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Technical Specification

**Telecommunications and Internet converged Services and
Protocols for Advanced Networking (TISPA);
PSTN/ISDN simulation services;
Closed User Group (CUG);
Part 2: Test Suite Structure and Test Purposes (TSS&TP)**



Reference

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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 PSTN/ISDN simulation services; Closed User Group (CUG), as identified below:

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

1 Scope

The present document specifies the test suite structure and test purposes of the Closed User Group (CUG) service, based on stage three of the IMS closed user group (CUG) simulation services. Within the Next Generation Network (NGN) the stage 3 description is specified using the IP-Multimedia Call Control Protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP).

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;
 - for informative references.

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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 183 054: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Protocol specification Closed User Group (CUG)".
- [2] ETSI TS 186 016-1: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); PSTN/ISDN simulation services; Closed User Group (CUG); Part 1: Protocol Implementation Conformance Statement (PICS)".
- [3] ETSI TS 181 002: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Multimedia Telephony with PSTN/ISDN simulation services".
- [4] IETF RFC 3261: "SIP: Session Initiation Protocol".
- [5] ETSI ES 283 027: "Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN); Endorsement of the SIP-ISUP Interworking between the IP Multimedia (IM) Core Network (CN) subsystem and Circuit Switched (CS) networks".

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 TS 181 002 [3] and the following apply:

escaped character: See RFC 3261 [4].

NOTE: This may contain additional information.

3.2 Abbreviations

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

AS	Application Server
CUG	Closed User Group
ICB	Incoming Communication Barring within a CUG
IMS	IP Multimedia Subsystem
IP	Internet Protocol
NGN	Next Generation Network
OAE	Outgoing Access, explicit request required
OAI	Outgoing Access, implicit outgoing access for all communications
OCB	Outgoing Communication Barring within a CUG
PIXIT	Protocol Implementation eXtra Information for Testing
PSTN	Public Switched Telephone Network
SDP	Session Description Protocol
SIP	Session Initiation Protocol
SS	Supplementary Services
SUT	System Under Test
TP	Test Purposes
TSS	Test Suite Structure
UA	User Agent
UE	User Equipment
XML	eXtensible Markup Language

4 Test Suite Structure (TSS)

CUG		
	originating_UE	CUG_U01_xxx
	originating_AS	
	CUG without preference	CUG_N01_xxx
	CUG without preference + OAE	CUG_N02_xxx
	CUG without preference + OAI	CUG_N03_xxx
	CUG with preference	CUG_N04_xxx
	CUG with preference + OAE	CUG_N05_xxx
	CUG with preference + OAI	CUG_N06_xxx
	No CUG	CUG_N07_xxx
	terminating_AS	
	CUG with OA not allowed	CUG_N08_xxx
	CUG with OA allowed	CUG_N09_xxx
	No CUG	CUG_N10_xxx

Figure 1: Test suite structure

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 TS 183 054 [1]. The stage 3 description describes the requirements for several network entities and also the requirements regarding terminal devices. Therefore several interfaces (reference points) are addressed to satisfy the test of the different entities.

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

4.1.1 Testing of the AS

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

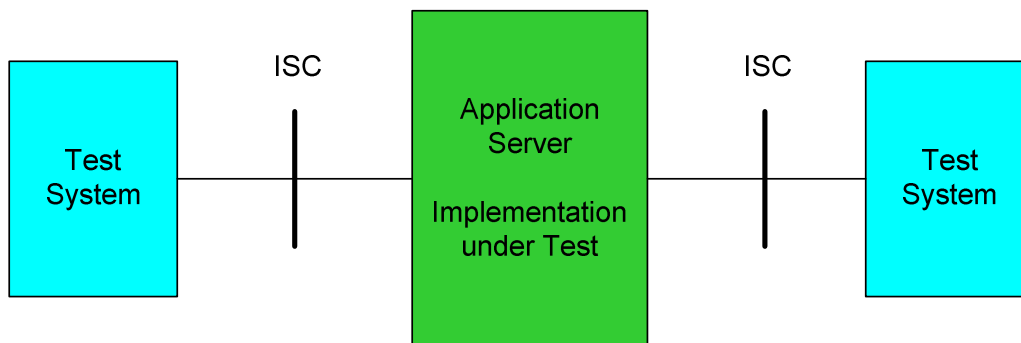


Figure 2: Applicable interface to test AS functionalities

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 3). 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.

