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Technical Specification

Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Conference (CONF); Part 2: Test Suite Structure and Test Purposes (TSS&TP)

Reference

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Keywords

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN).

The present document is part 2 of a multi-part deliverable covering the PSTN/ISDN simulation services; Conference (CONF) 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 for the user".

1 Scope

The present document specifies the Protocol implementation conformance statement (PICS) for the Conference (CONF) service based on stage one and two of the ISDN CONF supplementary service. Within the Next Generation Network (NGN) the stage 3 is specified using the IP-Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP), TS 183 005 [1].

A further part of the present document specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma based on the present document.

2 References

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

- For a specific reference, subsequent revisions do not apply.

- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:

    - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;

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2.1 Normative references

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

[1] ETSI TS 183 005: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services: Conference (CONF); Protocol specification".

[2] ETSI TS 186 010-1: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Conference (CONF); Part 1: Protocol implementation Conformance Statement (PICS)".

[3] 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 version 8.2.0 Release 8)".

2.2 Informative references

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

Not applicable.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [1] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in [1] apply.

4 Test Suite Structure (TSS) and configuration

Table 1: Test suite structure

ConferenceFocus		
		CONF_N01_xxx
		CONF_N02_xxx
		CONF_N03_xxx
		CONF_N04_xxx
		CONF_N05_xxx
		CONF_N06_xxx
		CONF_N07_xxx
UserEquipment		
		CONF_U01_xxx
Interaction		
	TIR	CONF_N08_xxx
	OIR	CONF_N09_xxx
	ACR	CONF_N10_xxx

4.1 Configuration

The scope of the present document is to test the signalling and procedural aspects of the stage 3 requirements as described in [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.

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

Testing of the Application Server. This entity is responsible to perform the service. Hence the ISC interface is the appropriate access point. Figure 1 points to this.
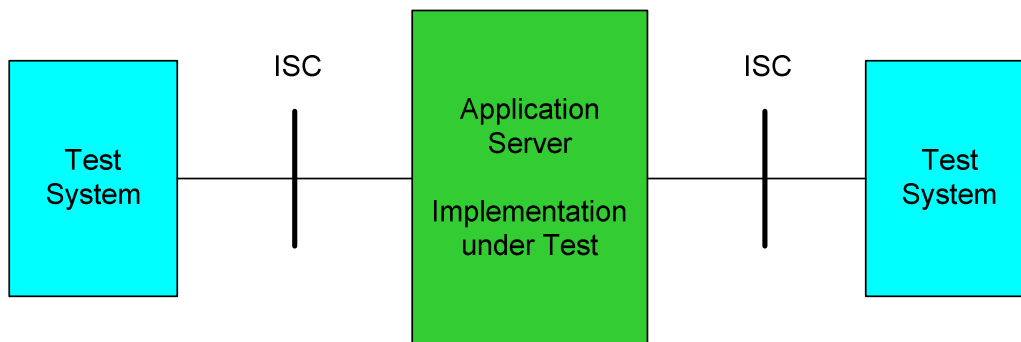
Figure 1: Applicable interface to test AS functionalities

If the ISC interface is not accessible it is also applicable to perform the test of the AS using any NNI (Mw, Mg, Mx) interface (consider figure 2). In case only the Gm interface is accessible this shall be used instead. In this case, be aware that the verification of several requirements is impeded.
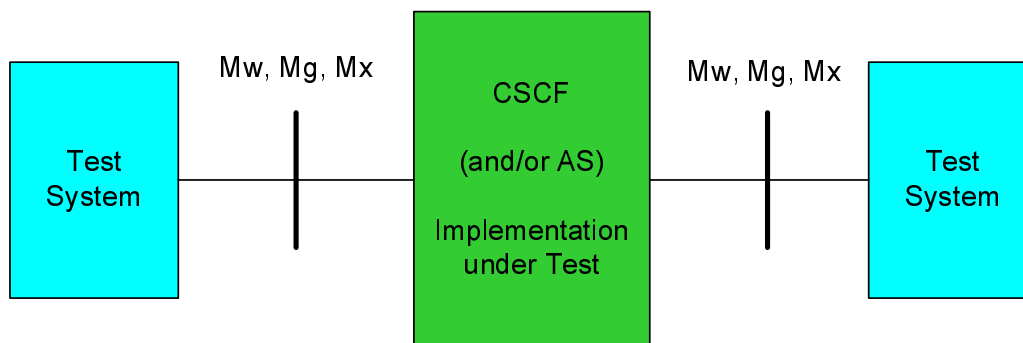
Figure 2: Applicable interfaces to test using the (generic) NNI interface

Figure 2 illustrates the usage of any NNI interface.

5 Test Purposes (TP)

5.1 Introduction

For each test requirement a TP is defined.

5.1.1 TP naming convention

TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see table 2).

Table 2: TP identifier naming convention scheme

Identifier: **<ss>_<iut><group>_<nnn>**				
<ss>	=	supplementary service:	e.g. "CONF"	
<iut>	=	type of IUT:	U N yyy	User Network 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 TS 183 005 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification TS 186 010-1 [2].

5.2   Signalling requirements

5.2.1   Conference Focus

5.2.1.1   Conference creation

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N01_001	5.3.2.3/ [3]	

Test purpose

*Conference creation with a **conference factory URI**. Conference event package subscribed.*

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 shall store the content of the received Contact header as the **conference URI**. In addition the conference participant subscribes to the conference event package.

SIP header values:
INVITE: Request URI contained the conference factory URI
200 OK: "isfocus" feature parameter indicated in Contact header field
                  conference URI contained in the Contact header field
SUBSCRIBE: Request URI contained 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	CONF_N01_002	5.3.2.3/[3]	

Test purpose

*Conference creation with a **conference factory URI**. Conference event package not subscribed.*

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 shall store the content of the received Contact header as the **conference URI**. The conference participant does not subscribe to the conference event package.

SIP header values:
INVITE: Request URI contained the conference factory URI
200 OK: "isfocus" feature parameter indicated in Contact header field
                     conference URI contained in the Contact header field

Comments:
ISC#1   **Focus**
INVITE   →

200 OK (INVITE)   ←
ACK   →
                              Apply post test routine

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N01_003	5.3.2.3/[3]	PICS 1/5

Test purpose

*Conference creation with a **conference URI**. Conference event package subscribed.*

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 shall store the content of the received Contact header as the conference URI. In addition the conference participant subscribes to the conference event package.

SIP header values:

INVITE: Request URI contained the conference URI
200 OK: "isfocus" feature parameter indicated in Contact header field
                   conference URI contained in the Contact header field
SUBSCRIBE: Request URI contained 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	CONF_N01_004	5.3.2.3/[3]	PICS 1/5

Test purpose

*Conference creation with a **conference URI**. Conference event package not subscribed.*

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 shall store the content of the received Contact header as the **conference URI**. The conference participant does not subscribe to the conference event package.

SIP header values:

INVITE: Request URI contained the conference URI
200 OK: "isfocus" feature parameter indicated in Contact header field
                   conference URI contained in the Contact header field

Comments:

ISC#1   **Focus**
INVITE   →

200 OK (INVITE)   ←
ACK   →

Apply post test routine

TSS ConferenceFocus	TP CONF_N01_005	Reference 5.3.2.3/[3]	Selection expression NOT PICS 1/4 AND PICS 1/7
Test purpose			
Conference creation with a conference factory URI. Preconditions indicated a conference URI is sent in the first provisional response. 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). The conference participant shall store the content of the received Contact header as the **conference URI**.			

