

# ETSI TS 103 833-2 V1.1.1 (2022-12)



**Core Network and Interoperability Testing (INT);  
Conformance Test Specifications for the SCC-AS Services;  
(3GPP™ Release 16);  
Part 2: Test Suite Structure (TSS) and Test Purposes (TP)**

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Reference

DTS/INT-00182-2

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Keywords

TSS&TP

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## Foreword

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

The present document is part 2 of a multi-part deliverable. Full details of the entire series can be found in part 1 [3].

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## Modal verbs terminology

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

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# 1 Scope

The present document provides the Test Suite Structure (TSS) and Test Purposes (TP for conformance test specifications for the SCC-AS Services as specified in ETSI TS 124 237 [1] and ETSI TS 124 292 [2] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [5] and ETSI ETS 300 406 [6].

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## 2 References

### 2.1 Normative references

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

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

- [1] ETSI TS 124 237: "Universal Mobile Telecommunications System (UMTS); LTE; IP Multimedia (IM) Core Network (CN) subsystem IP Multimedia Subsystem (IMS) service continuity; Stage 3 (3GPP TS 24.237 Release 16)".
- [2] ETSI TS 124 292: "Universal Mobile Telecommunications System (UMTS); LTE; IP Multimedia (IM) Core Network (CN) subsystem Centralized Services (ICS); Stage 3 (3GPP TS 24.292 Release 16)".
- [3] ETSI TS 103 833-1: "Core Network and Interoperability Testing (INT); Conformance Test Specifications for the SCC-AS Services; (3GPPTM Release 16); Part 1: Protocol Implementation Conformance Statement (PICS)".
- [4] ISO/IEC 9646-1: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".
- [5] ISO/IEC 9646-7: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".
- [6] ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [7] ETSI ES 203 119-4: "Methods for Testing and Specification (MTS); The Test Description Language (TDL); Part 4: Structured Test Objective Specification (Extension)".

### 2.2 Informative references

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

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

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] IETF RFC 6809: "Mechanism to Indicate Support of Features and Capabilities in the Session Initiation Protocol (SIP)".
- [i.2] IETF RFC 6086: "Session Initiation Protocol (SIP) INFO Method and Package Framework".
- [i.3] IETF RFC 3891: "The Session Initiation Protocol (SIP) "Replaces" Header".
- [i.4] IETF RFC 4488: "Suppression of Session Initiation Protocol (SIP) REFER Method Implicit Subscription".
- [i.5] IETF RFC 4538: "Request Authorization through Dialog Identification in the Session Initiation Protocol (SIP)".
- [i.6] IETF RFC 3261: "SIP: Session Initiation Protocol".
- [i.7] ETSI TS 124 229: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 (3GPP TS 24.229)".
- [i.8] ETSI TS 129 292: "Universal Mobile Telecommunications System (UMTS); LTE; 5G; Interworking between the IP Multimedia (IM) Core Network (CN) subsystem (IMS) and MSC Server for IMS Centralized Services (ICS) (3GPP TS 29.292)".

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the terms given in ETSI TS 124 237 [1] and ETSI TS 124 292 [2] apply.

**Abstract Test Method (ATM):** Refer to ISO/IEC 9646-1 [4].

**Abstract Test Suite (ATS):** Refer to ISO/IEC 9646-1 [4].

**Implementation Under Test (IUT):** Refer to ISO/IEC 9646-1 [4].

**Test Purpose (TP):** Refer to ISO/IEC 9646-1 [4].

### 3.2 Symbols

Void.

### 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 124 237 [1], ETSI TS 124 292 [2] and the following apply:

ATCF	Access Transfer Control Function
I-CSCF	Interrogating CSCF
MSC	Mobile Switching Center
SCC AS	Service Centralization and Continuity Application Server
S-CSCF	Serving CSCF
TP	Test Purpose
TSS	Test Suite Structure
UE	User Equipment

## 4 Test configurations

### 4.1 Introduction

Test purposes of the present document address the IMS functional entities that are accessible via the following standardized interfaces:

- ISC; and
- Gm.

### 4.2 Test configurations

The ISC interface is located between an IMS with UE and the SCC-AS.

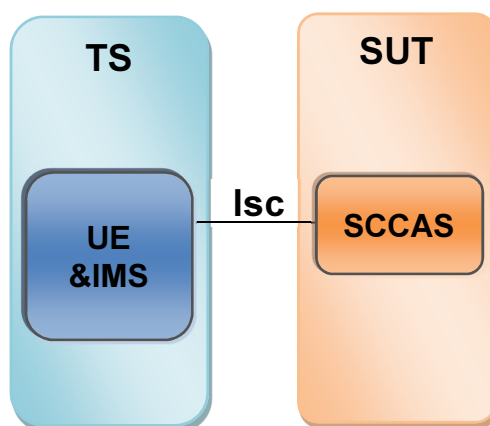


Figure 1: Test configuration CF\_SCCAS\_01

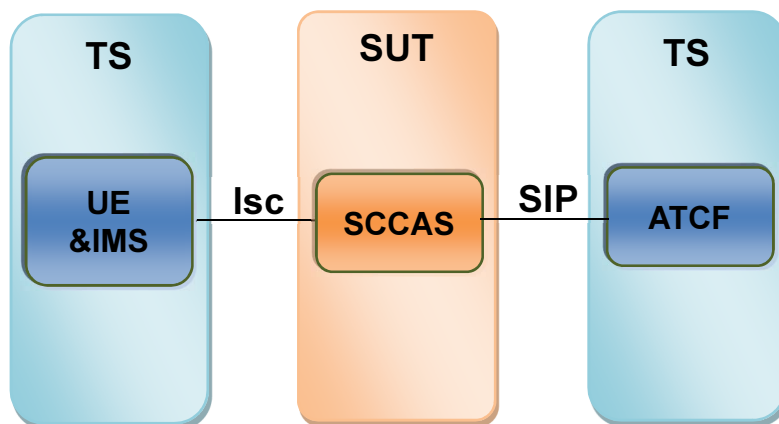


Figure 2: Test configuration CF\_SCCAS\_02

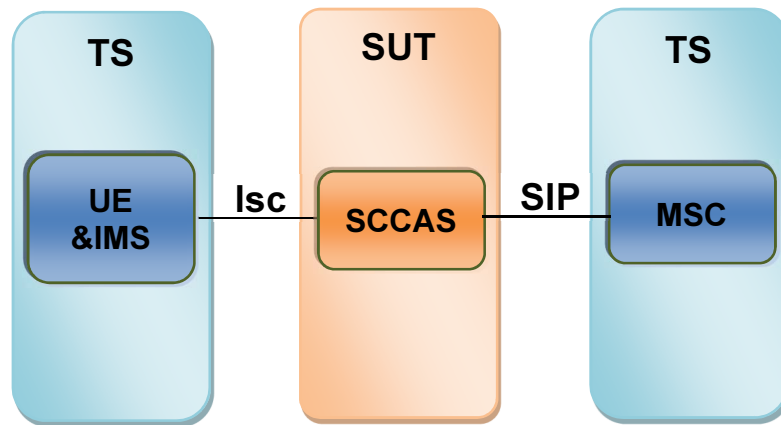


Figure 3: Test configuration CF\_SCCAS\_03

## 5 Test Suite Structure (TSS) and Test Purposes (TP)

### 5.1 Test Suite Structure

#### 5.1.1 TP naming convention

TPs are numbered, starting at 01, within each group. Groups are organized according to the TSS.

Table 1: TP identifier naming convention scheme

Identifier: <TP>_<interface>_<iut>_<scope>_<method>_<nn>	
<tp>	= Test Purpose: fixed to "TP"
<interface>	= Interface: ISC
<iut>	= type of IUT: SCCAS
<scope>	= group
	RSC Registration in the IM CN subsystem for service continuity
	GEN General Capabilities
	ORI Call origination for service continuity
	TER Call termination for service continuity
	CPT CS-PS access transfer
	PCT PS-CS access transfer
	PPT PS-PS access transfer
	CON PS-PS access transfer in conjunction with PS-CS access transfer
	SRA PS-CS access transfer, Single Radio
	MED Media adding/deleting for access transfer
<method>	= subgroup
	REG Register
	INV Invite
	RIN ReInvite
	REF Refer
	INF Info
	UPD Update
	BYE Bye
	CAN Cancel
	RES Response
<nn>	= sequential number (01 to 99)

#### 5.1.2 Test strategy

As the base standards ETSI TS 124 237 [1] and ETSI TS 124 292 [2] contain no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification ETSI TS 103 833-1 [3].



### 5.1.3 TP structure

Each TP has been written in TDL-TO and thus in a structured manner which is consistent with all other TPs. The intention of this is to make the TPs more formal. In addition, a more readable format is provided by generating tables out of the TDL-TO format. The defined structure, that has been used, is illustrated in table 2. This table should be read in conjunction with any TP, i.e. please use a TP as an example to facilitate the full comprehension of table 2. All structures are defined formally in the TDL Specification ETSI ES 203 119-4 [7]. The TDL-TO files are also included as an electronic annex to the present document

**Table 2: Structure of a single TP**

TP part	Text	Example
<b>Header</b>	<Identifier> <Test objective> <Reference> <PICS reference>	See table 2 "The IUT is responding on a correctly set ..." ETSI TS 124 237#section-3 PIC_Server
<b>Initial condition (optional)</b>	Free text description of the condition that the IUT has reached before the test purpose applies.	... the IUT is in the initial state ...
<b>Start point</b>	Describes the full logic of the test purpose. Includes trigger and expected behaviour of the IUT.	Expected behaviour ensure that { ... }
<b>Trigger</b>	One or more actions that trigger an expected response of the IUT. Mostly a set of different messages the IUT receives.	when { the IUT entity receives an INVITE request message containing CSeq indicating value 1 ... }
<b>Expected behaviour</b>	Describes the response that the IUT sends after receiving a certain (set of) messages. This response describes the pass criteria	then { the IUT entity sends a 100 Trying response message containing CSeq indicating value 1 ... }

## 5.2 Test Purposes

### 5.2.1 PICS references

All PICS items referred to in this clause are as specified in ETSI TS 103 833-1 [3] unless indicated otherwise by another numbered reference. PICS items are only meant for test selection, therefore only PICS items with status optional or conditional are explicitly mentioned.