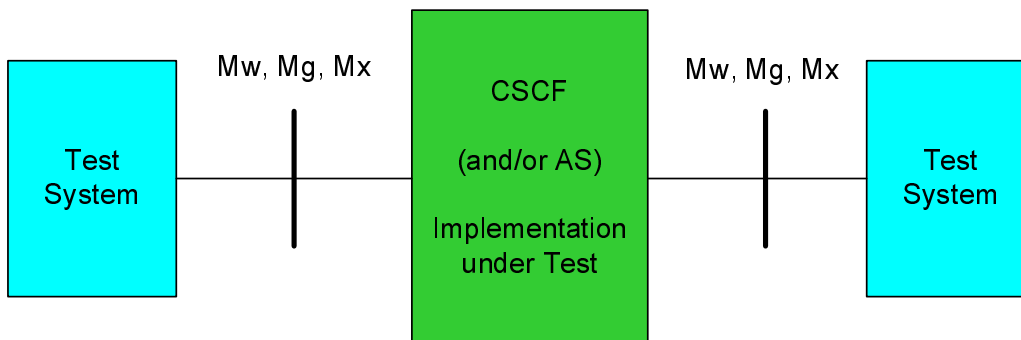


Figure 3: Applicable interfaces for tests using a (generic) NNI interface

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 has been chosen.

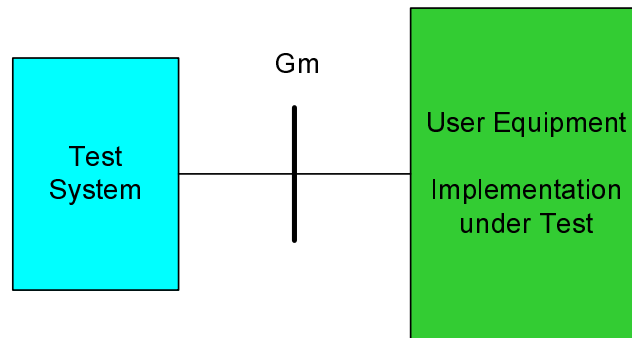


Figure 4: Applicable configuration to test UE functionalities

5 Test Purposes (TP)

5.1 Introduction

For each test requirement a TP is defined.

5.1.1 TP naming convention

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

Table 1: TP identifier naming convention scheme

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

5.1.2 Test strategy

As the base standard TS 183 054 [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 186 016-1 [2]. The criteria applied include the following:

- Whether or not a test case can be built from the TP is not considered.

5.2 Test Purposes for Closed User Group (CUG)

5.2.1 TPs at the originating UA

TSS	TP	CUG reference	Selection expression
CUG/originating_UE	CUG_U01_001	clause 4.5.2.1	
Test purpose <i>Explicit request of CUG service.</i> The originating user requests explicitly the CUG service by including in the initial INVITE an xml CUGrequestType containing the preferred CUG and an outgoing access request set to "true".			
Preconditions:			
SIP header values: INVITE: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[PIXIT]</cugIndex> </cugCallOperation> </cug></pre>			
Comments: <div> <div>User equipment</div> <div> Test equipment → INVITE requesting CUG explicitly </div> </div>			

5.2.2 Test Purposes at the Application Server of the originating User

In clauses 5.2.2.1 through to 5.2.2.6 the originating user is member of one closed user group which is not assigned as preferential. In the following test purposes the CUG index of this closed user group is referred to as "registered CUGIndex".

In clause 5.2.2.4 through to 5.2.2.6 the originating user is also member of a second closed user group which is assigned as preferential. In the relevant test purposes the CUG index of this second closed user group is referred to as "preferred CUGIndex".

In clause 5.2.2.7 the originating user has not subscribed to the CUG service.