SIP header values:
INVITE: Request URI contained 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
 	
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
 	
UPDATE:
    SDP   a=curr:qos local sendrecv
               a=curr:qos remote none
               a=des:qos mandatory local sendrecv
               a=des:qos mandatory remote sendrecv
 	
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
 	
200 OK: "isfocus" feature parameter indicated in Contact header field
          conference URI contained in the Contact header field
SUBSCRIBE: Request URI contained the conference URI			

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 ConferenceFocus	TP CONF_N01_007	Reference 5.3.2.3/[3]	Selection expression
Test purpose			
Conference creation with a conference factory URI not allocated in the focus unsuccessful. Ensure that a conference cannot be created by a UE using the 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 contained the 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	CONF_N02_001	5.3.2.4/[3]	NOT PICS 1/6
Test purpose			
*Participant **dial-in** the conference, the conference URI is used.* ISC#1 established a conference. ISC#2 joins in that conference after has been received a REFER request and the Refer-To header referring to the Focus. The UE sends an INVITE request to the conferencing AS the conference URI is known at the ISC#2. The request is successful.			
SIP header values:			

REFER: Request URI=ISC#2
          Refer-To=Focus; method=INVITE
          Referred-By=ISC#1
INVITE 2: Focus
18x   "isfocus" feature parameter indicated in Contact header field
200 OK: "isfocus" feature parameter indicated 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


                           ISC#2 joining in the conference
REFER                        →                         →     REFER
202 Accepted                 ←                         ←     202 Accepted

NOTIFY (100)                 ←                         ←     NOTIFY (100)
200 OK (NOTIFY)              →                         →     200 OK (NOTIFY)

                                       INVITE   ←     INVITE 2
                                          18x   →     18x
                                 200 OK INVITE   →     200 OK INVITE
                                          ACK   ←     ACK

NOTIFY (200)                 ←                         ←     NOTIFY (200)
200 OK (NOTIFY)              →                         →     200 OK (NOTIFY)
                                 Apply post test routine
```

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N02_002	5.3.2.4/[3]	
Test purpose			
*Participant **dial-in** the conference, the conference URI is not allocated, the request is rejected.* ISC#1 established a conference. ISC#2 joins in that conference. 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 2: Request URI contained the conference URI not allocated in the focus (PIXIT)			
Comments:			

```
ISC#1                                    Focus                  ISC#2
                                 Conference creation
INVITE                       →       INVITE
200 OK (INVITE)              ←       200 OK (INVITE)
ACK                          →       ACK


