#1 URI			
Comments:			
ISC#1	Focus	ISC#2	
	Conference creation		
INVITE	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
REFER 1	→		
202 Accepted	←		
	UE#2 joining in the conference		
		INVITE →	INVITE 2
		200 OK INVITE ←	200 OK INVITE
		ACK →	ACK
	Conference communication		
	UE#1 wishes to remove non-participant from the conference		
REFER 2	→	REFER	
4xx	←	4xx	
	Apply post test routine		

5.2.1.6 Conference termination

TSS	TP	Reference	Selection expression
ConferenceFocus/TerminateConf	CONF_N06_001	5.3.2.7 [2]	PICS 4.1/2
Test purpose <i>The conference owner releases the entire conference by sending a BYE to the focus.</i>			
UE1 (via ISCP#1), the conference owner, sends a BYE request to the focus. The entire conference is released.			
SIP header values: BYE 1: Request URI = conference URI			
Comments:			
ISC#1	Focus	ISC#2	
	Conference creation		
INVITE	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
REFER	→		
202 Accepted	←		
	Focus dials out to invite UE#2		
		INVITE →	INVITE 2
		180 Ringing ←	180 Ringing
		200 OK INVITE ←	200 OK INVITE
		ACK →	ACK
	Conference communication		
	UE#1 wishes to finish the entire conference		
BYE 1	→	BYE	
200 OK BYE	←	200 OK BYE	
	Focus removes UE#2 from the conference		
		→	BYE
		←	200 OK BYE
	Apply post test routine		

TSS ConferenceFocus/TerminateConf	TP CONF_N06_002	Reference 5.3.2.7 [2]	Selection expression PICS 4.1/2 AND PICS 1/6
Test purpose <i>Conference termination when the conference creator has left the conference.</i>			
Ensure that the conference is terminated when the conference creator which has created the conference using the conference factory has left the conference.			
SIP header values: INVITE S1: Request URI indicating the conference factory URI 200 OK S1: conference URI and "isfocus" feature parameter included in Contact header field			
Comments:			
ISC#1	Focus		ISC#2
	Conference creation		
INVITE (S1)	→ INVITE		
200 OK (INVITE) (S1)	← 200 OK (INVITE)		
ACK	→ ACK		
REFER	→		
202 Accepted	←		
	Focus dials out to invite UE#2		
	INVITE (S2) →	INVITE 2	
	200 OK INVITE ←	200 OK INVITE	
	ACK →	ACK	
	Conference communication		
	Conference creator leaves the conference		
BYE (S1)	→ BYE (S1)		
200 OK BYE	← 200 OK BYE		
	BYE (S2) →	BYE	
	200 OK BYE ←	200 OK BYE	

5.2.2 Actions at the UE

TSS UserEquipment	TP CONF_U01_001	Reference 4.5.2.1.2 [2]	Selection expression PICS 4.1/1
Test purpose <i>The User Equipment has the capability to create a conference. No subscription to the conference event package.</i>			
Ensure that the User Equipment to create a conference with a conference factory, sends an initial INVITE request with the Request URI containing a conference factory URI.			
SIP header values: INVITE: Request URI=conference factory URI 200 OK (INVITE):Contact: conference URI;isfocus			
Comments:			
User Equipment		Test Equipment	
INVITE	→	INVITE	
200 OK	←	200 OK	
ACK	→	ACK	
Apply post test routine			

TSS	TP	Reference	Selection expression
UserEquipment	CONF_U01_002	4.5.2.1.2 [2]	PICS 4.1/1
Test purpose <i>The User Equipment has the capability to create a conference with subscription to the conference event package.</i>			
<p>Ensure that the User Equipment to create a conference with a conference factory, sends an initial INVITE request with the Request URI containing a conference factory URI and on receipt of a 200 OK response, to subscribe to the conference event package sends a SUBSCRIBE request with Request URI indicating the received conference URI.</p>			
SIP header values: INVITE: Request URI=conference factory URI 200 OK (INVITE):Contact: conference URI;isfocus SUBSCRIBE: Request URI contained the conference URI header contains "conference" NOTIFY: Event contains conference ; Subscription-State contains active ; expires=xxxx			
Comments:			
User Equipment		Test Equipment	
INVITE	→	INVITE	
200 OK	←	200 OK	
ACK	→	ACK	
SUBSCRIBE	→	SUBSCRIBE	
200 OK	←	200 OK	
NOTIFY	←	NOTIFY	
200 OK NOTIFY	→	200 OK NOTIFY	
Apply post test routine			