5.2.2.1 CUG without preference

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference	CUG_N01_001	clause 4.5.2.4	PICS 1/1
Test purpose <i>CUG without preference: INVITE with CUG index, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, returns an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access).			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: not allowed			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: <pre><cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug></pre>			
Comments: <div> <div> Test equipment (ISC) INVITE1 </div> <div>→</div> <div> AS </div> <div>→</div> <div> Test equipment (ISC) INVITE2 </div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference	CUG_N01_002	clause 4.5.2.4	PICS 1/1
Test purpose <i>CUG without preference: INVITE with CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, rejects the INVITE request by sending a 603 Decline.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: None designated Outgoing access: not allowed			
SIP header values: INVITE: <cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC) <div style="display: flex; justify-content: space-between; align-items: center;"> <div> INVITE 603 Decline ACK </div> <div style="text-align: center;"> → ← → </div> <div> AS </div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference	CUG_N01_004	clause 4.5.2.4	PICS 1/1
Test purpose <i>CUG without preference: INVITE with CUG index and outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with <ul style="list-style-type: none"> cugCallOperation containing <ul style="list-style-type: none"> outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing an xml element cug with <ul style="list-style-type: none"> cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access). 			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: not allowed			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: <pre><cug> <networkIndicator >[registered CUG index]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug></pre>			
Comments: Test equipment (ISC) → AS → Test equipment (ISC) INVITE1 → INVITE2			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference	CUG_N01_005	clause 4.5.2.4	PICS 1/1
Test purpose <i>CUG without preference: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, rejects the INVITE request by sending a 603 Decline.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: None designated Outgoing access: not allowed			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
603 Decline	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference	CUG_N01_006	clause 4.5.2.4	PICS 1/1
Test purpose <i>CUG without preference: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: not allowed			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference	CUG_N01_008	clause 4.5.2.4	PICS 1/1
Test purpose <i>CUG without preference: INVITE without CUG index and with outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: not allowed			
SIP header values: INVITE: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> </cugCallOperation> </cug></pre>			
Comments: Test equipment (ISC) <div style="float: right; text-align: right;"> AS </div> <div style="clear: both;"></div> <div style="display: flex; justify-content: space-between;"> <div> INVITE 403 Forbidden ACK </div> <div style="text-align: center;"> → ← → </div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference	CUG_N01_009	clause 4.5.2.4	PICS 1/1
Test purpose <i>CUG without preference: INVITE for non-CUG communication, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing no xml element cug, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: not allowed			
SIP header values: INVITE: No xml element <cug>			
Comments: Test equipment (ISC) <div style="display: flex; justify-content: space-around; align-items: center;"> <div> INVITE 403 Forbidden ACK </div> <div style="text-align: center;"> → ← → </div> <div>AS</div> </div>			

5.2.2.2 CUG without preference + OAE

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAE	CUG_N02_001	clause 4.5.2.4	PICS 1/2
Test purpose <i>CUG without preference + OAE: INVITE with CUG index, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, returns an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access).			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed per communication			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: <pre><cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug></pre>			
Comments: <div style="display: flex; justify-content: space-between;"> <div> Test equipment (ISC) INVITE1 </div> <div>→</div> <div>AS</div> <div>→</div> <div> Test equipment (ISC) INVITE2 </div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAE	CUG_N02_003	clause 4.5.2.4	PICS 1/2
Test purpose <i>CUG without preference + OAE: INVITE with CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed per communication			
SIP header values: INVITE: <cug> <cugCallOperation> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAE	CUG_N02_004	clause 4.5.2.4	PICS 1/2
Test purpose <i>CUG without preference + OAE: INVITE with CUG index and outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed per communication			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: No xml element <cug>			
Comments: Test equipment (ISC) → AS → Test equipment (ISC) INVITE1 → INVITE2			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAE	CUG_N02_005	clause 4.5.2.4	PICS 1/2
Test purpose <i>CUG without preference + OAE: INVITE with CUG index and outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed per communication			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: No xml element <cug>			
Comments: Test equipment (ISC) → AS → Test equipment (ISC) INVITE1 → INVITE2			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAE	CUG_N02_006	clause 4.5.2.4	PICS 1/2
Test purpose <i>CUG without preference + OAE: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed per communication			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAE	CUG_N02_007	clause 4.5.2.4	PICS 1/2
Test purpose <i>CUG without preference + OAE: INVITE without CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = false, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed per communication			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>FALSE</outgoingAccessRequest> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS CUG/originating_AS/CUG without preference + OAE	TP CUG_N02_009	CUG reference clause 4.5.2.4	Selection expression PICS 1/2
Test purpose <i>CUG without preference + OAE: INVITE for non-CUG communication, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing no xml element cug, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed per communication			
SIP header values: INVITE: No xml element <cug>			
Comments: Test equipment (ISC) <div style="display: flex; justify-content: space-between; align-items: center;"> <div> INVITE 403 Forbidden ACK </div> <div style="text-align: center;"> → ← → </div> <div> AS </div> </div>			