### 5.2.2 SCC AS Role

#### 5.2.2.1 Test selection

The IUT takes the role of the SCC AS; PICS A.2/x and applicable test configuration is CF\_SCCAS\_01 if not specified differently in the TP.

#### 5.2.2.2 Registration in the IM CN subsystem for service continuity

<b>TP Id</b>	TP_ISC_SCCAS_RSC_REG_01
<b>Test Objective</b>	Verify that the SCCAS successfully obtain/processes 3pty registration information.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 6.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when {	

```

    the IUT receives a REGISTER containing
    From indicating value PX_IMS_S_CSCF_SIP_URI,
    To indicating value PX_UE_A_SIP_URI,
    CallId indicating value PX_UE_A_CALLID,
    Via indicating value PX_UE_A_VIA,
    SipMessageBody containing
        MIME indicating value "REGISTER from_UE_A",
        MIME indicating value "r_200_Ok to_UE_A"
    from the IMS_S_CSCF entity
  }
  then {
    the IUT sends a r_200_Ok containing
    From indicating value PX_IMS_S_CSCF_SIP_URI,
    To indicating value PX_UE_A_SIP_URI,
    CallId indicating value PX_UE_A_CALLID,
    Via indicating value PX_UE_A_VIA,
    Contact indicating value PX_UE_A_SIP_URI //,
    //Path indicating value PX_P_CSCF_A_SIP_URI,
    //PChargingVector containing
    //  icid indicating value PX_TO_BE_DEFINED,
    //PVisitedNetworkID indicating value PX_TO_BE_DEFINED,
    //Require indicating value "path",
    //Supported indicating value "path"

    to the IMS_S_CSCF entity
  }
}

```

<b>TP Id</b>	TP_ISC_SCCAS_RSC_REG_02
<b>Test Objective</b>	Verify that the SCCAS successfully obtain/processes de-registration information (Expires=0).
<b>Reference</b>	ETSI TS 124 237 [1], Clause 6.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a REGISTER containing From indicating value PX_IMS_S_CSCF_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Expires indicating value 0 from the IMS_S_CSCF entity } then { the IUT sends a r_200_Ok containing From indicating value PX_IMS_S_CSCF_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA to the IMS_S_CSCF entity } }	

<b>TP Id</b>	TP_ISC_SCCAS_RSC_REG_03
<b>Test Objective</b>	Verify that the SCCAS successfully obtain/processes SRVCC information.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 6.3.2 (1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a REGISTER containing From indicating value PX_IMS_S_CSCF_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, } }	

```

    FeatureCaps containing
      g3gppAtcfFeatureCapabilityIndicator,
    SipMessageBody containing
      MIME indicating value "REGISTER from_UE_A",
      MIME indicating value "r_200_Ok to_UE_A" containing Contact
    from the IMS_S_CSCF entity
  }
  then {
    the IUT sends a r_200_Ok containing
      From indicating value PX_IMS_S_CSCF_SIP_URI,
      To indicating value PX_UE_A_SIP_URI,
      CallId indicating value PX_UE_A_CALLID,
      Via indicating value PX_UE_A_VIA,
      Contact indicating value PX_UE_A_SIP_URI
    to the IMS_S_CSCF entity
  }
}

```

<b>TP Id</b>	TP_ISC_SCCAS_RSC_REG_04
<b>Test Objective</b>	Verify that the SCCAS successfully sends MESSAGE providing PS to CS SRVCC information.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 6.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
//PICS_SCCAS_PS2CS_SRVCC_ATCF with { the UE isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a REGISTER containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       FeatureCaps containing         g3gppAtcfFeatureCapabilityIndicator indicating value "g.3gpp.atcf-mgmt-uri",       SipMessageBody containing         MIME indicating value "REGISTER from_UE_A",         MIME indicating value "r_200_Ok to_UE_A" containing Contact     from the IMS_S_CSCF entity   }   then {     the IUT sends a r_200_Ok containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Contact indicating value PX_UE_A_SIP_URI //,       //Path indicating value PX_P_CSCF_A_SIP_URI,       //PChargingVector containing       //  icid indicating value PX_TO_BE_DEFINED,       //PVisitedNetworkID indicating value PX_TO_BE_DEFINED,       //Require indicating value "path",       //Supported indicating value "path"      to the IMS_S_CSCF entity     and the IUT sends a MESSAGE containing       RUri indicating value "ATCFManagementUri",       PAssertedIdentity,       SipMessageBody containing         MIME indicating value "application/vnd.3gpp.SRVCC-info+xml",       PChargingVector indicating value "type 1 orig-ioi"     to the ATCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_RSC_REG_05
<b>Test Objective</b>	Verify that the SCCAS successfully get CS to PS SRVCC information.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 6.3.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
//PICS_SCCAS_PS2CS_SRVCC_MSC with { the UE isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Contact containing         g3gppCs2psSrvccTag,         g3gppPathTag       FeatureCaps     from the IMS_S_CSCF entity   }   then {     the IUT sends a r_200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Contact indicating value PX_UE_A_SIP_URI      to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_RSC_REG_06
<b>Test Objective</b>	Verify that the SCCAS successfully provide CS to PS SRVCC information.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 6.3.5
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
//CS2PSSRVCC with { the UE isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Contact containing         SipInstanceTag,         g3gppIcsiRefTag     from the IMS_S_CSCF entity   }   then {     the IUT sends a r_200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Contact indicating value PX_UE_A_SIP_URI,       AcceptContact containing         g3gppPathMediaFeatureTag       //Path indicating value PX_P_CSCF_A_SIP_URI,       PChargingVector indicating value "type 1 orig-ioi",       //PVisitedNetworkID indicating value PX_TO_BE_DEFINED,       PassertedIdentity indicating value PX_SCCAS_URI       //Supported indicating value "path"       SipMessageBody containing         MIME indicating value "application/vnd.3gpp.srvcc-ext+xml"      to the IMS_S_CSCF entity   } } </pre>	

```
}
}
```

### 5.2.2.3 General capabilities

<b>TP Id</b>	TP_ISC_SCCAS_GEN_INV_01
<b>Test Objective</b>	Verify that the SCCAS send INVITE for anchored user populated with FeatureCaps header.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 6A.4.2 and 4.2.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a INVITE     from the IMS_S_CSCF entity   }   then {     the IUT sends a INVITE containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_A_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     //...     FeatureCaps containing //according to RFC6809       g3gppFeatureCapabilityIndicator, //see Annex C       g3gppRemoteLegInfoCapabilityIndicator, //see Annex C     Accept containing       MIME indicating value "application/vnd.3gpp.state-and-event-info.xml", //subclause D.2.3       RecvInfo containing         g3gppStateAndEventPackageName //according to RFC6086     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_GEN_INV_02
<b>Test Objective</b>	Verify that the SCCAS sends 1xx and/or 2xx response to the SIP INVITE request towards the served user.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 6A.4.3 and 4.2.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//SCCAS_PS2CS_SRVCC, SCCAS_PS2CS_SRVCC_ALERTING,SCCAS_PS2CS_SRVCC_PRE-ALERTING with { the UE isRegisteredTo the IMS_A and the UE hasInitiatedDialogWith the UE_TERM }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a r_183_SessionProgress containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_A_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     //Contact containing     //   g3gppMidcallMediaFeature Tag, //list -B     //   g3gppSrvccAlertingFeature tag, //list -C     //   g3gppPs2csSrvccOrigPreAlertingMediaFeature Tag, //list -D     FeatureCaps,     SipMessageBody     from the IMS_S_CSCF entity   }   then {     the IUT sends a r_183_SessionProgress containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_A_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     //...     FeatureCaps containing //IETF RFC6809</pre>	

```

        g3gppFeatureCapabilityIndicator, //see Annex C
        g3gppMidcallFeatureCapabilityIndicator, //list - B
        g3gppSrvccAlertingFeatureCapabilityIndicator, //list -C
        g3gppPs2csSrvccOrigPreAlertingMediaIndicator, //list -D
        g3gppRemoteLegInfoFeatureCapabilityIndicator //list -E
    //Contact containing
    Accept containing
        MIME indicating value "application/vnd.3gpp.state-and-event-info.xml" //subclause
D.2.3
    RecvInfo containing
        g3gppStateAndEventPackageName //according to RFC6086

    to the IMS_S_CSCF entity
}
}
}