                           ISC#2 joining in the conference
                                       INVITE   ←     INVITE 2
                                          4xx   →     4xx
                                          ACK   ←     ACK
```

5.2.1.3 Inviting other users to a conference

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_001	5.3.1.5.3/[3]	NOT PICS 1/6

Test purpose

Inviting participant by sending REFER to the focus.

ISC#1 established a conference. ISC#1 invites ISC#2 to join into the conference. The ISC#1 sends a REFER to the focus; the focus sends an INVITE request to ISC#2 to invite the ISC#2 to the conference.

SIP header values:

REFER: Request URI contained the **conference URI**
　　　Refer-To contains the URI of **ISC#2**, method=invite
　　　Referred-By contains SIP URI of **ISC#1**
INVITE 2: Request URI contained the conference URI
　　　The P-Asserted-Identity contains the conference URI.
　　　"isfocus" feature parameter indicated in Contact header field
　　　conference URI contained in the Contact header field
　　　Referred-By contains SIP or tel URI of **ISC#1**
NOTIFY 1 Event contains **conference**; Subscription-State contains **active**
　　　message/sipfrag contains **SIP/2.0 100 Trying**
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
              ISC#1 invites ISC#2 to the conference
REFER                    →   REFER
202 Accepted             ←   202 Accepted


                                      Focus dials out to invite ISC#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	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_002	5.3.1.5.3/[3]	NOT PICS 1/6

Test purpose

Inviting participant by sending REFER to the participant.

ISC#1 established a conference. ISC#1 invites ISC#2 to join into the conference by sending a REFER to this participant. The participant sends an INVITE request to the focus to dial in. The conference event package is not subscribed.

SIP header values:

REFER: Request URI contained the URI of **ISC#2**
     Refer-To contains the **conference URI**, method=invite
     Referred-By contains the URI of **ISC#1**
INVITE 2: Request URI contained the conference URI
     The P-Asserted-Identity contains the URI of ISC#2.
     "isfocus" feature parameter indicated in Contact header field
     conference URI contained in the Contact header field
     Referred-By contains SIP or tel URI of **ISC#1**
NOTIFY 1 Event contains **conference**; Subscription-State contains **active**
     message/sipfrag contains **SIP/2.0 100 Trying**
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	
	ISC#1 invites ISC#2 to the conference		
REFER	➜	➜	REFER
202 Accepted	⬅	⬅	202 Accepted
NOTIFY	⬅	⬅	NOTIFY 1
200 OK NOTIFY	➜	➜	200 OK NOTIFY
		ISC#2 joins in the conference	
		INVITE ⬅	INVITE 2
		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	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_003	5.3.1.5.4/[3]	NOT PICS 1/6

Test purpose

Inviting participant by sending a participant list to the focus.

ISC#1 established a conference. A participant list is contained in the INVITE to create the conference. The AS establishes a communication to the user indicated in the participant list.

SIP header values:

INVITE 1: Request URI=Focus
        <resource-lists
          <entry uri="sip:ISC#2 cp:capacity="to" />

INVITE 2: Request URI = ISC#2
        The P-Asserted-Identity contains the conference URI.
        "isfocus" feature parameter indicated in Contact header field
        conference URI contained in the 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 ISC#2
		INVITE 2 ➔	INVITE
		180 Ringing ←	180 Ringing
		200 OK INVITE ←	200 OK INVITE
		ACK ➔	ACK
		Apply post test routine	

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_004	5.3.1.5.4/[3]	NOT PICS 1/6

Test purpose

Inviting participant by sending a participant list to the focus in an active session.

ISC#1 established a conference. A participant list is contained in the INVITE to create the conference. The AS establishes a communication to the user indicated in the participant list.

SIP header values:

INVITE 1: Request URI=Focus
        <resource-lists
          <entry uri="<entry uri="S1 URI?Call-ID=S1&From=S1%3Btag%3DS1&To=S1%3Btag%3DS1"
            cp:copyControl="to"/>

INVITE 2: Request URI = ISC#2
        The P-Asserted-Identity contains the conference URI.
        "isfocus" feature parameter indicated in Contact header field
        conference URI contained in the Contact header field

Comments:

ISC#1		Focus	ISC#2
INVITE (S1)			
180 Ringing			
200 OK INVITE			
ACK			
INVITE 1 (S1, sendonly)	➔		➔ INVITE
200 OK (INVITE)	←		← 200 OK (INVITE (recvonly)
ACK	➔		➔ ACK
		Conference creation	
INVITE 1 (S2)	➔	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	➔	ACK	
			Focus dials out to invite ISC#2
		INVITE 2 ➔	INVITE
		180 Ringing ←	180 Ringing
		200 OK INVITE ←	200 OK INVITE
		ACK ➔	ACK
		Apply post test routine	

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_005	5.3.1.3.3/[3]	

Test purpose

Three-way session creation. REFER is sent to the participants.

Ensure that it is possible that two active sessions are able to join in a three way session and the existing sessions with the served user is terminated by the remote users. The remote users receive a REFER request and the Refer-To header contains the address of the Focus. The remote users use the URI of the Refer-To header as the Request URI of the INVITE request.

SIP header values:

REFER (S1): Request line=ISC#2
             Refer-To=Focus; method=INVITE
             Referred-By=ISC#1
REFER (S2): Request line=ISC#3
             Refer-To=Focus; method=INVITE
             Referred-By=ISC#1
INVITE (S4): Request URI=Focus
             Referred-By=ISC#1
INVITE (S5): Request URI=Focus
             Referred-By=ISC#1

Comments:

ISC#1		Focus	ISC#2		ISC#3

Establish session #1
Session #1 on hold
Establish session #2
Session #2 on hold

ISC#1		Focus		ISC#2		ISC#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	←	INVITE (S4)		
		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	←		←	INVITE (S5)
		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	CONF_N03_006	5.3.1.3.3/[3]	

Test purpose

Three-way session creation. REFER is sent to the Focus.

Ensure that it is possible that two active sessions are able to join in a three way session and the existing sessions with the served user is terminated by the remote users. The session the Focus is performed by the conference Focus. A new session is established by the Focus.

SIP header values:
REFER (S1): Request line=Focus
        Refer-To=ISC#2; method=INVITE
        Referred-By=ISC#1
REFER (S1): Request line=Focus
        Refer-To=ISC#3; method=INVITE
        Referred-By=ISC#1
INVITE (S4): Request URI=ISC#2
        Referred-By=ISC#1
INVITE (S5): Request URI=ISC#3
        Referred-By=ISC#1

Comments:

ISC#1	Focus	ISC#2	ISC#3
	Establish session #1		
	Session #1 on hold		
	Establish session #2		
Session #2 on hold			
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	CONF_N03_007	5.3.1.3.3/[3]	

Test purpose
Three-way session creation. REFER is sent to the Focus. Replaces header included in the REFER.
Ensure that it is possible that two active sessions are able to join in a three way session and the existing sessions with the served user is terminated by the remote users. The remote users receive a Replaces header containing the data for the particular session. The sessions are terminated after the session to the focus is active.

SIP header values:
REFER (S1): Request line=Focus
Refer-To=ISC#2; method=INVITE?Replaces=S1;to-tag=S1;from-tag=S1
Referred-By=ISC#1
REFER (S1): Request line=Focus
Refer-To=ISC#3; method=INVITE?Replaces=S2;to-tag=S2;from-tag=S2
Referred-By=ISC#1
INVITE (S4): Request URI=ISC#2
Referred-By=ISC#1
Replaces=S1;to-tag=S1;from-tag=S1
INVITE (S5): Request URI=ISC#3
Referred-By=ISC#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						
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	CONF_N03_008	5.3.1.3.3/[3]	

Test purpose
Three-way session creation. URI list is sent to the Focus.
Ensure that a three way session can be established by sending a uri-list in the initial INVITE request send to the conference AS to create a conference. The existing sessions remains and are now connected to the MRFC.

SIP header values:
INVITE (S3)   Request URI=Conference Factory UR)
Content-Type: application/resource-lists+xml
Content-Disposition: recipient-list
<?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?Call-ID=S1&From=S1%3Btag%3DS1&To=S1%3Btag%3DS1" cp:copyControl="to"/>
<entry uri="S2 URI?Call-ID=S2&From=S2%3Btag%3DS2&To=S2%3Btag%3DS2" cp:copyControl="to"/>
</list>
</resource-lists>
INVITE (S1): SDP: MRFC
INVITE (S2): SDP: MRFC

Comments:

ISC#1   Focus   ISC#2   ISC#3

Establish session #1
Session #1 on hold
                                    Establish session #2
Session #2 on hold
INVITE (S3)   ➔   INVITE

                              INVITE (S1) ➔   INVITE
                          200 OK (INVITE) ⬅   200 OK (INVITE)
                                     ACK ➔   ACK

                              INVITE (S2) ➔   ➔   INVITE
                          200 OK (INVITE) ⬅   ⬅   200 OK (INVITE)
                                     ACK ➔   ➔   ACK

200 OK (INVITE)   ⬅   200 OK (INVITE)
ACK   ➔   ACK
                                    Apply post test routine

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_009	4.5.2.2.1/[3]	
Test purpose			
Referred-By value does not contain a valid identity of the requesting user. Ensure that the value of the Referred-By header is replaced with the valid value matching the REFER request's P-Asserted-Identity if the Referred-By header does not contain a valid identity of the requesting user.			
SIP header values:			

REFER 1: Request line=Focus
      Refer-To=ISC#2; method=INVITE
      Referred-By=any value (PIXIT)
      P-Asserted-Identity=ISC#1
INVITE 1: Request URI=ISC#2
      Referred-By=ISC#1			

Comments:

ISC#1		Focus		ISC#2
		Conference creation		
INVITE	➔	INVITE		
200 OK (INVITE)	⬅	200 OK (INVITE)		
ACK	➔	ACK		
	ISC#1 invites ISC#2 to the conference			
REFER 1	➔	REFER		
202 Accepted	⬅	202 Accepted		
		Focus dials out to invite ISC#2		
		INVITE 1 ➔		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	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_010	4.5.2.2.1/[3]	

Test purpose

Referred-By header not present.

Ensure that a Referred-By header is sent in the initial INVITE based on the REFER request and the REFER request does not contain a Referred-By header. The value of the Referred-By header matches the REFER request's P-Asserted-Identity value.

SIP header values:
REFER 1: Request line=Focus
            Refer-To=ISC#2; method=INVITE
            P-Asserted-Identity=ISC#1
INVITE 1: Request URI=ISC#2
            Referred-By=ISC#1

Comments:
ISC#1   **Focus**   **ISC#2**
                            Conference creation
INVITE 1   ➔   INVITE
200 OK (INVITE)   ←   200 OK (INVITE)
ACK   ➔   ACK
            ISC#1 invites ISC#2 to the conference
REFER 1   ➔   REFER
202 Accepted   ←   202 Accepted

                                    Focus dials out to invite ISC#2
                                    INVITE 1 ➔ 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	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_011	5.3.1.5.2/[3]	

Test purpose
No method parameter present in the Refer-To header.
Ensure that the AS invites a remote user to a conference if the method parameter is not present in the Refer-To header of the received REFER request. The conference focus assumes that the method is INVITE.

SIP header values:
REFER 1: Request line=Focus
Refer-To=ISC#2
P-Asserted-Identity=ISC#1
Referred-By=ISC#1
INVITE 1: Request URI=ISC#2
Referred-By=ISC#1

Comments:

ISC#1		Focus		ISC#2
		Conference creation		
INVITE 1	➜	INVITE		
200 OK (INVITE)	⬅	200 OK (INVITE)		
ACK	➜	ACK		
	ISC#1 invites ISC#2 to the conference			
REFER 1	➜	REFER		
202 Accepted	⬅	202 Accepted		
		Focus dials out to invite ISC#2		
		INVITE 1 ➜		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	TP	Reference	Selection expression
ConferenceFocus	CONF_N03_012	5.3.2.1/[3]	

Test purpose

Inviting participant by sending REFER to the participant. 3pcc REFER interworking applies.

The CONF AS has prior **knowledge** that **the Transferee is not allowed** to receive or **does not support the REFER method.** Ensure that the Focus when receives the REFER request accepts the request and acts according the requirement of the Refer-To header. The Focus sends an INVITE request to the Participant to invite to the conference.

SIP header values:
REFER: Request URI contained the URI of **ISC#2**
        Refer-To contains the **conference URI**, method=invite
        Referred-By contains the URI of **ISC#1**
INVITE 2: Request URI contained ISC#2 URI
        The P-Asserted-Identity = conference URI
        "isfocus" feature parameter indicated in Contact header field
        conference URI contained in the Contact header field
        Referred-By contains SIP or tel URI of **ISC#1**
NOTIFY 1 Event contains **conference**; Subscription-State contains **active**
        message/sipfrag contains **SIP/2.0 100 Trying**
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		
		ISC#1 invites ISC#2 to the conference		
REFER	→			
202 Accepted	←			
NOTIFY	←	NOTIFY 1		
200 OK NOTIFY	→	200 OK NOTIFY		
		Focus dials out to invite ISC#2		
		INVITE	→	INVITE 2
		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		

5.2.1.4 Leaving a conference

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N04_001	5.3.2.6/[3]	PICS 1/6
Test purpose			
A participant leaves the conference. ISC#2 wishes to leave the conference by sending a BYE request to the focus in accordance to the basic call procedures.			
SIP header values:			

REFER 1: Request line=Focus
      Refer-To=ISC#2
      P-Asserted-Identity=ISC#1
      Referred-By=ISC#1			

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 ISC#2
                                   INVITE      →      INVITE 2
                               180 Ringing     ←      180 Ringing
                            200 OK INVITE       ←      200 OK INVITE
                                      ACK       →      ACK
                          Conference communication

                       Participant leaves the conference
                                           ←      BYE
                                           →      200 OK BYE
                           Apply post test routine
```