5.2.2.3 CUG without preference + OAI

TSS CUG/originating_AS/CUG without preference + OAI	TP CUG_N03_001	CUG reference clause 4.5.2.4	Selection expression PICS 1/3
Test purpose <i>CUG without preference + OAI: INVITE with CUG index, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed permanent			
SIP header values: INVITE1: <cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug> INVITE2: No xml element <cug>			
Comments:			
Test equipment (ISC) INVITE1	→	AS	→
			Test equipment (ISC) INVITE2

TSS CUG/originating_AS/CUG without preference + OAI	TP CUG_N03_002	CUG reference clause 4.5.2.4	Selection expression PICS 1/3
Test purpose <i>CUG without preference + OAI: INVITE with CUG index, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed permanent			
SIP header values: INVITE1: <cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug> INVITE2: No xml element <cug>			
Comments:			
Test equipment (ISC) INVITE1	→	AS	→ Test equipment (ISC) INVITE2

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAI	CUG_N03_003	clause 4.5.2.4	PICS 1/3
Test purpose CUG without preference + OAI: INVITE with CUG index, unsuccessful. Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed permanent			
SIP header values: INVITE: <pre><cug> <cugCallOperation> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug></pre>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS CUG/originating_AS/CUG without preference + OAI	TP CUG_N03_004	CUG reference clause 4.5.2.4	Selection expression PICS 1/3
Test purpose CUG without preference + OAI: INVITE with CUG index and outgoingAccessRequest = true, successful. Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed permanent			
SIP header values: INVITE1: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG]</cugIndex> </cugCallOperation> </cug> INVITE2: No xml element <cug>			
Comments:			
Test equipment (ISC) INVITE1	AS →	Test equipment (ISC) → INVITE2	

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAI	CUG_N03_005	clause 4.5.2.4	PICS 1/3
Test purpose <i>CUG without preference + OAI: INVITE with CUG index and outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with <ul style="list-style-type: none"> cugCallOperation containing <ul style="list-style-type: none"> outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed permanent			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: No xml element <cug>			
Comments: <div> <div>Test equipment (ISC)</div> <div>INVITE1</div> <div>→</div> <div>AS</div> <div>→</div> <div>Test equipment (ISC)</div> <div>INVITE2</div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG without preference + OAI	CUG_N03_006	clause 4.5.2.4	PICS 1/3
Test purpose CUG without preference + OAI: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful. Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed permanent			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug>			
Comments:			
Test equipment (ISC)	AS		
INVITE	→		
403 Forbidden	←		
ACK	→		

TSS CUG/originating_AS/CUG without preference + OAI	TP CUG_N03_007	CUG reference clause 4.5.2.4	Selection expression PICS 1/3
Test purpose <i>CUG without preference + OAI: INVITE without CUG index, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = false, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed permanent			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>FALSE</outgoingAccessRequest> </cugCallOperation> </cug></pre> INVITE2: No xml element <cug>			
Comments: <div> <div>Test equipment (ISC)</div> <div>INVITE1</div> <div>→</div> <div>AS</div> <div>→</div> <div>Test equipment (ISC)</div> <div>INVITE2</div> </div>			

TSS CUG/originating_AS/CUG without preference + OAI	TP CUG_N03_008	CUG reference clause 4.5.2.4	Selection expression PICS 1/3
Test purpose <i>CUG without preference + OAI: INVITE without CUG index and with outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: None designated Outgoing access: allowed permanent			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> </cugCallOperation> </cug></pre> INVITE2: No xml element <cug>			
Comments:			
Test equipment (ISC) INVITE1	AS	Test equipment (ISC) INVITE2	