TSS	TP	Reference	Selection expression
UserEquipment	CONF_U01_003	5.3.1.3.3, 5.3.1.5.3 [2]	PICS 4.1/1
Test purpose <i>Conference creation by Three-way session creation. REFER request to the Focus, Conference notification service is subscribed.</i>			
<p>The conference creator is participating in two SIP sessions (S1 and S2) which are put on hold and wants to join together two of these active sessions to a so-called three-way session. The conference notification service is subscribed. The conference creator shall perform the following steps:</p> <ul style="list-style-type: none"> • Create a conference at the conference factory by sending an INVITE request with the conference factory URI. Receive and store the conference URI in the 200 OK response. • For each of the active sessions, that are requested to be joined to a three-way session, sends two REFER requests with the Request URI indicating the previously received conference URI and the Refer-To header indicating the SIP URI or tel URL of the respective remote user. • The conference creator releases the sessions 1 and 2 after the receipt of NOTIFY requests indicating that the remote users have successfully joined the three-way session. 			
SIP header values: INVITE: Request URI indicating the conference factory URI 200 OK: conference URI and "isfocus" feature parameter indicated in Contact header field SUBSCRIBE: Request URI contained the conference URI header contains "conference" NOTIFY 1 Event contains conference ; Subscription-State contains active ; expires=xxxx REFER: Request URI indicating the conference URI Refer-to header contains URI of remote user NOTIFY 2 Event contains conference ; Subscription-State contains active message/sipfrag contains SIP/2.0 100 Trying NOTIFY 3 Event contains conference ; Subscription-State contains active message/sipfrag contains SIP/2.0 200 OK application/conference-info+xml contains (S1) connected, dialled-in NOTIFY 4 Event contains conference ; Subscription-State contains active message/sipfrag contains SIP/2.0 100 Trying NOTIFY 5 Event contains conference ; Subscription-State contains active message/sipfrag contains SIP/2.0 200 OK application/conference-info+xml contains (S2) connected, dialled-in			

Comments: User Equipment	Test Equipment
	Create session S1
	Set session S1 on hold
	Create session S2
	Set session S2 on hold
INVITE	→ INVITE
200 OK	← 200 OK
ACK	→ ACK
SUBSCRIBE	→ SUBSCRIBE
200 OK	← 200 OK
NOTIFY	← NOTIFY 1
200 OK NOTIFY	→ 200 OK NOTIFY
REFER (S1)	→ REFER
202 Accepted	← 202 Accepted
NOTIFY	← NOTIFY 2 (S1, 100)
200 OK NOTIFY	→ 200 OK NOTIFY
NOTIFY	← NOTIFY 3 (S1, 200)
200 OK NOTIFY	→ 200 OK NOTIFY
BYE (S1)	→ BYE
200 OK (BYE)	← 200 OK (BYE)
REFER (S2)	→ REFER
202 Accepted	← 202 Accepted
NOTIFY	← NOTIFY 4 (S2, 100)
200 OK NOTIFY	→ 200 OK NOTIFY
NOTIFY	← NOTIFY 5 (S2, 200)
200 OK NOTIFY	→ 200 OK NOTIFY
BYE (S2)	→ BYE
200 OK (BYE)	← 200 OK (BYE)
	Apply post test routine

TSS	TP	Reference	Selection expression																																				
UserEquipment	CONF_U01_004	5.3.1.3.3, 5.3.1.5.3 [2]	PICS 4.1/1																																				
<p>Test purpose <i>Conference creation by Three-way session creation. REFER request to the Focus, Conference notification service not subscribed.</i></p> <p>The conference creator is participating in two SIP sessions (S1 and S2) which are put on hold and wants to join together two of these active sessions to a so-called three-way session. The conference notification service is not subscribed. The conference creator shall perform the following steps:</p> <ul style="list-style-type: none"> • Create a conference at the conference factory by sending an INVITE request with the conference factory URI. Receive and store the conference URI in the 200 OK response. • For each of the active sessions, that are requested to be joined to a three-way session, sends two REFER requests with the Request URI indicating the previously received conference URI and the Refer-To header indicating the SIP URI or tel URL of the respective remote user. 																																							
<p>SIP header values:</p> <p>INVITE: Request URI indicating the conference factory URI 200 OK: conference URI and "isfocus" feature parameter indicated in Contact header field</p> <p>REFER: Request URI indicating the conference URI Refer-to header contains the URI of remote user</p>																																							
<p>Comments:</p> <table border="0"> <thead> <tr> <th>User Equipment</th> <th></th> <th>Test Equipment</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>Create session S1</td> </tr> <tr> <td></td> <td></td> <td>Set session S1 on hold</td> </tr> <tr> <td></td> <td></td> <td>Create session S2</td> </tr> <tr> <td></td> <td></td> <td>Set session S2 on hold</td> </tr> <tr> <td>INVITE</td> <td></td> <td>→ INVITE</td> </tr> <tr> <td>200 OK</td> <td></td> <td>← 200 OK</td> </tr> <tr> <td>ACK</td> <td></td> <td>→ ACK</td> </tr> <tr> <td>REFER (S1)</td> <td></td> <td>→ REFER</td> </tr> <tr> <td>202 Accepted</td> <td></td> <td>← 202 Accepted</td> </tr> <tr> <td>REFER (S2)</td> <td></td> <td>→ REFER</td> </tr> <tr> <td>202 Accepted</td> <td></td> <td>← 202 Accepted</td> </tr> </tbody> </table> <p style="text-align: center;">Apply post test routine</p>				User Equipment		Test Equipment			Create session S1			Set session S1 on hold			Create session S2			Set session S2 on hold	INVITE		→ INVITE	200 OK		← 200 OK	ACK		→ ACK	REFER (S1)		→ REFER	202 Accepted		← 202 Accepted	REFER (S2)		→ REFER	202 Accepted		← 202 Accepted
User Equipment		Test Equipment																																					
		Create session S1																																					
		Set session S1 on hold																																					
		Create session S2																																					
		Set session S2 on hold																																					
INVITE		→ INVITE																																					
200 OK		← 200 OK																																					
ACK		→ ACK																																					
REFER (S1)		→ REFER																																					
202 Accepted		← 202 Accepted																																					
REFER (S2)		→ REFER																																					
202 Accepted		← 202 Accepted																																					