```

<b>TP Id</b>	TP_ISC_SCCAS_GEN_INV_03
<b>Test Objective</b>	Verify that the SCCAS sends 1xx and/or 2xx response to the SIP INVITE request due to STN-SR or STN.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 6A.4.3A (1 <sup>st</sup> Numbered list, item 1) and 4.2.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
//SCCAS_PS2CS_SRVCC, SCCAS_PS2CS_SRVCC_ALERTING, SCCAS_PS2CS_SRVCC_PRE-ALERTING with { the UE isRegisteredTo the IMS_A and the UE hasInitiatedDialogWith the UE_TERM }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a INVITE containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_STNSR_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Contact containing         g3gppMidcallMediaFeature_Tag,         g3gppSrvccAlertingFeature_Tag,         g3gppPs2csSrvccOrigPreAlertingMediaFeature_Tag     FeatureCaps,     SipMessageBody     from the IMS_S_CSCF entity   }   then {     the IUT sends a r_200_Ok containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_STNSR_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     //...     Contact indicating value UE_CONTACT,     PAssertedIdentity indicating value UE_PAI,     FeatureCaps containing //according to RFC6809         g3gppFeatureCapabilityIndicator, //see Annex C         g3gppRemoteLegInfoCapabilityIndicator //see Annex C     Accept containing         MIME indicating value "application/vnd.3gpp.state-and-event-info.xml" //subclause D.2.3     RecvInfo containing         g3gppStateAndEventPackageName //according to RFC6086      to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_GEN_RIN_01
<b>Test Objective</b>	Verify that the SCCAS sends 1xx and/or 2xx response to the SIP INVITE target refresh request towards the served user.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 6A.4.5 and 4.2.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS_A and	

the UE hasEstablishedDialog the SCCAS }
<b>Expected Behaviour</b>
<pre> ensure that {   when {     the IUT receives a INVITE containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_A_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Contact containing       g3gppMidcallMediaFeature Tag, //list -B       g3gppSrvccAlertingFeature tag, //list -C       g3gppPs2csSrvccOrigPreAlertingMediaFeature Tag, //list -D     FeatureCaps,     SipMessageBody     from the IMS_S_CSCF entity   }   then{     the IUT sends a INVITE     to the IMS_S_CSCF and     the IUT receives a r_183_SessionProgress     from the IMS_S_CSCF and     the IUT sends a r_183_SessionProgress containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_A_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     //...     FeatureCaps containing //IETF RFC6809       g3gppFeatureCapabilityIndicator, //see Annex C       g3gppMidcallFeatureCapabilityIndicator, //list - B       g3gppSrvccAlertingFeatureCapabilityIndicator, //list -C       g3gppPs2csSrvccOrigPreAlertingMediaIndicator, //list -D     //Contact containing     Accept containing       MIME indicating value "application/vnd.3gpp.state-and-event-info.xml" //subclause D.2.3       RecvInfo containing         g3gppStateAndEventPackageName //according to RFC6086     to the IMS_S_CSCF entity   } } </pre>

<b>TP Id</b>	TP_ISC_SCCAS_GEN_RIN_02
<b>Test Objective</b>	Verify that the SCCAS sends the SIP INVITE target refresh request towards the served user.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 6A.4.5 and 4.2.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with {   the UE isRegisteredTo the IMS_A and   the UE hasEstablishedDialog the SCCAS } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a INVITE containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_A_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Contact containing       g3gppMidcallMediaFeature Tag, //list -B       g3gppSrvccAlertingFeature tag, //list -C       g3gppPs2csSrvccOrigPreAlertingMediaFeature Tag, //list -D     FeatureCaps,     SipMessageBody     from the IMS_S_CSCF entity   }   then {     the IUT sends a INVITE containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_A_SIP_URI,     CallId indicating value PX_UE_A_CALLID, </pre>	

```

Via indicating value PX_UE_A_VIA,
//...
FeatureCaps containing //IETF RFC6809
  g3gppFeatureCapabilityIndicator, //see Annex C
  g3gppMidcallFeatureCapabilityIndicator, //list - B
  g3gppSrvccAlertingFeatureCapabilityIndicator, //list -C
//Contact containing
Accept containing
  MIME indicating value "application/vnd.3gpp.state-and-event-info.xml" //subclause
D.2.3
  RecvInfo containing
    g3gppStateAndEventPackageName //according to RFC6086

  to the IMS_S_CSCF entity
}
}

```

<b>TP Id</b>	TP_ISC_SCCAS_GEN_REF_01
<b>Test Objective</b>	Verify that the SCCAS sends 403 response to the SIP REFER request from remote UE.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 6A.4.6 (1 <sup>st</sup> Numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> //PICS_SCCAS_REJECTION_OF_MALICIOUS_REFERER with { the UE isRegisteredTo the IMS_A and the UE hasInitiatedDialogWith the SCCAS } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a REFER containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       //Contact       ReferSub indicating value "false",       Supported indicating value "norefersub",       ReferTo containing "a SIP URI with the Target-Dialog_URI_header_field",       SipMessageBody containing         MIME indicating value "application/vnd.3gpp.state-and-event-info.xml" //subclause D.2.3      from the IMS_S_CSCF entity   }   then {     the IUT sends a r_403_Forbidden containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       //...      to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_GEN_INF_01
<b>Test Objective</b>	Verify that the SCCAS not include Accept,RecvInfo towards remote UE.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 6A.4.7
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> //SCCAS_PS2CS_SRVCC, SCCAS_PS2CS_SRVCC_ALERTING with { the UE isRegisteredTo the IMS_A and the UE hasInitiatedDialogWith the SCCAS } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a INVITE containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA, </pre>	



```

        Contact containing
            g3gppMidcallMediaFeature Tag, //list -B
            g3gppSrvccAlertingFeature tag, //list -C
            g3gppPs2csSrvccOrigPreAlertingMediaFeature Tag, //list -D
        FeatureCaps,
        SipMessageBody
    from the IMS_S_CSCF entity
}
then {
    the IUT sends a INVITE containing
        From indicating value PX_IMS_S_CSCF_SIP_URI,
        To indicating value PX_UE_A_SIP_URI,
        CallId indicating value PX_UE_A_CALLID,
        Via indicating value PX_UE_A_VIA,
        //...
        FeatureCaps containing //IETF RFC6809
            g3gppFeatureCapabilityIndicator, //see Annex C
            g3gppMidcallFeatureCapabilityIndicator, //list - B
            g3gppSrvccAlertingFeatureCapabilityIndicator, //list -C
        //Contact
        Accept not indicating value "application/vnd.3gpp.state-and-event-info.xml",
//subclause D.2.3
        RecvInfo not indicating value g3gppStateAndEventPackageName //according to RFC6086

    to the IMS_S_CSCF entity
}
}

```

#### 5.2.2.4 Call origination for service continuity

<b>TP Id</b>	TP_ISC_SCCAS_ORI_INV_01
<b>Test Objective</b>	Verify that the SCCAS first receives SIP INVITE request from UE/SCSCF.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 7.3.1 and 7.3.2 ETSI TS 124 292 [2], Clause 7.4.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives a INVITE containing From indicating value PX_IMS_S_CSCF_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value "sccas as topmost entry", RecordRoute indicating value PX_UE_A_ACCEPT, PAssertedIdentity indicating value PX_UE_A_PAS, Accept indicating value PX_UE_A_ACCEPT, Contact indicating value PX_UE_A_CONTACT, AcceptContact indicating value PX_UE_A_ACCEPT_CONTACT, FeatureCaps, SipMessageBody from the IMS_S_CSCF entity } then { the IUT sends a INVITE containing From indicating value PX_IMS_S_CSCF_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA to the IMS_S_CSCF entity } }	

<b>TP Id</b>	TP_ISC_SCCAS_ORI_INV_02
<b>Test Objective</b>	Verify that the SCCAS sends 1xx/2xx response to the SIP INVITE request towards the served user.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 7.3.2, 6A.4.3 and 4.2.2 ETSI TS 124 292 [2], Clause 7.4.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
//SCCAS_PS2CS_SRVCC, SCCAS_PS2CS_SRVCC_ALERTING, SCCAS_PS2CS_SRVCC_PRE-ALERTING with { the UE isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a INVITE containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value "sccas as topmost entry",       RecordRoute indicating value PX_UE_A_ACCEPT,       PAssertedIdentity indicating value PX_UE_A_PAS,       Accept indicating value PX_UE_A_ACCEPT,       AcceptContact indicating value PX_UE_A_ACCEPT_CONTACT,       Contact containing         g3gppMidcallMediaFeature Tag, //list -B         g3gppSrvccAlertingFeature tag, //list -C         g3gppPs2csSrvccOrigPreAlertingMediaFeature Tag, //list -D       FeatureCaps,       SipMessageBody     from the IMS_S_CSCF entity   }   then {     the IUT sends a INVITE     to the IMS_S_CSCF and     the IUT receives a r_183_SessionProgress     from the IMS_S_CSCF and     the IUT sends a r_183_SessionProgress containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       //...       FeatureCaps containing //IETF RFC6809         g3gppFeatureCapabilityIndicator, //see Annex C         g3gppMidcallFeatureCapabilityIndicator, //list - B         g3gppSrvccAlertingFeatureCapabilityIndicator, //list -C         g3gppPs2csSrvccOrigPreAlertingMediaIndicator, //list -D       //Contact containing       Accept containing         MIME indicating value "application/vnd.3gpp.state-and-event-info.xml" //subclause D.2.3       RecvInfo containing         g3gppStateAndEventPackageName //according to RFC6086      to the IMS_S_CSCF and     the IUT receives a r_200_Ok     from the IMS_S_CSCF and     the IUT sends a r_200_Ok containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       //...       FeatureCaps containing //IETF RFC6809         g3gppFeatureCapabilityIndicator, //see Annex C         g3gppMidcallFeatureCapabilityIndicator, //list - B         g3gppSrvccAlertingFeatureCapabilityIndicator, //list -C         g3gppPs2csSrvccOrigPreAlertingMediaIndicator, //list -D         g3gppRemoteLegInfoFeatureCapabilityIndicator //list -E       Contact,       Supported indicating value "tdialog,replaces"       Accept containing         MIME indicating value "application/vnd.3gpp.state-and-event-info.xml" //subclause D.2.3       RecvInfo containing         g3gppStateAndEventPackageName //according to RFC6086 </pre>	

```

    to the IMS_S_CSCF entity
  }
}