5.2.2.4 CUG with preference

ETSI

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference	CUG_N04_002	clause 4.5.2.4	PICS 1/4
Test purpose <i>CUG with preference: INVITE with CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, rejects the INVITE request by sending a 603 Decline.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: registered CUG Outgoing access: not allowed			
SIP header values: INVITE: <cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
603 Decline	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference	CUG_N04_003	clause 4.5.2.4	PICS 1/4
Test purpose <i>CUG with preference: INVITE with CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: not allowed			
SIP header values: INVITE: <cug> <cugCallOperation> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference	CUG_N04_004	clause 4.5.2.4	PICS 1/4
Test purpose <i>CUG with preference: INVITE with CUG index and outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access).			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: not allowed			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: <pre><cug> <networkIndicator>[registered CUG index]</networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug></pre>			
Comments: Test equipment (ISC) → AS → Test equipment (ISC) INVITE1 → INVITE2			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference	CUG_N04_005	clause 4.5.2.4	PICS 1/4
Test purpose <i>CUG with preference: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, rejects the INVITE request by sending a 603 Decline.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: registered CUG Outgoing access: not allowed			
SIP header values: INVITE: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre>			
Comments: Test equipment (ISC) → AS INVITE → 603 Decline ← ACK →			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference	CUG_N04_006	clause 4.5.2.4	PICS 1/4
Test purpose <i>CUG with preference: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: not allowed			
SIP header values: INVITE: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug></pre>			
Comments: Test equipment (ISC) <div style="display: flex; justify-content: space-around; align-items: center;"> <div> INVITE 403 Forbidden ACK </div> <div style="text-align: center;"> → ← → </div> <div>AS</div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference	CUG_N04_007	clause 4.5.2.4	PICS 1/4
Test purpose <i>CUG with preference: INVITE without CUG index, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = false, returns an INVITE request containing an xml element cug with cugInterlockBinaryCode related to preferred CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access).			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: not allowed			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>FALSE</outgoingAccessRequest> </cugCallOperation> </cug></pre> INVITE2: <pre><cug> <networkIndicator >[registered CUG index]</ networkIndicator> <cugInterlockBinaryCode>[related to preferred CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug></pre>			
Comments: <div style="display: flex; justify-content: space-between;"> <div> Test equipment (ISC) INVITE1 </div> <div style="text-align: center;">→</div> <div>AS</div> <div style="text-align: center;">→</div> <div> Test equipment (ISC) INVITE2 </div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference	CUG_N04_008	clause 4.5.2.4	PICS 1/4
Test purpose <i>CUG with preference: INVITE without CUG index and with outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: not allowed			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> </cugCallOperation> </cug>			
Comments: Test equipment (ISC) <div style="display: flex; justify-content: space-around; align-items: center;"> <div>INVITE</div> <div>→</div> <div>AS</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div>403 Forbidden</div> <div>←</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div>ACK</div> <div>→</div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference	CUG_N04_009	clause 4.5.2.4	PICS 1/4
Test purpose <i>CUG with preference: INVITE for non-CUG communication, successful.</i> Ensure that the SUT on receipt of an INVITE request containing no xml element cug, returns an INVITE request containing an xml element cug with cugInterlockBinaryCode related to preferred CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access).			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: not allowed			
SIP header values: INVITE1: No xml element <cug> INVITE2: <cug> <networkIndicator >[registered CUG index]</ networkIndicator> <cugInterlockBinaryCode>[related to preferred CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug>			
Comments: Test equipment (ISC) <div style="display: flex; justify-content: space-around; align-items: center;"> <div>INVITE1</div> <div>→</div> <div>AS</div> <div>→</div> <div>Test equipment (ISC)</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div></div> <div>INVITE2</div> </div>			

5.2.2.5

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference + OAE	CUG_N05_001	clause 4.5.2.4	PICS 1/5
Test purpose CUG with preference + OAE: INVITE with CUG index, successful. Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, returns an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access).			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed per communication			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: <pre><cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug></pre>			
Comments: <div> <div>Test equipment (ISC)</div> <div>INVITE1</div> </div> <div>→</div> <div>AS</div> <div>→</div> <div>Test equipment (ISC)</div> <div>INVITE2</div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference + OAE	CUG_N05_002	clause 4.5.2.4	PICS 1/5
Test purpose <i>CUG with preference + OAE: INVITE with CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, rejects the INVITE request by sending a 603 Decline.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed per communication			
SIP header values: INVITE: <cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC) <div style="display: flex; justify-content: space-around; align-items: center;"> <div>INVITE</div> <div>→</div> <div>AS</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div>603 Decline</div> <div>←</div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div>ACK</div> <div>→</div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference + OAE	CUG_N05_003	clause 4.5.2.4	PICS 1/5
Test purpose <i>CUG with preference + OAE: INVITE with CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed per communication			
SIP header values: INVITE: <cug> <cugCallOperation> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference + OAE	CUG_N05_004	clause 4.5.2.4	PICS 1/5
Test purpose <i>CUG with preference + OAE: INVITE with CUG index and outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed per communication			
SIP header values: INVITE1: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug> INVITE2: No xml element <cug>			
Comments: Test equipment (ISC)			
INVITE1	→	AS	→ Test equipment (ISC) INVITE2