TSS UserEquipment	TP CONF_U01_005	Reference 5.3.1.3.3, 5.3.1.5.2 [2]	Selection expression PICS 4.1/1
<p>Test purpose Conference creation by Three-way session creation. REFER request to the user, Conference notification service is subscribed.</p> <p>The conference creator is participating in two SIP sessions (S1 and S2) which are put on hold and wants to join together two of these active sessions to a so-called three-way session. The conference notification service is subscribed. The conference creator shall perform the following steps:</p> <ul style="list-style-type: none"> • Create a conference at the conference factory by sending an INVITE request with the conference factory URI. Receive and store the conference URI in the 200 OK response. • For each of the active sessions, that are requested to be joined to a three-way session, sends two REFER requests with the Request URI indicating SIP URI or tel URL of the respective remote user and the Refer-To header indicating the previously received conference URI. • The conference creator releases the sessions 1 and 2 after the receipt of NOTIFY requests indicating that the remote users have successfully joined the three-way session. 			
<p>SIP header values:</p> <p>INVITE: Request URI indicating the conference factory URI 200 OK: conference URI and "isfocus" feature parameter indicated in Contact header field</p> <p>SUBSCRIBE: Request URI contained the conference URI header contains "conference"</p> <p>NOTIFY 1: Event contains conference; Subscription-State contains active; expires=xxxx</p> <p>REFER 1: Request URI indicating the remote user of S1 Refer-to header contains the conference URI</p> <p>NOTIFY 2: Event contains conference; Subscription-State contains active message/sipfrag contains SIP/2.0 100 Trying</p> <p>NOTIFY 3: Event contains conference; Subscription-State contains active message/sipfrag contains SIP/2.0 200 OK application/conference-info+xml contains (S1) connected, dialled-in</p> <p>REFER 2: Request URI indicating the remote user of S2 Refer-to header contains the conference URI</p> <p>NOTIFY 4: Event contains conference; Subscription-State contains active message/sipfrag contains SIP/2.0 100 Trying</p> <p>NOTIFY 5: Event contains conference; Subscription-State contains active message/sipfrag contains SIP/2.0 200 OK application/conference-info+xml contains (S2) connected, dialled-in</p>			

Comments: User Equipment	Test Equipment
	Create session S1 Set session S1 on hold Create session S2 Set session S2 on hold
INVITE	→ INVITE
200 OK	← 200 OK
ACK	→ ACK
SUBSCRIBE	→ SUBSCRIBE
NOTIFY	← NOTIFY 1
200 OK NOTIFY	→ 200 OK NOTIFY
REFER (S1)	→ REFER
202 Accepted	← 202 Accepted
NOTIFY	← NOTIFY 2 (S1, 100)
200 OK NOTIFY	→ 200 OK NOTIFY
NOTIFY	← NOTIFY 3 (S1, 200)
200 OK NOTIFY	→ 200 OK NOTIFY
BYE	→ BYE (S1)
200 OK (BYE)	← 200 OK (BYE)
REFER (S2)	→ REFER
202 Accepted	← 202 Accepted
NOTIFY	← NOTIFY 4 (S2, 100)
200 OK NOTIFY	→ 200 OK NOTIFY
NOTIFY	← NOTIFY 5 (S2, 200)
200 OK NOTIFY	→ 200 OK NOTIFY
BYE	→ BYE (S2)
200 OK (BYE)	← 200 OK (BYE)
	Apply post test routine

TSS UserEquipment	TP CONF_U01_006	Reference 5.3.1.3.3, 5.3.1.5.2 [2]	Selection expression PICS 4.1/1																								
<p>Test purpose Conference creation by Three-way session creation. REFER request to the user, Conference notification service is not subscribed.</p> <p>The conference creator is participating in two SIP sessions (S1 and S2) which are put on hold and wants to join together two of these active sessions to a so-called three-way session. The conference notification service is not subscribed. The conference creator shall perform the following steps:</p> <ul style="list-style-type: none"> • Create a conference at the conference factory by sending an INVITE request with the conference factory URI. Receive and store the conference URI in the 200 OK response. • For each of the active sessions, that are requested to be joined to a three-way session, sends two REFER requests with the Request URI indicating SIP URI or tel URL of the respective remote user and the Refer-To header indicating the previously received conference URI. 																											
<p>SIP header values: INVITE: Request URI indicating the conference factory URI 200 OK: conference URI and "isfocus" feature parameter indicated in Contact header field</p> <p>REFER 1: Request URI indicating the remote user of S1 Refer-to header contains the conference URI</p> <p>REFER 2: Request URI indicating the remote user of S2 Refer-to header contains the conference URI</p>																											
<p>Comments:</p> <table border="0"> <thead> <tr> <th style="text-align: left;">User Equipment</th> <th style="text-align: center;">Test Equipment</th> </tr> </thead> <tbody> <tr> <td></td> <td style="text-align: center;">Create session S1</td> </tr> <tr> <td></td> <td style="text-align: center;">Set session S1 on hold</td> </tr> <tr> <td></td> <td style="text-align: center;">Create session S2</td> </tr> <tr> <td></td> <td style="text-align: center;">Set session S2 on hold</td> </tr> <tr> <td>INVITE</td> <td style="text-align: center;">→ INVITE</td> </tr> <tr> <td>200 OK</td> <td style="text-align: center;">← 200 OK</td> </tr> <tr> <td>ACK</td> <td style="text-align: center;">→ ACK</td> </tr> <tr> <td>REFER (S1)</td> <td style="text-align: center;">→ REFER</td> </tr> <tr> <td>202 Accepted</td> <td style="text-align: center;">← 202 Accepted</td> </tr> <tr> <td>REFER (S2)</td> <td style="text-align: center;">→ REFER</td> </tr> <tr> <td>202 Accepted</td> <td style="text-align: center;">← 202 Accepted</td> </tr> </tbody> </table> <p style="text-align: center;">Apply post test routine</p>				User Equipment	Test Equipment		Create session S1		Set session S1 on hold		Create session S2		Set session S2 on hold	INVITE	→ INVITE	200 OK	← 200 OK	ACK	→ ACK	REFER (S1)	→ REFER	202 Accepted	← 202 Accepted	REFER (S2)	→ REFER	202 Accepted	← 202 Accepted
User Equipment	Test Equipment																										
	Create session S1																										
	Set session S1 on hold																										
	Create session S2																										
	Set session S2 on hold																										
INVITE	→ INVITE																										
200 OK	← 200 OK																										
ACK	→ ACK																										
REFER (S1)	→ REFER																										
202 Accepted	← 202 Accepted																										
REFER (S2)	→ REFER																										
202 Accepted	← 202 Accepted																										