5.2.1.5 Removing a conference participant from a conference

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N05_001	5.3.2.6/[3]	
Test purpose			
A participant asks the Conference AS to remove a other participant from the conference. The conference AS verify the identity of the user and authorize the request. A participant is not authorized to remove another participant from the conference. The request fails			
SIP header values:			

REFER (S5): Request line=Focus
      Refer-To=ISC#2; method=BYE
      Referred-By=ISC#3			

Comments:			

```
ISC#1                    Focus              ISC#2                  ISC#3
          ISC#1 creates a conference

          Invite participant ISC#2 to the conference (dial out)

          Invite participant ISC#3 to the conference (dial out)
                      REFER (S5)  ←                        ←    REFER (S5)
                         4xx  →                            →    4xx
                    Apply post test routine
```

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N05_002	5.3.2.6/[3]	PICS 1/6

Test purpose

The conference owner asks the focus to remove a participant from the conference.

ISC#2 asks the focus by sending a REFER request to removes another participant from the conference. In this case the focus sends a BYE request to this participant.

SIP header values:

REFER 1: Request URI contained the URI of **conference URI**
      Refer-To contains the **ISC#2 URI**, method=BYE
      Referred-By contains the URI of **ISC#1 URI**
NOTIFY 1 Event contains **conference**; Subscription-State contains **active**
      message/sipfrag contains **SIP/2.0 100 Trying**
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	➜			
202 Accepted	⬅			
		ISC#2 joining in the conference		
		INVITE	➜	INVITE 2
		180 Ringing	⬅	180 Ringing
		200 OK INVITE	⬅	200 OK INVITE
		ACK	➜	ACK
		Conference communication		
		ISC#1 wishes to remove ISC#2 from the conference		
REFER 1	➜	REFER		
202 Accepted	⬅	202 Accepted		
NOTIFY	⬅	NOTIFY 1		
200 OK NOTIFY	➜	200 OK NOTIFY		
		focus removes ISC#2 from the conference		
			➜	BYE
			⬅	200 OK BYE
NOTIFY	⬅	NOTIFY 2		
200 NOTIFY	➜	200 NOTIFY		
		Apply post test routine		

5.2.1.6   Conference termination

TSS		TP	Reference	Selection expression
ConferenceFocus		CONF_N06_001	5.3.2.7/[3]	
Test purpose				
The conference owner releases the entire conference by sending a BYE to the focus.				
SIP#1, the conference owner, sends a BYE request to the focus. The entire conference is released.				
SIP header values: BYE: Request URI = conference URI				
Comments:				

```
SIP#1                                    Focus                 SIP#2
                           Conference creation
INVITE                          ➔       INVITE
200 OK (INVITE)                 ⬅       200 OK (INVITE)
ACK                             ➔       ACK

REFER                           ➔
202 Accepted                    ⬅
                        Focus dials out to invite ISC#2
                                       INVITE    ➔    INVITE 2
                                  180 Ringing    ⬅    180 Ringing
                                200 OK INVITE    ⬅    200 OK INVITE
                                         ACK     ➔    ACK
                        Conference communication
Conference creator wishes to finish the entire conference
BYE                             ➔       BYE
200 OK BYE                      ⬅       200 OK BYE


                        focus removes SIP#2 from the conference
                                            ➔    BYE
                                            ⬅    200 OK BYE
                        Apply post test routine
```

TSS		TP	Reference	Selection expression
ConferenceFocus		CONF_N06_002	5.3.2.7/[3]	PICS 1/6
Test purpose				
Conference termination when the conference creator has left the conference.				
Ensure that the conference is terminated when the conference creator has left the conference.				
SIP header values:				
REFER 1: Request line=Focus				
Refer-To=ISC#2				
P-Asserted-Identity=ISC#1				
Referred-By=ISC#1				
Comments:				

```
ISC#1                                    Focus                 ISC#2
                           Conference creation
INVITE (S1)                     ➔       INVITE
200 OK (INVITE)                 ⬅       200 OK (INVITE)
ACK                             ➔       ACK
REFER                           ➔
202 Accepted                    ⬅
                        Focus dials out to invite ISC#2
                                    INVITE (S2)   ➔    INVITE 2
                                  180 Ringing    ⬅    180 Ringing
                                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
```

TSS ConferenceFocus	TP CONF_N06_003	Reference 5.3.2.7/[3]	Selection expression PICS 1/6
Test purpose *Conference termination when the last participant left the conference.* Ensure that the conference is terminated if the last participant has left the conference.			

SIP header values:
REFER 1: Request line=Focus
      Refer-To=ISC#2
      P-Asserted-Identity=ISC#1
      Referred-By=ISC#1			

Comments:			

```
ISC#1                             Focus                    ISC#2
                            Conference creation
INVITE (S1)             ➜     INVITE
200 OK (INVITE)        ⬅     200 OK (INVITE)
ACK                    ➜     ACK
REFER                  ➜
202 Accepted           ⬅
                        Focus dials out to invite ISC#2
                               INVITE (S2)    ➜     INVITE
                               180 Ringing    ⬅     180 Ringing
                            200 OK INVITE     ⬅     200 OK INVITE
                                    ACK       ➜     ACK
                          Conference communication
                     Conference creator leaves the conference
                                      BYE     ⬅     BYE (S2)
                             200 OK BYE       ➜     200 OK BYE

BYE (S1)               ⬅     BYE
200 OK BYE            ➜     200 OK BYE
```

5.2.2   Conference Notification Service

TSS ConferenceFocus	TP CONF_N07_001	Reference 5.3.3/[3]	Selection expression
Test purpose *Conference creation, notification service.* Ensure that the notification procedure for the conference creation can be performed. The UE, creates the conference subscribes the notification service by sending a SUBSCRIBE.			
SIP header values: SUBSCRIBE: Request URI contained 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	CONF_N07_002	5.3.3/[3]	

Test purpose

Participants dial-in the conference, notification service.

Ensure that the notification procedure for the dial-in in a conference can be performed. The UE, joins to the conference, subscribes the notification service by sending a SUBSCRIBE.

SIP header values:

SUBSCRIBE: Request URI contained the conference URI, Event contains "conference"
              Event header contains "conference"

NOTIFY 1:   Event contains **conference**; Subscription-State contains **active; expires=xxxx**
              application/conference-info+xml:
                  <conference-info>
                      entity=conference URI state="full" version="x"
                    <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>dialed-in</ joining-method>
                            <media id="1"
                              <status>sendrecv</status>
                    <user entity=ISC#2 URI state="full"
                        <endpoint entity=endpoint ISC#2 URI
                            <status>connected</status>
                            <joining-method>dialed-in</ joining-method>
                            <media id="1"
                              <status>sendrecv</status>

Comments:

ISC#1		Focus		ISC#2
		Conference creation		
INVITE	➔	INVITE		
200 OK (INVITE)	←	200 OK (INVITE)		
ACK	➔	ACK		
REFER	➔		➔	REFER
200 OK (REFER)	←		←	200 OK (REFER)
		ISC#2 joining in the conference		
		INVITE	←	INVITE 2
		18x	➔	18x
		200 OK INVITE	➔	200 OK INVITE
		ACK	←	ACK
			←	SUBSCRIBE
			➔	200 OK (SUBSCRIBE)
		NOTIFY 1	➔	NOTIFY
		200 OK NOTIFY	←	200 OK NOTIFY
		Apply post test routine		

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N07_003	5.3.3/[3]	

Test purpose

Participants dial-in the conference, notification service for conference creator.