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference + OAE	CUG_N05_005	clause 4.5.2.4	PICS 1/5
Test purpose <i>CUG with preference + OAE: INVITE with CUG index and outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: OCB Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed per communication			
SIP header values: INVITE1: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre> INVITE2: No xml element <cug>			
Comments: <div style="display: flex; justify-content: space-between;"> <div> Test equipment (ISC) INVITE1 </div> <div>→ AS →</div> <div> Test equipment (ISC) INVITE2 </div> </div>			

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference + OAE	CUG_N05_006	clause 4.5.2.4	PICS 1/5
Test purpose <i>CUG with preference + OAE: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed per communication			
SIP header values: INVITE: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug></pre>			
Comments: <div style="display: flex; justify-content: space-between;"> <div> Test equipment (ISC) INVITE 403 Forbidden ACK </div> <div>→ AS ← →</div> </div>			

TSS CUG/originating_AS/CUG with preference + OAE	TP CUG_N05_008	CUG reference clause 4.5.2.4	Selection expression PICS 1/5						
Test purpose <i>CUG with preference + OAE: INVITE without CUG index and with outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true, returns an INVITE request containing no xml element cug.									
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed per communication									
SIP header values: INVITE1: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> </cugCallOperation> </cug> INVITE2: No xml element <cug>									
Comments: <table><tr><td>Test equipment (ISC)</td><td>AS</td><td>Test equipment (ISC)</td></tr><tr><td>INVITE1</td><td>→</td><td>→ INVITE2</td></tr></table>				Test equipment (ISC)	AS	Test equipment (ISC)	INVITE1	→	→ INVITE2
Test equipment (ISC)	AS	Test equipment (ISC)							
INVITE1	→	→ INVITE2							

TSS CUG/originating_AS/CUG with preference + OAE	TP CUG_N05_009	CUG reference clause 4.5.2.4	Selection expression PICS 1/5					
Test purpose <i>CUG with preference + OAE: INVITE for non-CUG communication, successful.</i> Ensure that the SUT on receipt of an INVITE request containing no xml element cug, returns an INVITE request containing an xml element cug with cugInterlockBinaryCode related to preferred CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access).								
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed per communication								
SIP header values: INVITE1: No xml element <cug> INVITE2: <cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to preferred CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug>								
Comments: <table><tr><td>Test equipment (ISC) INVITE1</td><td>→</td><td>AS</td><td>→</td><td>Test equipment (ISC) INVITE2</td></tr></table>				Test equipment (ISC) INVITE1	→	AS	→	Test equipment (ISC) INVITE2
Test equipment (ISC) INVITE1	→	AS	→	Test equipment (ISC) INVITE2				

5.2.2.6 CUG with preference + OAI

TSS CUG/originating_AS/CUG with preference + OAI	TP CUG_N06_001	CUG reference clause 4.5.2.4	Selection expression PICS 1/6
Test purpose <i>CUG with preference + OAI: INVITE with CUG index, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed permanent			
SIP header values: INVITE1: <cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug> INVITE2: No xml element <cug>			
Comments:			
Test equipment (ISC) INVITE1	→	AS	→ Test equipment (ISC) INVITE2

TSS CUG/originating_AS/CUG with preference + OAI	TP CUG_N06_003	CUG reference clause 4.5.2.4	Selection expression PICS 1/6					
Test purpose <i>CUG with preference + OAI: INVITE with CUG index and outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, returns an INVITE request containing no xml element cug.								
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed permanent								
SIP header values: INVITE1: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG]</cugIndex> </cugCallOperation> </cug> INVITE2: No xml element <cug>								
Comments: <table><tr><td>Test equipment (ISC) INVITE1</td><td>→</td><td>AS</td><td>→</td><td>Test equipment (ISC) INVITE2</td></tr></table>				Test equipment (ISC) INVITE1	→	AS	→	Test equipment (ISC) INVITE2
Test equipment (ISC) INVITE1	→	AS	→	Test equipment (ISC) INVITE2				