TSS UserEquipment	TP CONF_U01_007	Reference 5.3.1.4 [2]	Selection expression PICS 4.1/1								
<p>Test purpose The User Equipment has the capability join a conference.</p> <p>Ensure that the User Equipment on receipt of a REFER request that contains a Refer-To header indicating a conference URI including the "method" parameter set to INVITE and contains a Referred-By header, sends an INVITE request to the conference URI including the received Referred-By header.</p>											
<p>SIP header values: REFER: Refer-To=conference URI; method=INVITE Referred-By=Remote User Equipment URI INVITE: Request URI indicating the received conference URI Referred-By=Remote User Equipment URI</p>											
<p>Comments:</p> <table border="0"> <thead> <tr> <th style="text-align: left;">User Equipment</th> <th style="text-align: center;">Test Equipment</th> </tr> </thead> <tbody> <tr> <td>REFER</td> <td style="text-align: center;">← REFER</td> </tr> <tr> <td>202 Accepted</td> <td style="text-align: center;">→ 202 Accepted</td> </tr> <tr> <td>INVITE</td> <td style="text-align: center;">→ INVITE</td> </tr> </tbody> </table> <p style="text-align: center;">Apply post test routine</p>				User Equipment	Test Equipment	REFER	← REFER	202 Accepted	→ 202 Accepted	INVITE	→ INVITE
User Equipment	Test Equipment										
REFER	← REFER										
202 Accepted	→ 202 Accepted										
INVITE	→ INVITE										

TSS	TP	Reference	Selection expression																
UserEquipment	CONF_U01_008	5.3.1.5.2 [2]	PICS 4.1/1																
Test purpose <i>The User Equipment has the capability to invite a participant to the conference. REFER request to the participant.</i>																			
Ensure that the User Equipment is able to invite a participant to the established conference. The User Equipment sends a REFER request to the participant and the Refer-To header URI is set to the conference URI.																			
SIP header values: REFER: Request URI=TestEquipment (User = PIXIT) Refer-To=conference URI																			
Comments: <table style="width:100%; border:none;"> <tr> <td style="width:40%;">User Equipment</td> <td style="width:20%;"></td> <td style="width:20%;">Test Equipment</td> <td style="width:20%;"></td> </tr> <tr> <td></td> <td style="text-align:center;">Create Conference</td> <td></td> <td></td> </tr> <tr> <td>REFER</td> <td style="text-align:center;">→</td> <td>REFER</td> <td></td> </tr> <tr> <td>202 Accepted</td> <td style="text-align:center;">←</td> <td>202 Accepted</td> <td></td> </tr> </table> <p style="text-align:center;">Apply post test routine</p>				User Equipment		Test Equipment			Create Conference			REFER	→	REFER		202 Accepted	←	202 Accepted	
User Equipment		Test Equipment																	
	Create Conference																		
REFER	→	REFER																	
202 Accepted	←	202 Accepted																	

TSS	TP	Reference	Selection expression																
UserEquipment	CONF_U01_009	5.3.1.5.3 [2]	PICS 4.1/1																
Test purpose <i>The User Equipment has the capability to invite a participant to the conference. REFER request to the Focus.</i>																			
Ensure that the User Equipment is able to invite a participant to the established conference. The User Equipment sends a REFER request to the conference AS and the Refer-To header URI is set to the inviting user's URI.																			
SIP header values: REFER: Request URI=conference URI Refer-To=Participant URI (PIXIT); method=INVITE																			
Comments: <table style="width:100%; border:none;"> <tr> <td style="width:40%;">User Equipment</td> <td style="width:20%;"></td> <td style="width:20%;">Test Equipment</td> <td style="width:20%;"></td> </tr> <tr> <td></td> <td style="text-align:center;">Create Conference</td> <td></td> <td></td> </tr> <tr> <td>REFER</td> <td style="text-align:center;">→</td> <td>REFER</td> <td></td> </tr> <tr> <td>202 Accepted</td> <td style="text-align:center;">←</td> <td>202 Accepted</td> <td></td> </tr> </table> <p style="text-align:center;">Apply post test routine</p>				User Equipment		Test Equipment			Create Conference			REFER	→	REFER		202 Accepted	←	202 Accepted	
User Equipment		Test Equipment																	
	Create Conference																		
REFER	→	REFER																	
202 Accepted	←	202 Accepted																	