Ensure that the notification procedure for dial-in in a conference can be performed to the participant who created the conference.

SIP header values:

NOTIFY 2:   Event contains **conference**; Subscription-State contains **active**

              application/conference-info+xml:

                <conference-info>

                    entity=conference URI, state="full", version="x"

                    <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>dialed-in</ joining-method>

                            <media id="1"

                                <status>sendrecv</status>

                    <user entity=ISC#2 URI state="full"

                        <endpoint entity=endpoint ISC#2 URI

                            <status>connected</status>

                            <joining-method>dialed-in</ joining-method>

                            <media id="1"

                                <status>sendrecv</status>

Comments:

ISC#1		Focus		ISC#2
		Conference creation		
INVITE	→	INVITE		
200 OK (INVITE)	←	200 OK (INVITE)		
ACK	→	ACK		
SUBSCRIBE	→	SUBSCRIBE		
200 OK (SUBSCRIBE)	←	200 OK (SUBSCRIBE)		
NOTIFY	←	NOTIFY		
200 OK NOTIFY	→	200 OK NOTIFY		
REFER	→		→	REFER
200 OK (REFER)	←		←	200 OK (REFER)
		ISC#2 joining in the conference		
		INVITE	←	INVITE 2
		18x	→	18x
		200 OK INVITE	→	200 OK INVITE
		ACK	←	ACK
NOTIFY	←	NOTIFY 2		
200 OK NOTIFY	→	200 OK NOTIFY		
		Apply post test routine		

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N07_004	5.3.3/[3]	

Test purpose

Focus dial-out to invite a Participant to the conference, notification service for conference creator.

Ensure that the notification procedure for dial-out in a conference can be performed to the participant who created the conference.

SIP header values:

NOTIFY 2:   Event contains **conference**; Subscription-State contains **active**

                application/conference-info+xml:

                    <conference-info>

                        entity=conference URI, state="full", version="x"

                        <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>dialed-in</ joining-method>

                                    <media id="1"

                                        <status>sendrecv</status>

                        <user entity=ISC#2 URI state="full"

                                <endpoint entity=endpoint ISC#2 URI

                                    <status>connected</status>

                                    <joining-method>dialed-out</ joining-method>

                                    <media id="1"

                                        <status>sendrecv</status>

Comments:

ISC#1		Focus	ISC#2
		Conference creation	
INVITE	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
SUBSCRIBE	→	SUBSCRIBE	
200 OK (SUBSCRIBE)	←	200 OK (SUBSCRIBE)	
NOTIFY	←	NOTIFY 1	
200 OK NOTIFY	→	200 OK NOTIFY	
REFER	→		
200 OK (REFER)	←		
		Focus invites ISC#2 to the conference	
		INVITE →	INVITE 2
		18x ←	18x
		200 OK INVITE ←	200 OK INVITE
		ACK →	ACK
NOTIFY	←	NOTIFY 2	
200 OK NOTIFY	→	200 OK NOTIFY	
		Apply post test routine	

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N07_005	5.3.3/[3]	

Test purpose

Focus dial-out to invite a Participant to the conference, notification service for the participant.

Ensure that the notification procedure for dial-in in a conference can be performed to the participant invited to the conference.

SIP header values:

NOTIFY: Event contains **conference**; Subscription-State contains **active**

        application/conference-info+xml:

           <conference-info>

             entity=conference URI, state="full", version="x"

             <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>dialed-in</ joining-method>

                        <media id="1"

                          <status>sendrecv</status>

                <user entity=ISC#2 URI state="full"

                    <endpoint entity=endpoint ISC#2 URI

                        <status>connected</status>

                        <joining-method>dialed-out</ joining-method>

                        <media id="1"

                          <status>sendrecv</status>

Comments:

ISC#1		Focus	ISC#2
		Conference creation	
INVITE	➔	INVITE	
200 OK (INVITE)	⬅	200 OK (INVITE)	
ACK	➔	ACK	
REFER	➔		
200 OK (REFER)	⬅		
		Focus invites ISC#2 to the conference	
		INVITE ➔	INVITE 2
		18x ⬅	18x
		200 OK INVITE ⬅	200 OK INVITE
		ACK ➔	ACK
		SUBSCRIBE ⬅	SUBSCRIBE
		200 OK (SUBSCRIBE) ➔	200 OK (SUBSCRIBE)
		NOTIFY ➔	NOTIFY
		200 OK NOTIFY ⬅	200 OK NOTIFY
		Apply post test routine	

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N07_006	5.3.3/[3]	PICS 1/6

Test purpose

A participant leaves the conference*. The remaining participant is notified.*

A participant wishes to leave the conference by sending a BY request to the focus. Ensure that the notification procedure can be performed to the participant who created the conference.

SIP header values:

NOTIFY   Event contains **conference**; Subscription-State contains **active**

            application/conference-info+xml:

                <conference-info>

                    entity=conference URI, state="full", version="x"

                    <conference-state>

                        <user-count>1</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>dialed-in</ joining-method>

                                <media id="1"

                                    <status>sendrecv</status>

                      <user entity=ISC#2 URI state="full"

                            <endpoint entity=endpoint ISC#2 URI

                                <status>connected</status>

                                <joining-method>dialed-out</ joining-method>

                                <media id="1"

                                    <status>sendrecv</status>

                      <user entity=ISC#3 URI state="full"

                            <endpoint entity=endpoint ISC#3 URI

                                <status>**disconnected**</status>

                                <joining-method>dialed-out</ joining-method>

                                <disconnecten-type>**departed**</ disconnecten-type>

                                <media id="1"

                                    <status>sendrecv</status>

Comments:

ISC#1	Focus	ISC#2	ISC#3

        ISC#1 creates a conference

        Invite participant ISC#2 to the conference (dial out)

        Invite participant ISC#3 to the conference (dial out)

        Participant leaves the conference

        BYE ←   ← BYE

        200 OK BYE →   → 200 OK BYE

        NOTIFY 1 →   NOTIFY

        200 NOTIFY ←   200 NOTIFY

        Apply post test routine

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N07_007	5.3.3/[3]	PICS 1/6

Test purpose
A participant leaves the conference. The relevant participant is notified.
A participant wishes to leave the conference by sending a BY request to the focus. Ensure that the notification procedure can be performed to the relevant participant.

SIP header values:
NOTIFY 1 Event contains **conference**; Subscription-State contains **terminated**

Comments:

ISC#1	Focus	ISC#2	ISC#3

ISC#1 creates a conference

Invite participant ISC#2 to the conference (dial out)

Invite participant ISC#3 to the conference (dial out)
Participant leaves the conference

BYE ← ← BYE
200 OK BYE → → 200 OK BYE

NOTIFY 1 → → NOTIFY
200 NOTIFY ← ← 200 NOTIFY
Apply post test routine

TSS	TP	Reference	Selection expression
ConferenceFocus	CONF_N07_008	5.3.3/[3]	PICS 1/6

Test purpose

A participant is removed from the conference. The conference creator is notified.

A participant is removed from the conference by receiving a BY request from the focus. Ensure that the notification procedure can be performed to the participant who created the conference.