```

### 5.2.2.5 Call termination for service continuity

<b>TP Id</b>	TP_ISC_SCCAS_TER_INV_01
<b>Test Objective</b>	Verify that the SCCAS last receives SIP INVITE request from UE/SCSCF.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 8.3.1 and 8.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with { the UE isRegisteredTo the IMS_A and the UE_TERM isRegisteredTo the IMS_A } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a INVITE containing     RequestUri indicating value PX_UE_TERM_SIP_URI,     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_TERM_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value "sccas as topmost entry",     PServedUser indicating value PX_UE_TERM_SIP_URI,     Contact,     FeatureCaps,     SipMessageBody     from the IMS_S_CSCF entity   }   then {     the IUT sends a INVITE containing     From indicating value PX_IMS_S_CSCF_SIP_URI,     To indicating value PX_UE_TERM_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA     to the IMS_S_CSCF entity   } } </pre>	

### 5.2.2.6 PS-CS access transfer

<b>TP Id</b>	TP_ISC_SCCAS_PCT_INV_01
<b>Test Objective</b>	Verify that the SCCAS distinguish SIP INVITE with STI for subscribed UE due to PS to CS.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> //SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasEstablishedDialog the SCCAS_UE_TERM } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives a INVITE containing     RequestUri indicating value PX_STI_URI,     From indicating value PX__SIP_URI,     To indicating value PX__SIP_URI,     CallId indicating value PX_STI_CALLID,     Via indicating value PX_STI_VIA,     Contact,     TargetDialog containing "dialog info from PS session",     Require indicating value "tdialog",     PAssertedIdentity indicating value PX_UE_CMSISDN     SipMessageBody     from the IMS_S_CSCF entity   }   then {     the IUT sends a ReINVITE     to the IMS_S_CSCF entity   } } </pre>	

```
}
}
```

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Originating Leg) with dynamic STI.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 9.3.3 and 10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS }	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,           // this indicates dynamic STI       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       Supported indicating value "replaces",       PAccessNetworkInfo,       Replaces containing // Replaces indicating value RFC 3891         call_id indicating value PX_call_id,         from_tag indicating value PX_from_tag,         to_tag indicating value PX_to_tag       MessageBody containing         SDP containing // SDP: Session Description Protocol           Media indicating value PX_PSMediaOnly,           Version indicating value "0"       from the IMS_S_CSCF entity     }   then {     the IUT sends an r_200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       ContentType indicating value "application/sdp",       ContentLength,       MessageBody containing         SDP containing           Media indicating value PX_PSMediaOnly,           Version indicating value "0"       to the IMS_S_CSCF entity     }   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Originating Leg) with static STI.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS }	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing       From indicating value PX_UE_A_TEL_URI,           // this indicates static STI       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       Supported indicating value "replaces",       PAccessNetworkInfo,       Replaces containing // Replaces indicating value RFC 3891         call_id indicating value PX_call_id,         from_tag indicating value PX_from_tag,</pre>	

```

        to_tag indicating value PX_to_tag
        MessageBody containing
            SDP containing // SDP: Session Description Protocol
                Media indicating value PX_PSMediaOnly,
                Version indicating value "0"
        from the IMS_S_CSCF entity
    }
    then {
        the IUT sends an r_200_Ok containing
            From indicating value PX_UE_A_TEL_URI,
            To indicating value PX_UE_B_SIP_URI,
            CallId indicating value PX_UE_A_CALLID,
            Via indicating value PX_UE_A_VIA,
            Route indicating value PX_UE_A_SERVICE_ROUTE,
            PAccessNetworkInfo,
            ContentType indicating value "application/sdp",
            ContentLength,
            MessageBody containing
                SDP containing
                    Media indicating value PX_PSMediaOnly,
                    Version indicating value "0"
            to the IMS_S_CSCF entity
    }
}

```

<b>TP Id</b>	TP_ISC_SCCAS_CPT_RIN_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an re-INVITE (Originating Leg).
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS and the UE previouslyEstablishedCallWith }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives an INVITE containing // re-invite From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, Supported indicating value "replaces", PAccessNetworkInfo, Replaces containing // Replaces indicating value RFC 3891 call_id indicating value PX_call_id, from_tag indicating value PX_from_tag, to_tag indicating value PX_to_tag MessageBody containing SDP containing // SDP: Session Description Protocol Media indicating value PX_PSMediaOnly, Version indicating value "0" from the IMS_S_CSCF entity } then { the IUT sends an r_200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, PAccessNetworkInfo, ContentType indicating value "application/sdp", ContentLength, MessageBody containing SDP containing Media indicating value PX_PSMediaOnly, Version indicating value "0" to the IMS_S_CSCF entity } }	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_ACK_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an ACK and release the source access leg.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 9.3.3 and 9.3.6.
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS and the UE hasReceived200OkOnInitialRequestForDialogWith }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an ACK containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE     from the IMS_S_CSCF entity   }   then {     the IUT sends an BYE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_03
<b>Test Objective</b>	Verify that the SCC AS Conditions for selecting a sessions in an early dialog phase.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 9.3.4 and 6A.4.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS // TODO: SCC AS supports the MSC Server assisted mid-call feature according to operator policy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     Contact containing       g3gppSrvccAlertingFeatureCapabilityIndicator Tag     from the IMS_S_CSCF entity   }   then {     the IUT sends an r_2xx_Any containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     FeatureCaps containing       g3gppMidcallFeatureCapabilityIndicator,     MessageBody containing       SDP containing         Media indicating value PX_PSMediaOnly     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_04
<b>Test Objective</b>	Verify that the SCC AS accepts conditions in an early dialog phase.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.5.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>// PICS_SCCAS_PS2CS_DUAL_RADIO_ACCES_TRANSFER_OF_CALLS_IN_EARLY_DIALOG with { the UE isRegisteredTo the IMS // TODO: SCC AS supports the MSC Server g.3gpp.drvc-alerting feature }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     Contact containing       g3gppDrvcAlertingFeature tag //Annex C.15     from the IMS_S_CSCF entity   }   then {     the IUT sends an r_2xx_Any containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     FeatureCaps containing       g3gppDrvcAlertingFeatureCapabilityIndicator     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PCT_UPD_01
<b>Test Objective</b>	Verify that the SCC AS sends a SIP UPDATE after receiving a SIP INVITE request due to PS to CS STN and if there are one or more dialogs in an early dialog phase and the remote leg is not a precondition enabled dialog.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>// PICS_SCCAS_PS2CS_DUAL_RADIO_ACCES_TRANSFER_OF_CALLS_IN_EARLY_DIALOG with { the UE isRegisteredTo the IMS // TODO: // here are one or more dialogs in an early dialog phase supporting a session with active speech media component such that: //   1 all dialogs are early dialogs created by the same SIP INVITE request //   2 a SIP 180 Ringing response to SIP INVITE request was received in at least one of those early dialogs //   3 a g.3gpp.drvc-alerting feature-capability indicator as described in annex C was included in a Feature-Caps //   header field by the SCC AS in the SIP 180 Ringing response and //   4 the Contact header field in the initial SIP INVITE request sent by the SC UE towards the SCC AS included the //   g.3gpp.drvc-alerting media feature tag as described in annex C, // and // the remote leg is not a precondition enabled dialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE     from the IMS_S_CSCF entity   }   then {     the IUT sends an UPDATE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,</pre>	

```

    CallId indicating value PX_UE_A_CALLID,
    Via indicating value PX_UE_A_VIA,
    Route indicating value PX_UE_A_SERVICE_ROUTE,
    // 1 set the Request-URI set to the URI contained in the Contact header field returned at
the creation of the dialog
    // with the remote UE
    Contact indicating value "set to the Contact header field provided by the served UE at the
creation of the dialog", // 2 the Contact header field set to the Contact header field provided by
the served UE at the creation of the dialog with the remote UE
    ContentType indicating value "application/sdp",
    MessageBody containing // 3 a new SDP offer, including:
        SDP containing
            Media indicating value "the media characteristics as received in the SIP
INVITE request due to PS to CS STN including any precondition mechanism specific SDP attributes"

    to the IMS_S_CSCF entity
}
}

```

<b>TP Id</b>	TP_ISC_SCCAS_PCT_RES_02
<b>Test Objective</b>	Verify that the SCC AS sends SIP provisional response to the SIP INVITE request due to PS to CS STN.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> // TODO with { the UE isRegisteredTo the IMS // a SIP INVITE request due to PS to CS STN takes place // and // SCC AS has send a SIP UPDATE request according to TP TP_ISC_SCCAS_PCT_UPD_01 // and // the remote leg is not a precondition enabled dialog } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an r_200_Ok containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE     from the IMS_S_CSCF entity   }   then {     the IUT sends an r_lxx_Any containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     PEarlyMedia indicating value "the last received P-Early-Media header field",     ContentType indicating value "application/sdp",     MessageBody containing // 3 a new SDP offer, including:       SDP containing         Media indicating value "SDP answer based on the SDP answer received from the remote UE"      to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PCT_INV_05
<b>Test Objective</b>	Verify that the SCC AS send a SIP UPDATE request towards the remote UE after receiving a SIP INVITE request due to PS to CS STN in early dialog phase supporting a session with active speech media component such.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.5.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with { the UE isRegisteredTo the IMS </pre>	



```

// one dialog is early dialog
// and
// a SIP 180 Ringing response to the SIP INVITE request has not been received yet in any of the
existing dialogs
// and
// the SCC AS included a g.3gpp.ps2cs-drvcc-orig-pre-alerting feature-capability indicator as in a
Feature-Caps header field of SIP 18x responses
// and
// the Contact header field in the initial SIP INVITE request sent by the SC UE towards the SCC AS
included a g.3gpp.ps2cs-drvcc-orig-pre-alerting media feature tag as
// and
// the remote leg is not a precondition enabled dialog
}