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference + OAI	CUG_N06_004	clause 4.5.2.4	PICS 1/6
Test purpose <i>CUG with preference + OAI: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and unregistered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed permanent			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[unregistered CUG]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/CUG with preference + OAI	CUG_N06_005	clause 4.5.2.4	PICS 1/6
Test purpose <i>CUG with preference + OAI: INVITE without CUG index and with outgoingAccessRequest = true, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true, returns an INVITE request containing no xml element cug.			
Preconditions: Originating user has subscribed to CUG Options for registered and preferred CUG index: Intra CUG restrictions: None designated Options for public identity in use: Preferential CUG: registered CUG Outgoing access: allowed permanent			
SIP header values: INVITE1: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> </cugCallOperation> </cug> INVITE2: No xml element <cug>			
Comments: Test equipment (ISC)			
INVITE1	→	AS	→ Test equipment (ISC) INVITE2

5.2.2.7 No CUG

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/No CUG	CUG_N07_001	clause 4.5.2.4	
Test purpose <i>No CUG: INVITE with CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has not subscribed to CUG			
SIP header values: INVITE: <cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug>			
Comments:			
Test equipment (ISC)	AS		
INVITE	→		
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/No CUG	CUG_N07_002	clause 4.5.2.4	
Test purpose <i>No CUG: INVITE with CUG index and outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true and registered CUGIndex, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has not subscribed to CUG			
SIP header values: INVITE: <pre> <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug> </pre>			
Comments:			
Test equipment (ISC)	AS		
INVITE	→		
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/No CUG	CUG_N07_003	clause 4.5.2.4	
Test purpose <i>No CUG: INVITE without CUG index, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = false, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has not subscribed to CUG			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>FALSE</outgoingAccessRequest> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/originating_AS/No CUG	CUG_N07_004	clause 4.5.2.4	
Test purpose <i>No CUG: INVITE without CUG index and with outgoingAccessRequest = true, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugCallOperation containing outgoingAccessRequest = true, rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Originating user has not subscribed to CUG			
SIP header values: INVITE: <cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> </cugCallOperation> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

5.2.3 Actions at the AS of the terminating User

5.2.3.1 CUG with OA not allowed

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA not allowed	CUG_N08_001	clause 4.5.2.10	
Test purpose <i>CUG with IA not allowed: INVITE with interlock code matching registered CUG index and without outgoing access, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access), returns an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex.			
Preconditions: Terminating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Incoming access: not allowed			
SIP header values: INVITE1: <pre><cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug></pre> INVITE2: <pre><cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre>			
Comments: Test equipment (ISC) → AS → Test equipment (ISC) INVITE1 → INVITE2			

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA not allowed	CUG_N08_002	clause 4.5.2.10	
Test purpose <i>CUG with IA not allowed: INVITE with interlock code matching registered CUG index and without outgoing access, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access), rejects the INVITE request by sending a 603 Decline.			
Preconditions: Terminating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: ICB Options for public identity in use: Incoming access: not allowed			
SIP header values: INVITE: <cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
603 Decline	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA not allowed	CUG_N08_003	clause 4.5.2.10	
Test purpose <i>CUG with IA not allowed: INVITE with interlock code not matching registered CUG index and without outgoing access, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode not related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access), rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Terminating user has subscribed to CUG Options for public identity in use: Incoming access: not allowed			
SIP header values: INVITE: <cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[not related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA not allowed	CUG_N08_005	clause 4.5.2.10	
Test purpose CUG with IA allowed: INVITE with interlock code matching registered CUG index and without outgoing access, unsuccessful. Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access), rejects the INVITE request by sending a 603 Decline.			
Preconditions: Terminating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: ICB Options for public identity in use: Incoming access: allowed			
SIP header values: INVITE: <cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
603 Decline	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA not allowed	CUG_N08_006	clause 4.5.2.10	
Test purpose <i>CUG with IA allowed: INVITE with interlock code not matching registered CUG index and without outgoing access, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode not related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access), rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Terminating user has subscribed to CUG Options for public identity in use: Incoming access: allowed			
SIP header values: INVITE: <cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[not related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA not allowed	CUG_N08_007	clause 4.5.2.10	
Test purpose <i>No CUG: INVITE with interlock code and without outgoing access, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode, networkIndicator (PIXIT) and cugCommunicationIndicator set to "11" (CUG without outgoing access), rejects the INVITE request by sending a 403 Forbidden.			
Preconditions: Terminating user has not subscribed to CUG			
SIP header values: INVITE: <cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to any CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>11</cugCommunicationIndicator> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
403 Forbidden	←		
ACK	→		