SIP header values:

NOTIFY 2 Event contains **conference**; Subscription-State contains **active**

        application/conference-info+xml:

            <conference-info>

                entity=conference URI, state="full", version="x"

                <conference-state>

                    <user-count>1</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>dialed-in</ joining-method>

                            <media id="1"

                                <status>sendrecv</status>

                    <user entity=ISC#2 URI state="full"

                        <endpoint entity=endpoint ISC#2 URI

                            <status>connected</status>

                            <joining-method>dialed-out</ joining-method>

                            <media id="1"

                                <status>sendrecv</status>

                    <user entity=ISC#2 URI state="full"

                        <endpoint entity=endpoint ISC#2 URI

                            <status>**disconnected**</status>

                            <joining-method>dialed-out</ joining-method>

                            <disconnecten-type>**booted**</ disconnecten-type>

                            <media id="1"

                                <status>sendrecv</status>

Comments:

ISC#1   **Focus**   **ISC#2**

ISC#1   **Focus**   **ISC#2**   **ISC#3**

           ISC#1 creates a conference

        Invite participant ISC#2 to the conference (dial out)

        Invite participant ISC#3 to the conference (dial out)

        Participant leaves the conference

                    BYE ←   ← BYE

                    200 OK BYE →   → 200 OK BYE

NOTIFY   ← NOTIFY

200 NOTIFY   → 200 NOTIFY

               Apply post test routine

5.2.3   Actions at the UE

TSS	TP	Reference	Selection expression
UserEquipment	CONF_U01_001	5.3.1/[3]	

Test purpose

Conference creation by Three-way session creation. REFER request to the Focus, Conference notification service is subscribed.

The conference participant is participating in two SIP sessions 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 participant shall perform the following steps:

- Create a conference at the conference focus by sending an INVITE request with the conference factory URI for the three-way session towards the conference focus.
- Perform for each of the active sessions, that are requested to be joined to the three-way session by performing the procedures for inviting a user to a conference by sending a **REFER request to the Focus**.
- The UE releases the session 1 and 2 after the UE was informed concerned the session to the focus is established by Test Equipment S1 and Test Equipment S2.

SIP header values:

INVITE:	Request URI contained the conference factory URI
200 OK:	"isfocus" feature parameter indicated in Contact header field
	conference URI contained in the 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:	Refer-to header contains the conference URI
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 1		
Set session 1 on hold		
Create session 2		
Set session 2 on hold		
Create the conference (S3)		
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_002	5.3.1/[3]	

Test purpose
Conference creation by Three-way session creation. REFER request to the Focus, Conference notification service not subscribed.

The conference participant is participating in two SIP sessions 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 participant shall perform the following steps:

- Create a conference at the conference focus by sending an INVITE request with the conference factory URI for the three-way session towards the conference focus.
- Perform for each of the active sessions, that are requested to be joined to the three-way session by performing the procedures for inviting a user to a conference by sending a **REFER request to the Focus**.
- The ISC#1 releases the session 1 and 2 after the UE was informed concerned the session to the focus is established by Test Equipment S1 and Test Equipment S2.

SIP header values:
INVITE: Request URI contained the conference factory URI
200 OK: "isfocus" feature parameter indicated in Contact header field
            conference URI contained in the Contact header field
REFER   :   Refer-to header contains the conference URI
NOTIFY 1   Event contains **conference**; Subscription-State contains **active**
            message/sipfrag contains **SIP/2.0 100 Trying**
NOTIFY 2   Event contains **conference**; Subscription-State contains **active**
            message/sipfrag contains **SIP/2.0 200 OK**
NOTIFY 3   Event contains **conference**; Subscription-State contains **active**
            message/sipfrag contains **SIP/2.0 100 Trying**
NOTIFY 4   Event contains **conference**; Subscription-State contains **active**
            message/sipfrag contains **SIP/2.0 200 OK**

Comments:

User Equipment		Test Equipment
Create session 1		
Set session 1 on hold		
Create session 2		
Set session 2 on hold		
Create the conference (S3)		
REFER (S1)	→	REFER
202 Accepted	←	202 Accepted
NOTIFY	←	NOTIFY 1 (S1, 100)
200 OK NOTIFY	→	200 OK NOTIFY
NOTIFY	←	NOTIFY 2 (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 3 (S2, 100)
200 OK NOTIFY	→	200 OK NOTIFY
NOTIFY	←	NOTIFY 4 (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_005	4.5.2.1.2/[3]	

Test purpose

Conference creation by Three-way session creation. REFER request to the user, Replaces method is used

The conference participant is participating in two SIP sessions and wants to join together two of these active sessions to a so-called three-way session. The **replaces method is used** to terminate previous individual sessions. The conference participants shall perform the following steps:

- Create a conference at the conference focus by sending an INVITE request with the conference factory URI for the three-way session towards the conference focus.
- Perform for each of the active sessions, that are requested to be joined to the three-way session by performing the procedures for inviting a user to a conference by sending a **REFER request to the user**.
- The Test Equipment S1 and Test Equipment S2 terminates the session 1 and 2 as indicated in the Replaces header received in the INVTE from the focus.

SIP header values:

INVITE: Request URI contained the conference factory URI
200 OK: "isfocus" feature parameter indicated in Contact header field
            conference URI contained in the Contact header field
REFER1: Refer-to header contains the S1 URI and Replaces header for session 1
            Refer-To: <sip:**conference URI**?Replaces=**call-idS1**%3B**to-tag=S1**%3B**from-tagS1**;
            method=INVITE>
BYE 1:   Call-ID: call-idS1/ To: ….; tag=S1/ From: …;tag=S1
REFER2: Refer-to header contains the S2 URI and Replaces header for session 2
            Refer-To: <sip:**conference URI**?Replaces=**call-idS2**%3B**to-tagS2**%3B**from-tagS2**;
            method=INVITE>
BYE 2:   Call-ID: call-idS2/ To: ….; tag=S2/ From: …;tag=S2

Comments:

User Equipment		Test Equipment
Create session 1		
Set session 1 on hold		
Create session 2		
Set session 2 on hold		
Create the conference (S3)		
REFER (S1)	➜	REFER
202 Accepted	⬅	202 Accepted
NOTIFY	⬅	NOTIFY 1 (S1, 100)
200 OK NOTIFY	➜	200 OK NOTIFY
NOTIFY	⬅	NOTIFY 2 (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 3 (S2, 100)
200 OK NOTIFY	➜	200 OK NOTIFY
NOTIFY	⬅	NOTIFY 4 (S2, 200)
200 OK NOTIFY	➜	200 OK NOTIFY
BYE	⬅	BYE (S2)
200 OK (BYE)	➜	200 OK (BYE)
	Apply post test routine	

TSS	TP	Reference	Selection expression
UserEquipment	CONF_U01_006	4.5.2.1.2/[3]	

Test purpose
Conference creation by Three-way session creation. REFER request to the focus, Replaces method is used.

The conference participant is participating in two SIP sessions and wants to join together two of these active sessions to a so-called three-way session. The **replaces method is used** to terminate previous individual sessions. The conference participants shall perform the following steps:

- Create a conference at the conference focus by sending an INVITE request with the conference factory URI for the three-way session towards the conference focus.
- Perform for each of the active sessions, that are requested to be joined to the three-way session by performing the procedures for inviting a user to a conference by sending a **REFER request to the focus**.
- The Test Equipment S1 and Test Equipment S2 terminates the session 1 and 2 as indicated in the Replaces header received in the INVTE from the focus.