TSS	TP	Reference	Selection expression																
UserEquipment	CONF_U01_010	5.3.1.5.4 [2]																	
Test purpose <i>The User Equipment has the capability to invite a participant to the conference. Resource list is used.</i>																			
Ensure that the User Equipment is able to send a resource list to the conference AS to invite participant(s) to a conference.																			
SIP header values: INVITE Request URI indicating the Conference Factory URI Content-Type: application/resource-lists+xml Content-Disposition: recipient-list <pre><?xml version="1.0" encoding="UTF-8"?> <resource-lists xmlns="urn:ietf:params:xml:ns:resource-lists" xmlns:cp="urn:ietf:params:xml:ns:copyControl"> <list> <entry uri="S1 URI" cp:copyControl="to"/> </list> </resource-lists></pre>																			
Comments: <table style="width:100%; border:none;"> <tr> <td style="width:40%;">User Equipment</td> <td style="width:20%;"></td> <td style="width:20%;">Test Equipment</td> <td style="width:20%;"></td> </tr> <tr> <td>INVITE</td> <td style="text-align:center;">←</td> <td>INVITE (S1)</td> <td></td> </tr> <tr> <td>200 OK (INVITE)</td> <td style="text-align:center;">→</td> <td>200 OK (INVITE)</td> <td></td> </tr> <tr> <td>ACK</td> <td style="text-align:center;">←</td> <td>ACK</td> <td></td> </tr> </table> <p style="text-align:center;">Apply post test routine</p>				User Equipment		Test Equipment		INVITE	←	INVITE (S1)		200 OK (INVITE)	→	200 OK (INVITE)		ACK	←	ACK	
User Equipment		Test Equipment																	
INVITE	←	INVITE (S1)																	
200 OK (INVITE)	→	200 OK (INVITE)																	
ACK	←	ACK																	

5.3 Interaction with other supplementary services

5.3.1 Terminating Identification Restriction (TIR)

TSS Interaction/TIR	TP CONF_N08_001	Reference 4.6.3 [1]	Selection expression PICS 4.1/2 PICS 1/5																																																						
<p>Test purpose Remote user requests TIR, no identity information in the conference notification info send in the NOTIFY request to the conference creator.</p> <p>Ensure the no identity is sent to the conference creator if a Privacy header was received and the privacy value was set to "id" in the 200 OK to the INVITE from the conference focus to invite the participant to the conference.</p>																																																									
<p>SIP header values: 200 OK INVITE 2: Privacy: id NOTIFY 2: Event contains conference; Subscription-State contains active application/conference-info+xml: <pre> <conference-info> entity=conference URI, state="full", version="x" </conference-info> <conference-state> <user-count>2</user-count> if present <active>true</active> if present </users> <user entity=ISC#1 URI state="full" <endpoint entity=endpoint ISC#1 URI <status>connected</status> <joining-method>dialled-in</ joining-method> <media id="1" <status>sendrecv</status> </pre> [No identity information of UE#2 or Element is not present]</p>																																																									
<p>Comments:</p> <table border="0"> <thead> <tr> <th data-bbox="172 1077 526 1106">ISC#1</th> <th data-bbox="526 1077 1005 1133">Focus Conference creation</th> <th data-bbox="1005 1077 1409 1106">ISC#2</th> </tr> </thead> <tbody> <tr> <td>INVITE</td> <td>→</td> <td>INVITE</td> </tr> <tr> <td>200 OK (INVITE)</td> <td>←</td> <td>200 OK (INVITE)</td> </tr> <tr> <td>ACK</td> <td>→</td> <td>ACK</td> </tr> <tr> <td>SUBSCRIBE</td> <td>→</td> <td>SUBSCRIBE</td> </tr> <tr> <td>200 OK (SUBSCRIBE)</td> <td>←</td> <td>200 OK (SUBSCRIBE)</td> </tr> <tr> <td colspan="3" style="text-align: center;">UE1#1 invites UE#2 via the conference focus</td> </tr> <tr> <td>REFER</td> <td>→</td> <td></td> </tr> <tr> <td>200 OK (REFER)</td> <td>←</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;">Focus invites UE#2 to the conference</td> </tr> <tr> <td>NOTIFY</td> <td>←</td> <td>NOTIFY 1</td> </tr> <tr> <td>200 OK NOTIFY</td> <td>→</td> <td>200 OK NOTIFY</td> </tr> <tr> <td colspan="3" style="text-align: center;">Apply post test routine</td> </tr> <tr> <td></td> <td></td> <td>INVITE → INVITE 2</td> </tr> <tr> <td></td> <td></td> <td>200 OK INVITE ← 200 OK INVITE 2</td> </tr> <tr> <td></td> <td></td> <td>ACK → ACK</td> </tr> <tr> <td>NOTIFY</td> <td>←</td> <td>NOTIFY 2</td> </tr> <tr> <td>200 OK NOTIFY</td> <td>→</td> <td>200 OK NOTIFY</td> </tr> </tbody> </table>				ISC#1	Focus Conference creation	ISC#2	INVITE	→	INVITE	200 OK (INVITE)	←	200 OK (INVITE)	ACK	→	ACK	SUBSCRIBE	→	SUBSCRIBE	200 OK (SUBSCRIBE)	←	200 OK (SUBSCRIBE)	UE1#1 invites UE#2 via the conference focus			REFER	→		200 OK (REFER)	←		Focus invites UE#2 to the conference			NOTIFY	←	NOTIFY 1	200 OK NOTIFY	→	200 OK NOTIFY	Apply post test routine					INVITE → INVITE 2			200 OK INVITE ← 200 OK INVITE 2			ACK → ACK	NOTIFY	←	NOTIFY 2	200 OK NOTIFY	→	200 OK NOTIFY
ISC#1	Focus Conference creation	ISC#2																																																							
INVITE	→	INVITE																																																							
200 OK (INVITE)	←	200 OK (INVITE)																																																							
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Apply post test routine																																																									
		INVITE → INVITE 2																																																							
		200 OK INVITE ← 200 OK INVITE 2																																																							
		ACK → ACK																																																							
NOTIFY	←	NOTIFY 2																																																							
200 OK NOTIFY	→	200 OK NOTIFY																																																							