```

#### Expected Behaviour

```

ensure that {
  when {
    the IUT receives an INVITE containing
    From indicating value PX_UE_A_SIP_URI,
    To indicating value PX_UE_B_SIP_URI,
    CallId indicating value PX_UE_A_CALLID,
    Via indicating value PX_UE_A_VIA,
    Route indicating value PX_UE_A_SERVICE_ROUTE
    from the IMS_S_CSCF entity
  }
  then {
    the IUT sends an UPDATE containing
    From indicating value PX_UE_A_SIP_URI,
    To indicating value PX_UE_B_SIP_URI,
    CallId indicating value PX_UE_A_CALLID,
    Via indicating value PX_UE_A_VIA,
    Route indicating value PX_UE_A_SERVICE_ROUTE,
    PEarlyMedia indicating value "the last received P-Early-Media header field",
    ContentType indicating value "application/sdp",
    MessageBody containing // 3 a new SDP offer, including:
      SDP containing
        Media indicating value "the media characteristics as received in the SIP
INVITE request due to PS to CS STN but excluding any precondition mechanism specific SDP
attributes"

    to the IMS_S_CSCF entity
  }
}

```

<b>TP Id</b>	TP_ISC_SCCAS_PCT_REF_01
<b>Test Objective</b>	Verify that the SCC AS populate a SIP REFER request to transfer an additional session in PS to CS dual radio access.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.5.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> // TODO with { the UE isRegisteredTo the IMS // TODO: initial condition SIP INVITE request to PS to CS STN // "In order to transfer an additional session on the originating side that can be in pre-alerting phase or in an alerting phase, // the SCC AS shall send a SIP REFER request in the // dialog created by the SIP INVITE request due to PS to CS STN" } </pre>	
<b>Expected Behaviour</b>	
<pre> // 1. the Refer-Sub header field with value "false" as specified in IETF RFC 4488 // 2. the Require header field with value "norefersub" as specified in IETF RFC 4488 // 3. the Refer-To header field containing the additional transferred session SCC AS URI for PS to CS dual radio, // where the URI also includes the following header fields containing the information related to the additional // transferred session: // A. the Target-Dialog header field populated as specified in IETF RFC 4538, containing the dialog identifier // of an dialog in the early phase supporting session of the SC UE // B. the Require header field populated with the option tag value "tdialog" // C. the To header field populated as specified in IETF RFC 3261, containing the value of the P-Asserted- // Identity provided by the remote UE during the session establishment // D. the From header field populated as specified in IETF RFC 3261, containing the value of the P-Asserted- </pre>	

```

//      Identity provided by the SC UE during the session establishment
//      E. the Content-Type header field with "application/sdp"
//      F. the URI header field with the hname "body" populated with SDP describing
the media streams as negotiated
//      in the session with the remote UE and
//      G. optionally the P-Asserted-Identity URI header field containing value of
the P-Asserted-Identity header field
//      of the received SIP INVITE request and
// 4. application/vnd.3gpp.state-and-event-info+xml MIME body populated as follows:
//      A if a SIP 180 Ringing response to the SIP INVITE request has already been
received in any of the early
//      dialogs associated with the originating early session not accepted yet, with
the state-info XML element
//      containing "early" and the direction XML element containing "initiator" and
//      B if a SIP 180 Ringing response to the SIP INVITE request has not been
received yet in any of the early
//      dialogs associated with the originating early session not accepted yet, with
the state-info XML element
//      containing "pre-alerting" and the direction XML element containing
"initiator".
ensure that {
  when {
    // TODO: Trigger unclear for this refer
    the IUT receives an ACK
    from the IMS_S_CSCF entity
  }
  then {
    the IUT sends an REFER containing
    From indicating value PX_UE_A_SIP_URI,
    To indicating value PX_UE_B_SIP_URI,
    CallId indicating value PX_UE_A_CALLID,
    Via indicating value PX_UE_A_VIA,
    Route indicating value PX_UE_A_SERVICE_ROUTE,
    ReferSub indicating value false, // 1. the Refer-Sub header field with value
"false"
    Require indicating value "norefersub", // 2. the Require header field with value
"norefersub"
    ReferTo containing "a SIP URI with the Target-Dialog_URI_header_field" // 3. the Refer-To
header field containing the additional transferred session SCC AS URI for PS to CS dual radio,
where the URI also includes the following header fields containing the information related to the
additional transferred session:
    TargetDialog indicating value "TODO: dialog identifier of an dialog in the early phase
supporting session of the SC UE", // A. the Target-Dialog header field populated, containing the
dialog identifier of an dialog in the early phase supporting session of the SC UE
    Require indicating value "tdialog", // B. the Require header field populated with the
option tag value "tdialog"
    To indicating value "", // C. the To header field populated, containing the value of
the P-Asserted-Identity provided by the remote UE during the session establishment
    From indicating value "", // D. the From header field populated, containing the value
of the P-Asserted-Identity provided by the SC UE during the session establishment
    ContentType indicating value "application/sdp", // E. the Content-Type header field
with "application/sdp"
    MessageBody containing // F. the URI header field with the hname "body" populated
with SDP describing the media streams as negotiated in the session with the remote UE
    SDP containing
    TODO indicating value ""

    PAssertedIdentity indicating value "" // G. optionally the P-Asserted-Identity URI
header field containing value of the P-Asserted-Identity header field of the received SIP INVITE
request
    to the IMS_S_CSCF entity
  }
}

```

<b>TP Id</b>	TP_ISC_SCCAS_PCT_REF_02
<b>Test Objective</b>	Verify that the SCC AS terminates the call over CS after receiving a SIP 488.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 9.3.5.5 ETSI TS 124 292 [2], Clause 10.4.7
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> // TODO with { the UE isRegisteredTo the IMS // TODO: // SIP INVITE was sent with: // creating the session in the terminating alerting phase without an SDP MIME body </pre>	

<pre>// SCC AS supports PS to CS dual radio access } </pre>
<b>Expected Behaviour</b>
<pre>ensure that {   when {     the IUT receives an r_488_NotAcceptableHere containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE     from the IMS_S_CSCF entity   }   then {     the IUT sends an REFER containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     ReferSub indicating value false,           // 1. the Refer-Sub header field with value "false"     Require indicating value "norefersub",     // 2. the Require header field with value "norefersub"     ReferTo containing "a SIP URI with the Target-Dialog_URI_header_field" // 3. the Refer-To header field containing the additional transferred session SCC AS URI for PS to CS dual radio, where the URI also includes the following header fields containing the information related to the additional transferred session:     TargetDialog indicating value "TODO: dialog identifier of an dialog in the early phase supporting session of the SC UE", // A. the Target-Dialog header field populated, containing the dialog identifier of an dialog in the early phase supporting session of the SC UE     Require indicating value "tdialog", // B. the Require header field populated with the option tag value "tdialog"     To indicating value "", // C. the To header field populated, containing the value of the P-Asserted-Identity provided by the remote UE during the session establishment     From indicating value "", // D. the From header field populated, containing the value of the P-Asserted-Identity provided by the SC UE during the session establishment     ContentType indicating value "application/sdp", // E. the Content-Type header field with "application/sdp"     MessageBody containing // F. the URI header field with the hname "body" populated with SDP describing the media streams as negotiated in the session with the remote UE     SDP containing     TODO indicating value ""     ,     PAssertedIdentity indicating value "" // G. optionally the P-Asserted-Identity URI header field containing value of the P-Asserted-Identity header field of the received SIP INVITE request     to the IMS_S_CSCF entity   } }</pre>

<b>TP Id</b>	TP_ISC_SCCAS_PCT_RES_01
<b>Test Objective</b>	Verify that the SCC AS sends a SIP PRACK and SIP UPDATE after receiving a SIP 1xx.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.5.5
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>// TODO with { the UE isRegisteredTo the IMS // TODO: // SIP INVITE was sent with: // creating the session in the terminating alerting phase without an SDP MIME body // SCC AS supports PS to CS dual radio access }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an r_lxx_Any containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE     from the IMS_S_CSCF entity   } }</pre>	

```

then {
  the IUT sends an PRACK containing // send a SIP PRACK request towards the CS domain
  From indicating value PX_UE_A_SIP_URI,
  To indicating value PX_UE_B_SIP_URI,
  CallId indicating value PX_UE_A_CALLID,
  Via indicating value PX_UE_A_VIA,
  Route indicating value PX_UE_A_SERVICE_ROUTE
  and
  the IUT sends an UPDATE containing
  From indicating value PX_UE_A_SIP_URI,
  To indicating value PX_UE_B_SIP_URI,
  CallId indicating value PX_UE_A_CALLID,
  Via indicating value PX_UE_A_VIA,
  Route indicating value PX_UE_A_SERVICE_ROUTE,
  Contact indicating value "set to the Contact header field provided by the served UE at the
creation of the dialog with the remote UE", // the Contact header field set to the Contact header
field provided by the served UE at the creation of the dialog with the remote UE
  MessageBody containing // anew SDP offer, including the media characteristics as received
in the SIP lxx response with the SDP answer, by following the rules of 3GPP TS 24.229.
  SDP containing
  Media indicating value "the same media characteristics as received in the SIP
lxx response with the SDP answer"

  to the IMS_S_CSCF entity
}
}