5.2.3.2

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA allowed	CUG_N09_001	clause 4.5.2.10	
Test purpose <i>CUG with IA not allowed: INVITE with interlock code matching registered CUG index and with outgoing access, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "10" (CUG with outgoing access), returns an INVITE request containing an xml element cug with cugCallOperation containing registered CUGIndex.			
Preconditions: Terminating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Incoming access: not allowed			
SIP header values: INVITE1: <cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>10</cugCommunicationIndicator> </cug> INVITE2: <cug> <cugCallOperation> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug>			
Comments: Test equipment (ISC) → AS → Test equipment (ISC) INVITE1 → INVITE2			

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA allowed	CUG_N09_002	clause 4.5.2.10	
Test purpose <i>CUG with IA not allowed: INVITE with interlock code matching registered CUG index and with outgoing access, unsuccessful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "10" (CUG with outgoing access), rejects the INVITE request by sending a 603 Decline.			
Preconditions: Terminating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: ICB Options for public identity in use: Incoming access: not allowed			
SIP header values: INVITE: <cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>10</cugCommunicationIndicator> </cug>			
Comments: Test equipment (ISC)			
INVITE	→	AS	
603 Decline	←		
ACK	→		

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/CUG with OA allowed	CUG_N09_004	clause 4.5.2.10	
Test purpose <i>CUG with IA allowed: INVITE with interlock code matching registered CUG index and with outgoing access, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with <ul style="list-style-type: none"> cugInterlockBinaryCode related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "10" (CUG with outgoing access), returns an INVITE request containing an xml element cug with <ul style="list-style-type: none"> cugCallOperation containing <ul style="list-style-type: none"> outgoingAccessRequest = true and registered CUGIndex. 			
Preconditions: Terminating user has subscribed to CUG Options for registered CUG index: Intra CUG restrictions: None designated Options for public identity in use: Incoming access: allowed			
SIP header values: INVITE1: <pre><cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>10</cugCommunicationIndicator> </cug></pre> INVITE2: <pre><cug> <cugCallOperation> <outgoingAccessRequest>TRUE</outgoingAccessRequest> <cugIndex>[registered CUG index]</cugIndex> </cugCallOperation> </cug></pre>			
Comments: Test equipment (ISC) → AS → Test equipment (ISC) INVITE1 → INVITE2			

TSS CUG/ terminating _AS/CUG with OA allowed	TP CUG_N09_006	CUG reference clause 4.5.2.10	Selection expression
Test purpose <i>CUG with IA allowed: INVITE with interlock code not matching registered CUG index and with outgoing access, successful.</i> Ensure that the SUT on receipt of an INVITE request containing an xml element cug with cugInterlockBinaryCode not related to registered CUG index, networkIndicator (PIXIT) and cugCommunicationIndicator set to "10" (CUG with outgoing access), returns an INVITE request containing no xml element cug.			
Preconditions: Terminating user has subscribed to CUG Options for public identity in use: Incoming access: allowed			
SIP header values: INVITE1: <pre><cug> <networkIndicator >[PIXIT]</ networkIndicator> <cugInterlockBinaryCode>[not related to registered CUG index]</cugInterlockBinaryCode> <cugCommunicationIndicator>10</cugCommunicationIndicator> </cug></pre> INVITE2: No xml element <cug>			
Comments:			
Test equipment (ISC) INVITE1	→	AS	→
			Test equipment (ISC) INVITE2

5.2.2.3 No CUG

ETSI

TSS	TP	CUG reference	Selection expression
CUG/ terminating _AS/No CUG	CUG_N10_002	clause 4.5.2.10	
Test purpose <i>CUG with IA allowed: INVITE without xml element cug, successful.</i> Ensure that the SUT on receipt of an INVITE request containing no xml element cug, returns an INVITE request containing no xml element cug.			
Preconditions: Terminating user has subscribed to CUG Options for public identity in use: Incoming access: allowed			
Preconditions: Terminating user has not subscribed to CUG			
SIP header values: INVITE1: No xml element <cug> INVITE2: No xml element <cug>			
Comments: <div> <div>Test equipment (ISC)</div> <div>INVITE1</div> <div>→</div> <div>AS</div> <div>→</div> <div>Test equipment (ISC)</div> <div>INVITE2</div> </div>			

Annex A (informative): Change history

Date	WG Doc.	CR	Rev	CAT	Title / Comment	Current Version	New Version
10-06-09	21PTD089	001		F	Update of complete document during STF368's second work session	2.1.1	2.2.1
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History

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