5.3.2 Originating Identification Restriction (OIR)

TSS Interaction/OIR	TP CONF_N09_001	Reference 4.6.5 [1]	Selection expression PICS 4.1/2 PICS 1/4																																																												
<p>Test purpose Conference creator subscribes to OIR in permanent mode. There is no identity information of the creator included in the conference notification sent to the conference participants.</p> <p>Ensure that the conference notification sent in the NOTIFY request to the participant after it has joined the conference if the conference creator has subscribed to the OIR service.</p>																																																															
<p>SIP header values:</p> <p>SUBSCRIBE: Request URI contained the conference URI, Event contains "conference" Event header contains "conference"</p> <p>NOTIFY 3: Event contains conference; Subscription-State contains active; expires=xxxx application/conference-info+xml: <pre> <conference-info> entity=conference URI state="full" version="x" </conference-info> <conference-state> <user-count>2</user-count> if present <active>true</active> if present </users> [No identity information of UE#1 or Element is not present] <user entity=ISC#2 URI state="full" <endpoint entity=endpoint ISC#2 URI <status>connected</status> <joining-method>dialled-in</ joining-method> <media id="1" <status>sendrecv</status> </pre> </p>																																																															
<p>Comments:</p> <table border="0"> <thead> <tr> <th data-bbox="172 1032 582 1061">ISC#1</th> <th data-bbox="582 1032 1005 1061">Focus</th> <th data-bbox="1005 1032 1417 1061">ISC#2</th> </tr> </thead> <tbody> <tr> <td colspan="3" data-bbox="670 1061 917 1090" style="text-align: center;">Conference creation</td> </tr> <tr> <td data-bbox="172 1090 582 1173">INVITE</td> <td data-bbox="582 1090 1005 1120" style="text-align: center;">➔</td> <td data-bbox="1005 1090 1417 1120">INVITE</td> </tr> <tr> <td data-bbox="172 1120 582 1149">200 OK (INVITE)</td> <td data-bbox="582 1120 1005 1149" style="text-align: center;">➔</td> <td data-bbox="1005 1120 1417 1149">200 OK (INVITE)</td> </tr> <tr> <td data-bbox="172 1149 582 1178">ACK</td> <td data-bbox="582 1149 1005 1178" style="text-align: center;">➔</td> <td data-bbox="1005 1149 1417 1178">ACK</td> </tr> <tr> <td colspan="3" data-bbox="534 1200 1053 1229" style="text-align: center;">UE1#1 invites UE#2 via the conference focus</td> </tr> <tr> <td data-bbox="172 1229 582 1258">REFER</td> <td data-bbox="582 1229 1005 1258" style="text-align: center;">➔</td> <td data-bbox="1005 1229 1417 1258"></td> </tr> <tr> <td data-bbox="172 1258 582 1288">200 OK (REFER)</td> <td data-bbox="582 1258 1005 1288" style="text-align: center;">➔</td> <td data-bbox="1005 1258 1417 1288"></td> </tr> <tr> <td colspan="3" data-bbox="574 1288 1013 1317" style="text-align: center;">Focus invites UE#2 to the conference</td> </tr> <tr> <td data-bbox="172 1317 582 1346">NOTIFY</td> <td data-bbox="582 1317 1005 1346" style="text-align: center;">➔</td> <td data-bbox="1005 1317 1417 1346">NOTIFY 1</td> </tr> <tr> <td data-bbox="172 1346 582 1375">200 OK NOTIFY</td> <td data-bbox="582 1346 1005 1375" style="text-align: center;">➔</td> <td data-bbox="1005 1346 1417 1375">200 OK NOTIFY</td> </tr> <tr> <td data-bbox="172 1375 582 1404"></td> <td data-bbox="582 1375 1005 1404" style="text-align: center;">➔</td> <td data-bbox="1005 1375 1417 1404">INVITE ➔ INVITE 2</td> </tr> <tr> <td data-bbox="172 1404 582 1433"></td> <td data-bbox="582 1404 1005 1433" style="text-align: center;">➔</td> <td data-bbox="1005 1404 1417 1433">200 OK INVITE ➔ 200 OK INVITE</td> </tr> <tr> <td data-bbox="172 1433 582 1462"></td> <td data-bbox="582 1433 1005 1462" style="text-align: center;">➔</td> <td data-bbox="1005 1433 1417 1462">ACK ➔ ACK</td> </tr> <tr> <td data-bbox="172 1462 582 1491">NOTIFY</td> <td data-bbox="582 1462 1005 1491" style="text-align: center;">➔</td> <td data-bbox="1005 1462 1417 1491">NOTIFY 2</td> </tr> <tr> <td data-bbox="172 1491 582 1520">200 OK NOTIFY</td> <td data-bbox="582 1491 1005 1520" style="text-align: center;">➔</td> <td data-bbox="1005 1491 1417 1520">200 OK NOTIFY</td> </tr> <tr> <td data-bbox="172 1520 582 1550"></td> <td data-bbox="582 1520 1005 1550" style="text-align: center;">➔</td> <td data-bbox="1005 1520 1417 1550">➔ SUBSCRIBE</td> </tr> <tr> <td data-bbox="172 1550 582 1579"></td> <td data-bbox="582 1550 1005 1579" style="text-align: center;">➔</td> <td data-bbox="1005 1550 1417 1579">➔ 200 OK (SUBSCRIBE)</td> </tr> <tr> <td data-bbox="172 1579 582 1608"></td> <td data-bbox="582 1579 1005 1608" style="text-align: center;">➔</td> <td data-bbox="1005 1579 1417 1608">➔ NOTIFY</td> </tr> <tr> <td data-bbox="172 1608 582 1637"></td> <td data-bbox="582 1608 1005 1637" style="text-align: center;">➔</td> <td data-bbox="1005 1608 1417 1637">➔ 200 OK NOTIFY</td> </tr> </tbody> </table> <p style="text-align: center;">Apply post test routine</p>				ISC#1	Focus	ISC#2	Conference creation			INVITE	➔	INVITE	200 OK (INVITE)	➔	200 OK (INVITE)	ACK	➔	ACK	UE1#1 invites UE#2 via the conference focus			REFER	➔		200 OK (REFER)	➔		Focus invites UE#2 to the conference			NOTIFY	➔	NOTIFY 1	200 OK NOTIFY	➔	200 OK NOTIFY		➔	INVITE ➔ INVITE 2		➔	200 OK INVITE ➔ 200 OK INVITE		➔	ACK ➔ ACK	NOTIFY	➔	NOTIFY 2	200 OK NOTIFY	➔	200 OK NOTIFY		➔	➔ SUBSCRIBE		➔	➔ 200 OK (SUBSCRIBE)		➔	➔ NOTIFY		➔	➔ 200 OK NOTIFY