```

<b>TP Id</b>	TP_ISC_SCCAS_MED_BYE_01
<b>Test Objective</b>	Verify that the SCC AS sends a SIP BYE after transfer of a session is successfully completed and the source access leg is an ongoing session containing only an active or inactive media component.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> // TODO with { the UE isRegisteredTo the IMS // TODO // source access leg is an ongoing session containing only an active or inactive media component } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an ACK     // TODO: trigger for event unclear, transfer of a session is successfully completed     from the IMS_S_CSCF entity   }   then {     the IUT sends an BYE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA     to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_MED_RES_01
<b>Test Objective</b>	Verify that the SCC AS sends a SIP 480 after transfer of a session is successfully completed and the session is dialog in an early dialog phase on the originating side.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with { the UE isRegisteredTo the IMS // TODO: session is dialog in an early dialog phase on the originating side } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an ACK     // TODO: trigger for event unclear, transfer of a session is successfully completed     from the IMS_S_CSCF entity   } } </pre>	

```

}
then {
  the IUT sends an r_480_TemporaryUnavailable containing
  From indicating value PX_UE_A_SIP_URI,
  To indicating value PX_UE_B_SIP_URI,
  CallId indicating value PX_UE_A_CALLID,
  Via indicating value PX_UE_A_VIA,
  Route indicating value PX_UE_A_SERVICE_ROUTE
  to the IMS_S_CSCF entity
}
}

```

<b>TP Id</b>	TP_ISC_SCCAS_MED_RIN_01
<b>Test Objective</b>	Verify that SCC AS sends a reINVITE after transfer of a session is successfully completed and the source access leg contains media components other than speech media component.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> // TODO with { the UE isRegisteredTo the IMS // TODO: // transfer of a session is successfully completed // and // the source access leg contains media components other than speech media component } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an ACK     // TODO: trigger for event unclear, transfer of a session is successfully completed     from the IMS_S_CSCF entity   }   then {     the IUT sends an INVITE containing // reINVITE     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     ContentType indicating value "application/sdp",     ContentLength,     MessageBody containing       SDP containing         Media indicating value "TODO: the source access leg contains media components other than speech media component"     to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_05
<b>Test Objective</b>	Verify that the SCC AS performs the procedures correctly for CS to PS dual radio access transfer for originating calls in pre-alerting phase or in alerting phase on the originating side.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.7.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with { the UE isRegisteredTo the IMS // the SCC AS supports CS to PS dual radio access transfer for originating calls in pre-alerting phase } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an INVITE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     Contact containing       g3gppDrvccOrigPreAlertingFeature Tag, // a g.3gpp.drvc-orig-pre-alerting media feature tag as described in annex C in the Contact header field was // included in the SIP INVITE due to static </pre>	

```

STI
    MessageBody containing
        SDP containing
            Media indicating value PX_PSMedia
        from the IMS_S_CSCF entity
    }
    then {
        the IUT sends an UPDATE containing
        From indicating value PX_UE_A_SIP_URI,
        To indicating value PX_UE_B_SIP_URI,
        CallId indicating value PX_UE_A_CALLID,
        Via indicating value PX_UE_A_VIA,
        Route indicating value PX_UE_A_SERVICE_ROUTE,
        Contact indicating value "set to the Contact header field provided on the source leg at
the creation of the dialog",// a the Contact header field set to the Contact header field provided
on the source leg at the creation of the dialog with the remote UE
        ContentType indicating value "application/sdp",
        MessageBody containing // 3 a new SDP offer, including:
            SDP containing
                Media indicating value PX_PSMedia // TODO: PIX for media, media
characteristics as received in the SIP INVITE request

        to the IMS_S_CSCF entity
    }
}

```

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_06
<b>Test Objective</b>	Verify that SCC AS correctly recognizes and initiated for CS to PS dual radio access transfer for a call in the alerting phase on the terminating side.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.7.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with { the UE isRegisteredTo the IMS and the IUT hasAchievedInitialINVITE // TODO: INVITE contains: g3gppDrvccAlerting // SCC AS supports CS to PS dual radio access transfer for calls in alerting phase } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {     when {         the IUT receives an r_180_Ringing         from the IMS_S_CSCF entity     }     then {         the IUT sends an UPDATE containing         From indicating value PX_UE_A_SIP_URI,         To indicating value PX_UE_B_SIP_URI,         CallId indicating value PX_UE_A_CALLID,         Via indicating value PX_UE_A_VIA,         Route indicating value PX_UE_A_SERVICE_ROUTE,         Contact indicating value "set to the Contact header field provided on the source leg at the creation of the dialog",// a the Contact header field set to the Contact header field provided on the source leg at the creation of the dialog with the remote UE         ContentType indicating value "application/sdp",         MessageBody containing // 3 a new SDP offer, including:             SDP containing                 Media indicating value PX_PSMedia // TODO: PIX for media, media characteristics as received in the SIP INVITE request          to the IMS_S_CSCF entity     } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PCT_INV_04
<b>Test Objective</b>	Verify that SCC AS correctly recognizes and initiated procedures for PS to CS dual radio access transfer of an additional session in an early dialog phase.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 9.3.7.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> // PICS_SCCAS_CS2PS_DUAL_RADIO_ACCES_TRANSFER_FOR_CALLS_IN_EARLY_PHASE with { the UE isRegisteredTo the IMS and </pre>	

<pre> the IUT hasAchievedInitialINVITE // SCC AS the SCC AS supporting CS to PS dual radio access transfer for calls in an early phase } </pre>
<b>Expected Behaviour</b>
<pre> ensure that {   when {     the IUT receives an r_180_Ringing     from the IMS_S_CSCF entity   }   then {     the IUT sends an REFER containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     ReferSub indicating value false, // 1 include a Refer-Sub header field with value     "false" as specified in IETF RFC 4488     Supported indicating value "norefersub", // 2 include a Require header field with value     "norefersub" as specified in IETF RFC 4488     ReferTo containing // 3 include a Refer-To header field       TargetDialog indicating value "Target-Dialog header field containing the dialog       identifier of the dialog in the early phase, if exist", // a if an early dialog supporting the       additional transferred session exists, the Target-Dialog header field       Require indicating value "tdialog", // c the Require header field populated with the       option tag value "tdialog"       From indicating value "value of the P-Asserted-Identity provided by the SC UE during       the session establishment", //the From header field populated as specified in IETF RFC 3261,       containing the value of the P-Asserted-Identity provided by the SC UE during the session       establishment       ContentType indicating value "application/sdp", // E. the Content-Type header field       with "application/sdp"       MessageBody containing // F. the URI header field with the hname "body" populated       with SDP describing the media streams as negotiated in the session with the remote UE       SDP containing         TODO indicating value ""       ,       Accept containing // if a SIP 180 Ringing response to the INVITE request has already been       received on the source access leg, the state-info XML element containing "early" and the direction       XML element containing "receiver"       MIME indicating value "application/vnd.3gpp.state-and-event-info.xml" //subclause D.2.3     to the IMS_S_CSCF entity   } } </pre>

### 5.2.2.7 PS-PS access transfer

<b>TP Id</b>	TP_ISC_SCCAS_PPT_RIN_01
<b>Test Objective</b>	Verify that the SCC AS successfully processes an INVITE on a previously established dialog if the SIP INVITE request contains a Replaces header field.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> //PICS_SCCAS_PS2PS_ACCES_TRANSFER with { the UE isRegisteredTo the IMS and // include g.3gpp.pstops-sti the UE hasEstablishedDialog } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an INVITE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Replaces indicating value PX_UE_A_SIP_URI // indicating access transfer procedure     from the IMS_S_CSCF entity   }   then {     the IUT sends an INVITE containing // reINVITE     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID, </pre>	

```

Via indicating value PX_UE_A_VIA,
Contact indicating value PX_UE_A_SIP_URI // added by SCC AS
to the IMS_S_CSCF entity
}
}
}

```

<b>TP Id</b>	TP_ISC_SCCAS_PPT_RIN_02
<b>Test Objective</b>	Verify that the SCC AS successfully processes an UPDATE on an existing early dialog if the SIP INVITE request contains a Replaces header field.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> //PICS_SCCAS_PS2PS_ACCES_TRANSFER with { the UE isRegisteredTo the IMS and // include g.3gpp.pstops-sti the UE hasInitiatedDialogWith } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an INVITE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Replaces indicating value PX_UE_A_SIP_URI // indicating access transfer procedure     from the IMS_S_CSCF entity   }   then {     the IUT sends an UPDATE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Contact indicating value PX_UE_A_SIP_URI // added by SCC AS     to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PPT_RIN_03
<b>Test Objective</b>	Verify that the SCC AS processes an INVITE if it is unable to associate the SIP INVITE request with a confirmed dialog or on a previously established dialog.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> // PICS_SCCAS_PS2PS_ACCES_TRANSFER with { the UE isRegisteredTo the IMS and // include g.3gpp.pstops-sti the UE not hasEstablishedDialog and the UE not hasInitiatedDialogWith } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an INVITE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Replaces indicating value PX_UE_A_SIP_URI // indicating access transfer procedure     from the IMS_S_CSCF entity   }   then {     the IUT sends an r_480 containing // reject Temporarily Unavailable     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID     to the IMS_S_CSCF entity   } } </pre>	