SIP header values:
INVITE: Request URI contained the conference factory URI
200 OK: "isfocus" feature parameter indicated in Contact header field
             conference URI contained in the Contact header field
REFER 1: **Refer-to** header contains the URI of the Focus and Replaces header for session 1
             Refer-To: <sip:**S1 URI**?Replaces=**Call-IDS1**%3B**to-tag=S1**%3B**from-tag=S1**; method=INVITE>
REFER 2: **Refer-to** header contains the URI of the Focus and Replaces header for session 2
             Refer-To: <sip:**S2 URI**?Replaces=**Call-IDS2**%3B**to-tag=S2**%3B**from-tag=S2**; method=INVITE>
BYE 1:   Call-ID: call-idS1/ To: ….; tag=S1/ From: …;tag=S1
BYE 2:   Call-ID: call-idS2/ To: ….; tag=S2/ From: …;tag=S2

Comments:
User Equipment   **Test Equipment**

                           Create session 1
                        Set session 1 on hold
                           Create session 2
                        Set session 2 on hold
                    Create the conference (S3)

User Equipment		Test Equipment
REFER (S1)	➔	REFER
202 Accepted	⬅	202 Accepted
NOTIFY	⬅	NOTIFY 1 (S1, 100)
200 OK NOTIFY	➔	200 OK NOTIFY
NOTIFY	⬅	NOTIFY 2 (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 3 (S2, 100)
200 OK NOTIFY	➔	200 OK NOTIFY
NOTIFY	⬅	NOTIFY 4 (S2, 200)
200 OK NOTIFY	➔	200 OK NOTIFY
BYE	⬅	BYE (S2)
200 OK (BYE)	➔	200 OK (BYE)
	Apply post test routine	

TSS	TP	Reference	Selection expression
UserEquipment	CONF_U01_006	4.5.2.1.2/[3]	

Test purpose
The User Equipment has the capability to create a conference.
Ensure that the User Equipment to send an initial INVITE request and the Request URI contains 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_006	4.5.2.1.2/[3]	

Test purpose
The User Equipment has the capability to invite a participant to the conference. REFER request to the participant.
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, the method parameter is set to INVITE.

SIP header values:
REFER: Request URI=TestEquipment (User = PIXIT)
Refer-To=conference URI; method=INVITE
Referred-By=User Equipment URI
NOTIFY: Event contains **conference**; Subscription-State contains **active**
message/sipfrag contains **SIP/2.0 100 Trying**
NOTIFY: Event contains **conference**; Subscription-State contains **active**
message/sipfrag contains **SIP/2.0 200 OK**

Comments:

User Equipment		**Test Equipment**
INVITE	➔	INVITE
200 OK	←	200 OK
ACK	➔	ACK
REFER	➔	REFER
202 Accepted	←	202 Accepted
NOTIFY	←	NOTIFY 1
200 OK NOTIFY	➔	200 OK NOTIFY
NOTIFY	←	NOTIFY 2
200 OK NOTIFY	➔	200 OK NOTIFY
Apply post test routine		

TSS	TP	Reference	Selection expression
UserEquipment	CONF_U01_006	4.5.2.1.2/[3]	
Test purpose *The User Equipment has the capability to invite a participant to the conference. REFER request to the Focus.* 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 user URI, the method parameter is set to INVITE.			

SIP header values:
REFER: Request URI=Test Equipment (Focus = PIXIT)
          Refer-To=Participant URI (PIXIT); method=INVITE
          Referred-By=User Equipment URI
NOTIFY: Event contains **conference**; Subscription-State contains **active**
          message/sipfrag contains **SIP/2.0 100 Trying**
NOTIFY: Event contains **conference**; Subscription-State contains **active**
          message/sipfrag contains **SIP/2.0 200 OK**			

Comments:		
User Equipment		**Test Equipment**
INVITE	➔	INVITE
200 OK	←	200 OK
ACK	➔	ACK
REFER	➔	REFER
202 Accepted	←	202 Accepted
NOTIFY	←	NOTIFY 1
200 OK NOTIFY	➔	200 OK NOTIFY
NOTIFY	←	NOTIFY 2
200 OK NOTIFY	➔	200 OK NOTIFY
	Apply post test routine	

TSS	TP	Reference	Selection expression
UserEquipment	CONF_U01_006	4.5.2.1.2/[3]	

Test purpose
The User Equipment has the capability to invite a participant to the conference. REFER request to the Focus. Replaces header is used.   Ensure that the User Equipment is able to invite an active session to a conference and the User Equipment sends a Replaces header in a REFER request to the Focus to indicate that the existing session have to be replaced by the new one.

SIP header values:

INVITE (S1)   Request URI=User Equipment (PIXIT)
 INVITE (S2)   Request URI=Test Equipment (Conference Factory URI)
 REFER: Request URI=Test Equipment (Conference URI = PIXIT)
                Refer-To=Participant URI?Replaces: **S1**%3B**to-tag=S1**%3B**from-tag=S1**; method=INVITE
                Referred-By=User Equipment URI
 NOTIFY: Event contains **conference**; Subscription-State contains **active**
                message/sipfrag contains **SIP/2.0 100 Trying**
 NOTIFY: Event contains **conference**; Subscription-State contains **active**
                message/sipfrag contains **SIP/2.0 200 OK**

Comments:
User Equipment   **Test Equipment**
INVITE   ←   INVITE (S1)   180 Ringing   →   180 Ringing   200 OK (INVITE)   →   200 OK (INVITE)   ACK   ←   ACK   INVITE (S2)   →   INVITE   200 OK   ←   200 OK   ACK   →   ACK   REFER   →   REFER   202 Accepted   ←   202 Accepted   NOTIFY   ←   NOTIFY 1   200 OK NOTIFY   →   200 OK NOTIFY   NOTIFY   ←   NOTIFY 2   200 OK NOTIFY   →   200 OK NOTIFY   **Apply post test routine**

TSS	TP	Reference	Selection expression
UserEquipment	CONF_U01_006	5.3.2.1/[3]	

Test purpose
The User Equipment has the capability to invite a participant to the conference. Resource list is used.   Ensure that the User Equipment is able to send a resource list to the conference AS to invite a participant to a conference.

SIP header values:

INVITE (S1)   Request URI=User Equipment (PIXIT)
 INVITE (S2)   Request URI=Test Equipment (Conference Factory URI)
 Content-Type: application/resource-lists+xml
 Content-Disposition: recipient-list
 	
 <?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?Call-ID=S1&From=S1%3Btag%3DS1&To=S1%3Btag%3DS1"
             cp:copyControl="to"/>
     </list>
 </resource-lists>
 	
 NOTIFY: Event contains **conference**; Subscription-State contains **active**
               message/sipfrag contains **SIP/2.0 100 Trying**
 NOTIFY: Event contains **conference**; Subscription-State contains **active**
               message/sipfrag contains **SIP/2.0 200 OK**

Comments:		
User Equipment		**Test Equipment**
INVITE	←	INVITE (S1)
180 Ringing	→	180 Ringing
200 OK (INVITE)	→	200 OK (INVITE)
ACK	←	ACK
INVITE (S2, SDP=sendonly)	→	INVITE
200 OK	←	200 OK (SDP=recvonly)
ACK	→	ACK
INVITE (S2)	→	INVITE
200 OK	←	200 OK
ACK	→	ACK
BYE (S1)	→	BYE (S1)
200 OK (BYE)	←	200 OK (BYE)
	Apply post test routine	

5.3   Interaction with other supplementary services

5.3.1   Terminating Identification Restriction (TIR)

TSS	TP	Reference	Selection expression
Interaction/TIR	CONF_N08_001	4.6.3/[3]	
Test purpose			
Privacy according TIR in the conference notification info send in the INFO request to the conference creator. Ensure the no identity is sent to the conference creator if a Privacy header was received and the privacy vale was set to "id" in the 18x or 200 OK to the INVITE to invite the participant to the conference.			
SIP header values:			

200 OK INVITE 1: Privacy: id
NOTIFY 2:   Event contains **conference**; Subscription-State contains **active**
            application/conference-info+xml:
                <conference-info>
                    entity=conference URI, state="full", version="x"
                    <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>dialed-in</ joining-method>
                                <media id="1"
                                    <status>sendrecv</status>
                    [No identity information of ISC#2 or Element is not present]			

Comments:			

ISC#1		Focus	ISC#2
		Conference creation	
INVITE	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
SUBSCRIBE	→	SUBSCRIBE	
200 OK (SUBSCRIBE)	←	200 OK (SUBSCRIBE)	
NOTIFY	←	NOTIFY 1	
200 OK NOTIFY	→	200 OK NOTIFY	
REFER	→		
200 OK (REFER)	←		
		Focus invites ISC#2 to the conference	
		INVITE →	INVITE 2
		180 ←	180
		200 OK INVITE ←	200 OK INVITE 1
		ACK →	ACK
NOTIFY	←	NOTIFY 2	
200 OK NOTIFY	→	200 OK NOTIFY	
		Apply post test routine	

5.3.2   Originating Identification Restriction (OIR)

TSS	TP CONF_N09_001	Reference 4.6.5/[3]	Selection expression
Test purpose			
Conference creator subscribes to OIR: The There is no identity of the creator included in the conference notification.			
Ensure that the conference notification sent in the NOTIFY request after the participant was join to the conference if the conference creator has subscribed to the OIR service.			