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TSS Interaction/OIR	TP CONF_N09_002	Reference 4.6.5 [1]	Selection expression PICS 4.1/2 PICS 1/4																																																			
<p>Test purpose <i>Conference creator subscribes to OIR in temporary mode. Referred-By is not sent in the INVITE request if a Privacy header set to value "user" was received in the REFER.</i></p> <p>Ensure that the Referred-By header received in the REFER request to the conference focus is not sent in the INVITE request to the participant to be invited to the conference if the REFER request contained Referred-By header and a Privacy header set to "user".</p>																																																						
<p>SIP header values: REFER 1: Referred-By=UE#1 Privacy: user INVITE 1: Request URI=UE#2 no Referred-By included</p>																																																						
<p>Comments:</p> <table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">ISC#1</th> <th style="text-align: center;">Focus</th> <th style="text-align: right;">ISC#2</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">Conference creation</td> </tr> <tr> <td>INVITE</td> <td style="text-align: center;">→ INVITE</td> <td></td> </tr> <tr> <td>200 OK (INVITE)</td> <td style="text-align: center;">← 200 OK (INVITE)</td> <td></td> </tr> <tr> <td>ACK</td> <td style="text-align: center;">→ ACK</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;">UE1#1 invites UE#2 via the conference focus</td> </tr> <tr> <td>REFER 1</td> <td style="text-align: center;">→ REFER</td> <td></td> </tr> <tr> <td>202 Accepted</td> <td style="text-align: center;">← 202 Accepted</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;">Focus dials out to invite UE#2</td> </tr> <tr> <td></td> <td style="text-align: center;">INVITE 1</td> <td style="text-align: right;">→ INVITE</td> </tr> <tr> <td>NOTIFY</td> <td style="text-align: center;">← NOTIFY 1</td> <td></td> </tr> <tr> <td>200 OK NOTIFY</td> <td style="text-align: center;">→ 200 OK NOTIFY</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">200 OK INVITE</td> <td style="text-align: right;">← 200 OK INVITE</td> </tr> <tr> <td></td> <td style="text-align: center;">ACK</td> <td style="text-align: right;">→ ACK</td> </tr> <tr> <td>NOTIFY</td> <td style="text-align: center;">← NOTIFY 2</td> <td></td> </tr> <tr> <td>200 OK NOTIFY</td> <td style="text-align: center;">→ 200 OK NOTIFY</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;">Apply post test routine</td> </tr> </tbody> </table>				ISC#1	Focus	ISC#2	Conference creation			INVITE	→ INVITE		200 OK (INVITE)	← 200 OK (INVITE)		ACK	→ ACK		UE1#1 invites UE#2 via the conference focus			REFER 1	→ REFER		202 Accepted	← 202 Accepted		Focus dials out to invite UE#2				INVITE 1	→ INVITE	NOTIFY	← NOTIFY 1		200 OK NOTIFY	→ 200 OK NOTIFY			200 OK INVITE	← 200 OK INVITE		ACK	→ ACK	NOTIFY	← NOTIFY 2		200 OK NOTIFY	→ 200 OK NOTIFY		Apply post test routine		
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TSS Interaction/OIR	TP CONF_N09_003	Reference 4.6.5 [1]	Selection expression PICS 4.1/2 PICS 1/4
Test purpose <i>Conference creator subscribes to OIR in temporary mode. Referred-By is not inserted into the INVITE request if Privacy value "user" was received in the REFER.</i>			
<p>Ensure that if the Referred-By header is not received in the REFER request to the conference focus, it is not inserted into the INVITE request sent to the participant to be invited to the conference if the REFER request contained a Privacy header set to "user".</p>			
SIP header values: REFER 1: no Referred-By present Privacy: user INVITE 1: Request URI=UE#2 no Referred-By inserted			
Comments:			
ISC#1	Focus	ISC#2	
	Conference creation		
INVITE	→ INVITE		
200 OK (INVITE)	← 200 OK (INVITE)		
ACK	→ ACK		
	UE1#1 invites UE#2 via the conference focus		
REFER 1	→ REFER		
202 Accepted	← 202 Accepted		
	Focus dials out to invite UE#2		
	INVITE 1	→ INVITE	
NOTIFY	← NOTIFY 1		
200 OK NOTIFY	→ 200 OK NOTIFY		
	200 OK INVITE	← 200 OK INVITE	
	ACK	→ ACK	
NOTIFY	← NOTIFY 2		
200 OK NOTIFY	→ 200 OK NOTIFY		
	Apply post test routine		