<b>TP Id</b>	TP_ISC_SCCAS_PPT_RIN_04
<b>Test Objective</b>	Verify that the SCC AS processes an INVITE if number of media lines in the Target Access Leg is less than the number of media lines in the Source Access Leg.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>// PICS_SCCAS_PS2PS_ACCES_TRANSFER with { the UE isRegisteredTo the IMS and // include g.3gpp.pstops-sti the UE hasEstablishedDialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       TargetDialog indicating value PX_UE_MediaLines // indicating number of media lines in the Target Access Leg is less than the number of media lines in the Source Access Leg       from the IMS_S_CSCF entity     }   then {     the IUT sends an r_480 containing // reject Temporarily Unavailable       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PPT_BYE_01
<b>Test Objective</b>	Verify that the SCC AS successfully processes an BYE on a previously established dialog, if does not receive within this time interval an initial SIP INVITE request.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 10.3.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>// PICS_SCCAS_PS2PS_ACCES_TRANSFER with { the UE isRegisteredTo the IMS and // include g.3gpp.pstops-sti the UE hasEstablishedDialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     . at time point t1: the IUT receives an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       Reason indicating value 480 // status code 480 Temporarily Unavailable     from the IMS_S_CSCF entity   }   then {     ! "after time interval of 8 seconds" after t1: the IUT sends an r_200 containing // 200 OK BYE to UE_B       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA     and     the IUT sends an BYE containing // BYE to UE_A       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PPT_BYE_02
<b>Test Objective</b>	Verify that the SCC AS successfully processes an CANCEL on a early dialog.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 10.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_RELEASING_EARLY_DIALOG_DURING_PS2PS_ACCES_TRANSFER with { the UE isRegisteredTo the IMS and // include g.3gpp.pstops-sti the UE hasInitiatedDialogWith }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     . at time point t1: the IUT receives an BYE containing // status code 503       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     from the IMS_S_CSCF entity   }   then {     ! "after time interval of 8 seconds" after t1: the IUT sends an r_200 containing // 200 OK     BYE       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA     and     the IUT sends an CANCEL containing // CANCEL to UE_B       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PPT_CAN_01
<b>Test Objective</b>	Verify that the SCC AS successfully processes an CANCEL on a early dialog.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 10.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS and // include g.3gpp.pstops-sti the UE hasInitiatedDialogWith }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     . at time point t1: the IUT receives an CANCEL containing // status code 503       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     from the IMS_S_CSCF entity   }   then {     ! "after time interval of 8 seconds" after t1: the IUT sends an r_200 containing // 200 OK     CANCEL       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PPT_RES_01
<b>Test Objective</b>	Verify that the SCC AS successfully processes an SIP 503 (Service Unavailable) response on a early dialog.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 10.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS and // include g.3gpp.pstops-sti the UE hasInitiatedDialogWith }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     . at time point t1: the IUT receives an r_503 containing // from UE_B       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     from the IMS_S_CSCF entity   }   then {     ! "after time interval of 8 seconds" after t1: the IUT sends an r_503 containing // to UE_A       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA     to the IMS_S_CSCF entity   } }</pre>	

### 5.2.2.8 PS-PS access transfer in conjunction with PS-CS access transfer

<b>TP Id</b>	TP_ISC_SCCAS_CON_RIN_01
<b>Test Objective</b>	Verify that the SCC AS successfully processes an INVITE that includes an active speech media component using CS bearer.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 11.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2PS_ACCES_TRANSFER_IN_CONJUNCTION_PS2CS with { the UE isRegisteredTo the IMS and the UE hasEstablishedDialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing // request active speech media component using CS bearer       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Replaces indicating value PX_UE_A_SIP_URI // indicating access transfer procedure     from the IMS_S_CSCF entity   }   then {     the IUT sends an INVITE containing // reINVITE       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Contact indicating value PX_UE_A_SIP_URI // added by SCC AS     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CON_RIN_02
<b>Test Objective</b>	Verify that the SCC AS successfully processes an INVITE due to two STIs on the Target Access Leg.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 11.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2PS_ACCES_TRANSFER_IN_CONJUNCTION_PS2CS with { the UE isRegisteredTo the IMS and the UE hasEstablishedDialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing      // request CS -&gt; PS       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       //Replaces indicating value PX_UE_A_SIP_URI // indicating access transfer procedure     from the IMS_S_CSCF entity   }   then {     the IUT sends an INVITE containing // reINVITE       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       //Contact indicating value PX_UE_A_SIP_URI // added by SCC AS     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CON_RIN_03
<b>Test Objective</b>	Verify that the SCC AS rejects an INVITE due missing ability to associate it to an ongoing or different SIP dialog.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 11.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2PS_ACCES_TRANSFER_IN_CONJUNCTION_PS2CS with { the UE isRegisteredTo the IMS and the UE hasEstablishedDialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing      // request CS -&gt; PS       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       //Replaces indicating value PX_UE_A_SIP_URI // indicating access transfer procedure     from the IMS_S_CSCF entity   }   then {     the IUT sends an r_480 containing // reINVITE       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       //Contact indicating value PX_UE_A_SIP_URI // added by SCC AS     to the IMS_S_CSCF entity   } }</pre>	

## 5.2.2.9 PS-CS access transfer, Single Radio

<b>TP Id</b>	TP_ISC_SCCAS_SRA_INV_01
<b>Test Objective</b>	Verify that the SCCAS distinguish SIP INVITE with STN-SR for nonexisting dialog.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasEstablishedDialog the SCCAS_UE_TERM }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a INVITE containing     RequestUri indicating value PX_STI_URI,     From indicating value PX__SIP_URI,     To indicating value PX__SIP_URI,     CallId indicating value PX_STI_CALLID,     Via indicating value PX_STI_VIA,     Contact,     TargetDialog containing "dialog info from nonexisting PS session",     Require indicating value "tdialog",     PAssertedIdentity indicating value PX_UE_CMSISDN     SipMessageBody     from the IMS_S_CSCF entity   }   then {     the IUT sends a r_480_TemporaryUnavailable     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_SRA_INV_02
<b>Test Objective</b>	Verify that the SCCAS distinguish SIP INVITE with STN-SR and informs remote UE.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasEstablishedDialog the SCCAS_UE_TERM }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a INVITE containing     RequestUri indicating value PX_STNSR_URI,     From indicating value PX__SIP_URI,     To indicating value PX__SIP_URI,     CallId indicating value PX_STI_CALLID,     Via indicating value PX_STNSR_VIA,     Contact,     TargetDialog containing "dialog info from PS session",     Require indicating value "tdialog",     PAssertedIdentity indicating value PX_UE_CMSISDN     SipMessageBody     from the IMS_S_CSCF entity   }   then {     the IUT sends a ReINVITE //for remote UE leg     to the IMS_S_CSCF and     the IUT receives a r_200_Ok and     the IUT sends a r_200_Ok   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_SRA_INV_03
<b>Test Objective</b>	Verify that the SCCAS distinguish Transfer of first session.
<b>Reference</b>	ETSI TS 124 237 [1], Clauses 12.3.2.1 and 12.3.2.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasEstablishedDialog the SCCAS_UE_TERM }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a INVITE containing     RequestUri indicating value PX_STI_URI,     From indicating value PX__SIP_URI,     To indicating value PX__SIP_URI,     CallId indicating value PX_STI_CALLID,     Via indicating value PX_STI_VIA,     Contact containing       g3gppMidcallMediaFeature Tag     TargetDialog containing "dialog info existing PS session",     Require indicating value "tdialog",     PAssertedIdentity indicating value PX_UE_CMSISDN     SipMessageBody     from the IMS_S_CSCF and     the IUT receives a r_200_Ok   }   then {     the IUT sends a r_200_Ok     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_SRA_INV_04
<b>Test Objective</b>	Verify that the SCCAS distinguish SIP INVITE with STN-SR and not release source leg.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasEstablishedDialog the SCCAS_UE_TERM }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a ReINVITE containing     RequestUri indicating value PX_STNSR_URI,     From indicating value PX__SIP_URI,     To indicating value PX__SIP_URI,     CallId indicating value PX_STI_CALLID,     Via indicating value PX_STNSR_VIA,     Contact,     TargetDialog containing "dialog info from PS session",     Require indicating value "tdialog",     PAssertedIdentity indicating value PX_UE_CMSISDN     SipMessageBody,     Reason containing Cause indicating value "487"      from the IMS_S_CSCF entity   }   then {     the IUT not sends a BYE //for source UE leg     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_SRA_BYE_01
<b>Test Objective</b>	Verify that the SCCAS distinguish SIP INVITE with STN-SR and not release source leg.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasEstablishedDialog the SCCAS_UE_TERM }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a BYE containing       From indicating value PX_IMS_S_CSCF_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Reason containing Cause indicating value "503"      from the IMS_S_CSCF entity   }   then {     the IUT receives a INVITE and     the IUT not sends a BYE //for source UE leg     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_SRA_BYE_02
<b>Test Objective</b>	Verify that the SCCAS distinguish SIP BYE with STN-SR and release source leg after OperatorSpecificTimer timeout.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.3.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasEstablishedDialog the SCCAS_UE_TERM and the UE hasEstablishedPS2CSDialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a BYE containing       RequestUri indicating value PX_STNSR_URI,       From indicating value PX__SIP_URI,       To indicating value PX__SIP_URI,       CallId indicating value PX_STI_CALLID,       Via indicating value PX_STNSR_VIA,       Contact,       TargetDialog containing "dialog info from PS session",       Require indicating value "tdialog",       PAssertedIdentity indicating value PX_UE_CMSISDN       SipMessageBody,       Reason containing Cause indicating value "Reason Q.850 31"      from the IMS_S_CSCF entity   }   then {     the IUT sends a r_200_Ok_BYE and     the IUT on timerOperatorSpecificTimeout sends a BYE //for source UE leg     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_SRA_BYE_03
<b>Test Objective</b>	Verify that the SCCAS distinguish SIP BYE with STN-SR and release source leg on BYE Cause different from Cause Q850 31.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.3.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasEstablishedDialog the SCCAS_UE_TERM and the UE hasEstablishedPS2CSDialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a BYE containing       RequestUri indicating value PX_STNSR_URI,       From indicating value PX__SIP_URI,       To indicating value PX__SIP_URI,       CallId indicating value PX_STI_CALLID,       Via indicating value PX_STNSR_VIA,       Contact,       TargetDialog containing "dialog info from PS session",       Require indicating value "tdialog",       PAssertedIdentity indicating value PX_UE_CMSISDN       SipMessageBody,       Reason containing Cause not indicating value "Reason Q.850 31"      from the IMS_S_CSCF entity   }   then {     the IUT sends a r_200_Ok_BYE and     the IUT sends a BYE //for source UE leg     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_SRA_CAN_01
<b>Test Objective</b>	Verify that the SCCAS distinguish SIP CANCEL and release session transfered leg after OperatorSpecificTimer timeout.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.3.5.1, 1A
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasInitiatedDialogWith the SCCAS_UE_TERM and the UE hasInitiatedPS2CSinEarlydialog }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a CANCEL containing       RequestUri indicating value PX_STNSR_URI,       From indicating value PX__SIP_URI,       To indicating value PX__SIP_URI,       CallId indicating value PX_STI_CALLID,       Via indicating value PX_STNSR_VIA,       Contact,       TargetDialog containing "dialog info from PS session",       Require indicating value "tdialog",       PAssertedIdentity indicating value PX_UE_CMSISDN       SipMessageBody,       Reason containing Cause not indicating value "Reason Q.850 31"      from the IMS_S_CSCF entity   }   then {     the IUT sends a r_200_Ok_CANCEL and     the IUT on timerOperatorSpecificTimeout sends a CANCEL     to the IMS_S_CSCF entity   } }</pre>	