SIP header values:
SUBSCRIBE: Request URI contained the conference URI, Event contains "conference"
               Event header contains "conference"
NOTIFY 1:   Event contains **conference**; Subscription-State contains **active; expires=xxxx**
               application/conference-info+xml:
                  <conference-info>
                     entity=conference URI state="full" version="x"
                   <conference-state>
                     <user-count>2</user-count> if present
                     <active>true</active> if present
                   <users>
                     [No identity information of ISC#1 or Element is not present]
                     <user entity=ISC#2 URI state="full"
                        <endpoint entity=endpoint ISC#2 URI
                           <status>connected</status>
                           <joining-method>dialed-in</ joining-method>
                           <media id="1"
                               <status>sendrecv</status>			

Comments:

ISC#1		Focus	ISC#2
		Conference creation	
INVITE	→	INVITE	
200 OK (INVITE)	←	200 OK (INVITE)	
ACK	→	ACK	
REFER	→		
200 OK (REFER)	←		
		Focus invites ISC#2 to the conference	
		INVITE →	INVITE 2
		18x ←	18x
		200 OK INVITE ←	200 OK INVITE
		ACK →	ACK
		←	SUBSCRIBE
		→	200 OK (SUBSCRIBE)
		NOTIFY 1 →	NOTIFY
		200 OK NOTIFY ←	200 OK NOTIFY
		Apply post test routine	

TSS	TP	Reference	Selection expression
	CONF_N09_002	4.6.5/[3]	

Test purpose

Referred-By is not sent in the INVITE request if Privacy value "user" was received in the REFER.

Ensure that the Referred-By received in the REFER request is not sent in the INVITE request sent to the participant to invite to the conference if the REFER request contains a Privacy header ant the value is set to "user".

SIP header values:
REFER 1: Referred-By=ISC#1
        Privacy: user
INVITE 1: Request URI=ISC#2
      no Referred-By included

Comments:

ISC#1		Focus		ISC#2
		Conference creation		
INVITE	→	INVITE		
200 OK (INVITE)	←	200 OK (INVITE)		
ACK	→	ACK		
	ISC#1 invites ISC#2 to the conference			
REFER 1	→	REFER		
202 Accepted	←	202 Accepted		
		Focus dials out to invite ISC#2		
		INVITE 1	→	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	TP	Reference	Selection expression
	CONF_N09_003	4.6.5/[3]	

Test purpose

Referred-By is removed from the INVITE request if Privacy value "user" was received in the REFER.

Ensure that the Referred-By header is not sent in the INVITE request sent to the participant invited to the conference if the REFER request contains the Privacy header and the value is set to "user".

SIP header values:
REFER 1: Referred-By=ISC#1
        Privacy: user
INVITE 1: Request URI=ISC#2
      no Referred-By included

Comments:

ISC#1		Focus		ISC#2
		Conference creation		
INVITE	→	INVITE		
200 OK (INVITE)	←	200 OK (INVITE)		
ACK	→	ACK		
	ISC#1 invites ISC#2 to the conference			
REFER 1	→	REFER		
202 Accepted	←	202 Accepted		
		Focus dials out to invite ISC#2		
		INVITE 1	→	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	TP CONF_N09_004	Reference 4.6.5/[3]	Selection expression

Test purpose
Referred-By is removed from the INVITE request if Privacy value "header" was received in the REFER.

Ensure that the Referred-By header is not sent in the INVITE request sent to the participant invited to the conference if the REFER request contains the Privacy header and the value is set to "header".

SIP header values:
REFER 1: Referred-By=ISC#1
        Privacy: header
INVITE 1: Request URI=ISC#2
      no Referred-By included

Comments:

ISC#1		Focus		ISC#2
		Conference creation		
INVITE	➔	INVITE		
200 OK (INVITE)	⬅	200 OK (INVITE)		
ACK	➔	ACK		
		ISC#1 invites ISC#2 to the conference		
REFER 1	➔	REFER		
202 Accepted	⬅	202 Accepted		
		Focus dials out to invite ISC#2		
		INVITE 1	➔	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	TP CONF_N09_005	Reference 4.6.5/[3]	Selection expression NOT PICS 1/6

Test purpose
Inviting participant by sending a participant list to the focus in an active session.

ISC#1 established a conference. A participant list is contained in the INVITE to create the conference. The AS establishes a communication to the user indicated in the participant list.

SIP header values:
INVITE 1: Request URI=Focus
      Privacy user
      <resource-lists
        <entry uri="<entry uri="S1 URI?Call-ID=S1&From=S1%3Btag%3DS1&To=S1%3Btag%3DS1"
          cp:copyControl="to"/>

INVITE 2: Request URI = ISC#2
      From <sip:anonymous@anonymous.invalid>

Comments:

ISC#1		Focus		ISC#2
		Establish session #1		
		Session #1 on hold		
		Conference creation		
INVITE 1 (S2)	➔	INVITE		
200 OK (INVITE)	⬅	200 OK (INVITE)		
ACK	➔	ACK		
		Focus dials out to invite ISC#2		
		INVITE 2	➔	INVITE
		180 Ringing	⬅	180 Ringing
		200 OK INVITE	⬅	200 OK INVITE
		ACK	➔	ACK
		Apply post test routine		

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

TSS	TP CONF_N10_001	Reference 4.6.9/[3]	Selection expression
Test purpose			
A REFER request targeted to the participant barred by the conference creator OBC rules is rejected. Ensure that the conference AS rejects the REFER request targeted to a participant that is barred by the conference creators Outgoing Communication Barring (OCB) rules.			

SIP header values:
REFER: Request URI contained the **conference URI**
           Refer-To contains the URI of **ISC#2**, method=invite
           Referred-By contains SIP URI of **ISC#1**			

Comments:

```
ISC#1                              Focus                ISC#2
                          Conference creation
INVITE              ➔     INVITE
200 OK (INVITE)     ←     200 OK (INVITE)
ACK                 ➔     ACK
          ISC#1 invites ISC#2 to the conference
REFER               ➔     REFER
4xx                 ←     4xx
                    Apply post test routine
```

TSS	TP CONF_N10_002	Reference 4.6.9/[3]	Selection expression
Test purpose			
The Focus removes the URI from the uri-list that is barred. Ensure that the focus AS removes the URI that is barred by the conference creator Outgoing Communication Barring (OCB) rules from the list of URIs in the "recipient-list" body of INVITE request. The recipient in the list barred by the creator's OCB rules is not invited to the conference.			

SIP header values:
INVITE (S1)   Request URI=Test Equipment (Conference Factory URI)
Content-Type: application/resource-lists+xml
Content-Disposition: recipient-list
 	
<?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="ISC#2" cp:copyControl="to"/>
        <entry uri="ISC#3" cp:copyControl="to"/>
    </list>
</resource-lists>			

Comments:

```
ISC#1                      Focus                ISC#2                    ISC#3
INVITE (S1)         ➔     INVITE
200 OK (INVITE)     ←     200 OK (INVITE)
ACK                 ➔     ACK

                   INVITE (S2)  ➔   INVITE
                   200 OK (INVITE) ←  200 OK (INVITE)
                          ACK  ➔   ACK

200 OK (INVITE)     ←     200 OK (INVITE)
ACK                 ➔     ACK
                    Apply post test routine
```

History

Document history		
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