TSS Interaction/OIR	TP CONF_N09_004	Reference 4.6.5 [1]	Selection expression PICS 4.1/2 PICS 1/4																																																			
<p>Test purpose Conference creator subscribes to OIR in temporary mode. Referred-By is not inserted into the INVITE request if Privacy value "header" was received in the REFER.</p> <p>Ensure that if the Referred-By header is not received in the REFER request to the conference focus, it is not inserted into the INVITE request sent to the participant to be invited to the conference if the REFER request contained a Privacy header set to "header".</p>																																																						
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Apply post test routine																																																						

5.3.3 Anonymous Communication Rejection and Communication Barring (ACR/CB)

TSS Interaction/ACR-CB	TP CONF_N10_001	Reference 4.6.9 [1]	Selection expression PICS 4.1/2 PICS 1/6																											
<p>Test purpose Conference creator subscribes to ACR/CB and has Outgoing Call Barring activated for UE2. Conference invitation for UE2 via REFER is rejected.</p> <p>Ensure that the conference AS rejects the REFER request targeted at a participant (UE2) that is barred by the conference creator's Outgoing Communication Barring rules.</p>																														
<p>SIP header values: REFER: Request URI contained the conference URI Refer-To contains the URI of UE#2, method=invite Referred-By contains SIP URI of UE#1</p>																														
<p>Comments:</p> <table border="0"> <thead> <tr> <th>ISC#1</th> <th>Focus</th> <th>ISC#2</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">Conference creation</td> </tr> <tr> <td>INVITE</td> <td>→ INVITE</td> <td></td> </tr> <tr> <td>200 OK (INVITE)</td> <td>← 200 OK (INVITE)</td> <td></td> </tr> <tr> <td>ACK</td> <td>→ ACK</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;">UE1#1 invites outgoing call barred UE#2 via the conference focus</td> </tr> <tr> <td>REFER</td> <td>→ REFER</td> <td></td> </tr> <tr> <td>4xx</td> <td>← 4xx</td> <td></td> </tr> <tr> <td colspan="3" style="text-align: center;">Apply post test routine</td> </tr> </tbody> </table>				ISC#1	Focus	ISC#2	Conference creation			INVITE	→ INVITE		200 OK (INVITE)	← 200 OK (INVITE)		ACK	→ ACK		UE1#1 invites outgoing call barred UE#2 via the conference focus			REFER	→ REFER		4xx	← 4xx		Apply post test routine		
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TSS Interaction/ACR-CB	TP CONF_N10_002	Reference 4.6.9 [1]	Selection expression PICS 4.1/2 PICS 1/6																												
<p>Test purpose Conference creator subscribes to ACR/CB and has Outgoing Call Barring activated for UE2. Conference invitation for UE2 via the uri-list is rejected.</p> <p>Ensure that the focus AS removes the URI of UE2 that is barred by the conference creator's Outgoing Communication Barring rules from the list of URIs in the "recipient-list" body of INVITE request. UE2 is not invited to the conference.</p>																															
<p>SIP header values: INVITE (S1) Request URI indicating Conference Factory Content-Type: application/resource-lists+xml Content-Disposition: recipient-list</p> <pre><?xml version="1.0" encoding="UTF-8"?> <resource-lists xmlns="urn:ietf:params:xml:ns:resource-lists" xmlns:cp="urn:ietf:params:xml:ns:copyControl"> <list> <entry uri="UE#2" cp:copyControl="to"/> <entry uri="UE#3" cp:copyControl="to"/> </list> </resource-lists></pre>																															
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		INVITE (S2)	→ INVITE																												
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		ACK	→ ACK																												

Annex A (informative): Bibliography

ETSI TS 124 628: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Common Basic Communication procedures using IP Multimedia (IM) Core Network (CN) subsystem; Protocol specification (3GPP TS 24.628 Release 10)".

History

Document history		
V3.1.1	July 2011	Publication
V3.2.1	October 2015	Publication