<b>TP Id</b>	TP_ISC_SCCAS_SRA_CAN_02
<b>Test Objective</b>	Verify that the SCCAS send 200Ok_CANCEL and release PStoCS session transferred leg in alerting state for terminating user.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.3.5.2, 1A
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>//PICS_SCCAS_PS2CS_SRVCC with { the UE isRegisteredTo the IMS_A and the UE hasInitiatedDialogWith the SCCAS_UE_TERM and the UE hasInitiatedPS2CSinAlertingState }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a CANCEL containing       RequestUri indicating value PX_STNSR_URI,       From indicating value PX__SIP_URI,       To indicating value PX__SIP_URI,       CallId indicating value PX_STI_CALLID,       Via indicating value PX_STNSR_VIA,       Contact,       TargetDialog containing "dialog info from PS session",       Require indicating value "tdialog",       PAssertedIdentity indicating value PX_UE_CMSISDN       SipMessageBody,       Reason containing Cause not indicating value "Reason Q.850 31"      from the IMS_S_CSCF entity   }   then {     the IUT sends a r_200_Ok_CANCEL //and     //the IUT on timerOperatorSpecificTimeout sends a CANCEL     //to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PCT_INV_06
<b>Test Objective</b>	Verify that SCC AS correctly recognizes and initiated for PS to CS access transfer for terminating call in pre-alerting phase using PS to CS SRVCC procedure.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.4.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       Contact containing         g3gppps2csSrvccTermPreAlerting     from the IMS_S_CSCF entity   }   then {     the IUT sends a r_183_SessionProgress     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PCT_INV_02
<b>Test Objective</b>	Verify that SCC AS correctly recognizes and initiated for PS to CS access transfer for originating call in pre-alerting phase using PS to CS SRVCC procedure.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.4.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       Contact containing         g3gppPs2csSrvccOrigPreAlerting       from the IMS_S_CSCF entity   }   then {     the IUT sends a r_183_SessionProgress // possible r_18x     to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_PCT_INV_03
<b>Test Objective</b>	Verify that SCC AS correctly procedures for PS to CS access transfer of additional call.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.4.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS and the IUT hasAchievedInitialINVITE // TODO: INVITE contains: g3gppSrvccAlerting // TODO: and more conditions to distinguish subchapter from 12.3.4.2, 12.3.4.3 }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an r_180_Ringing     from the IMS_S_CSCF entity   }   then {     the IUT sends an REFER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       ReferSub indicating value false,       Supported indicating value "norefersub"     to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_MED_OPT_01
<b>Test Objective</b>	Verify that the SCC AS handles correctly the procedures for handling of SIP OPTIONS request.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.7
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an OPTIONS containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID, </pre>	

```

Via indicating value PX_UE_A_VIA,
Route indicating value PX_UE_A_SERVICE_ROUTE,
ReferTo containing
    PAssertedIdentity indicating value "the C-MSISDN in the P-Asserted-Identity
header field that the session that was most recently made"
    from the IMS_S_CSCF entity
}
then {
the IUT sends a r_200_Ok containing
ContentType indicating value "application/sdp",
ContentLength,
MessageBody containing
    SDP containing
        Media indicating value "audio and video"
to the IMS_S_CSCF entity
}
}

```

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_07
<b>Test Objective</b>	Verify that the SCC AS handles correctly the transfer of session with active speech media component.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.10.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives an INVITE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, TargetDialog from the IMS_S_CSCF entity } then { the IUT sends a r_200_Ok // to the IMS_S_CSCF entity } }	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_08
<b>Test Objective</b>	Verify that the SCC AS handles correctly the transfer of session with inactive speech media component.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.10.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS }	
<b>Expected Behaviour</b>	
ensure that { when { the IUT receives an INVITE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, TargetDialog from the IMS_S_CSCF entity } then { the IUT sends an INVITE containing // reINVITE From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA to the IMS_S_CSCF entity }	

```
}
}
```

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_09
<b>Test Objective</b>	Verify that the SCC AS handles correctly the transfer of originating session in alerting phase.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.10.2.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS and the IUT hasAchievedInitialINVITE and // INVITE initiated by served User and contains TargetDialog header field the IUT hasAchievedUPDATEuponINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an r_200_Ok     from the IMS_S_CSCF entity   } then {   the IUT sends an r_180_Ringing   to the IMS_S_CSCF entity }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_10
<b>Test Objective</b>	Verify that the SCC AS handles correctly the transfer of terminating session in alerting phase.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.10.2.5
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS and the IUT hasAchievedInitialINVITE and // INVITE initiated by remote user and contains TargetDialog header field the IUT hasAchievedUPDATEuponINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an r_200_Ok     from the IMS_S_CSCF entity   } then {   the IUT sends an r_183_SessionProgress   to the IMS_S_CSCF entity }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_11
<b>Test Objective</b>	Verify that the SCC AS handles correctly additional session transfer initiation.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an INVITE containing     From indicating value PX_UE_A_SIP_URI,     To indicating value PX_UE_B_SIP_URI,     CallId indicating value PX_UE_A_CALLID,     Via indicating value PX_UE_A_VIA,     Route indicating value PX_UE_A_SERVICE_ROUTE,     Accept containing     MIME indicating value "application/vnd.3gpp.mid-call+xml"     from the IMS_S_CSCF entity   } }</pre>	

```

then {
  the IUT sends a r_200_Ok
  to the IMS_S_CSCF entity
}
}

```

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_12
<b>Test Objective</b>	Verify that the SCC AS handles correctly transfer of session with inactive speech media component.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.10.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       Accept containing         MIME indicating value "application/vnd.3gpp.mid-call+xml"       from the IMS_S_CSCF entity   }   then {     the IUT sends an INVITE containing // reINVITE       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_13
<b>Test Objective</b>	Verify that the SCC AS handles correctly transfer of originating session in alerting phase.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.10.3.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE isRegisteredTo the IMS and the IUT hasAchievedInitialINVITE and // INVITE initiated by served User and contains Accept containing MIME indicating value "application/vnd.3gpp.mid-call+xml" the IUT hasAchievedUPDATEuponINVITE }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IUT receives an r_200_Ok     from the IMS_S_CSCF entity   }   then {     the IUT sends an r_180_Ringing     to the IMS_S_CSCF entity   } } </pre>	

<b>TP Id</b>	TP_ISC_SCCAS_CPT_INV_14
<b>Test Objective</b>	Verify that the SCC AS handles correctly transfer of terminating session in alerting phase.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.10.3.5
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS and the IUT hasAchievedInitialINVITE and // INVITE initiated by remote user and contains Accept containing MIME indicating value "application/vnd.3gpp.mid-call+xml" the IUT hasAchievedUPDATEuponINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives an r_200_Ok     from the IMS_S_CSCF entity   }   then {     the IUT sends an r_183_SessionProgress     to the IMS_S_CSCF entity   } }</pre>	

<b>TP Id</b>	TP_ISC_SCCAS_TER_BYE_01
<b>Test Objective</b>	Verify that the SCC AS correctly behave procedures when the access transfer is completed.
<b>Reference</b>	ETSI TS 124 237 [1], Clause 12.3.11
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with { the UE isRegisteredTo the IMS and the IUT hasAchievedInitialINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IUT receives a BYE containing     RequestUri indicating value PX_STNSR_URI,     From indicating value PX__SIP_URI,     To indicating value PX__SIP_URI,     CallId indicating value PX_STI_CALLID,     Via indicating value PX_STNSR_VIA,     Contact,     TargetDialog containing "dialog info from PS session",     Require indicating value "tdialog",     PAssertedIdentity indicating value PX_UE_CMSISDN     SipMessageBody,     Reason containing Cause indicating value "Reason Q.850 1" // should be different then 31   }   from the IMS_S_CSCF entity } then {   the IUT sends a r_200_Ok_BYE and   the IUT sends a r_404_NotFound //according to 3GPP TS 29.292 table 5.4.8.1.1 and table 5.4.8.1.2   to the IMS_S_CSCF entity } }</pre>	

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## Annex A (normative): TDL-TO source files

Each TP in clause 5.2 above has been written in TDL-TO and thus in a structured manner which is consistent with all other TPs. The TDL-TO text files for all test purposes are contained in archive ts\_10383302v010101p0.zip which accompanies the present document.

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## History

<b>Document history</b>		
V1.1.1	December 2022	Publication