



EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 374-3

February 1996

Source: ETSI TC-SPS

Reference: DE/SPS-03016-1

ICS: 33.020, 33.080

Key words: IN, CS1, INAP, TSS&TP, testing

**Intelligent Network (IN);
Intelligent Network Capability Set 1 (CS1);
Core Intelligent Network Application Protocol (INAP);
Part 3: Test Suite Structure and Test Purposes (TSS&TP)
specification for Service Switching Function (SSF) and
Specialized Resource Function (SRF)**

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

*

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1996. All rights reserved.

Contents

Foreword	7
1 Scope	9
2 Normative references	9
3 Definitions and abbreviations	9
3.1 Definitions	9
3.2 Abbreviations	10
4 Test Suite Structure (TSS)	11
4.1 Overview	11
4.2 Physical scenarios	13
4.3 Test groups	16
4.3.1 Interface groups	16
4.3.1.1 Basic SSF - bS	16
4.3.1.2 SSF relay - rS	16
4.3.1.3 Initiating SSF - iS	16
4.3.1.4 Assisting SSF - aS	17
4.3.1.5 IP with direct path to SCP - cl	17
4.3.2 Main test groups	17
4.3.2.1 Capability tests (CA)	17
4.3.2.2 Valid Behaviour tests (BV)	17
4.3.2.3 Invalid Behaviour tests (BI)	17
4.3.2.4 Inopportune Behaviour tests (BO)	17
4.4 Test step structure	17
4.4.1 Preambles	17
4.4.2 Postambles	17
4.5 Timers of the Abstract Test Suite (ATS)	18
5 Test Purposes (TP)	20
5.1 Introduction	20
5.1.1 Test purpose naming convention	20
5.1.2 Source of test purpose definition	21
5.1.3 Initial state	21
5.1.4 Untested procedures	21
5.2 Service Switching Point (SSP)	21
5.2.1 Basic SSF - bS	21
5.2.1.1 Capability tests (CA)	21
5.2.1.1.1 SSF-FSM state "Idle"	21
5.2.1.1.2 SSF-FSM state "Waiting For Instructions"	22
5.2.1.1.3 SSF-FSM state "Monitoring"	22
5.2.1.1.4 SSME-FSM state "Idle"	22
5.2.1.2 Valid Behaviour tests (BV)	23
5.2.1.2.1 SSF-FSM state "Idle"	23
5.2.1.2.2 SSF-FSM state "Waiting For Instructions"	27
5.2.1.2.3 SSF-FSM state "Monitoring"	37
5.2.1.2.4 SSME-FSM state "Idle"	48
5.2.1.2.5 SSME-FSM state "Non Call Associated Treatment"	49
5.2.1.3 Invalid Behaviour tests (BI)	50
5.2.1.3.1 SSF-FSM state "Idle"	50
5.2.1.3.2 SSF-FSM state "Waiting For Instructions"	51
5.2.1.3.3 SSF-FSM state "Monitoring"	52

	5.2.1.3.4	SSME-FSM state "Idle"	53
5.2.1.4		Inopportune Behaviour tests (BO)	53
	5.2.1.4.1	SSF-FSM state "Idle"	53
	5.2.1.4.2	SSF-FSM state "Waiting For Instructions".....	54
	5.2.1.4.3	SSF-FSM state "Monitoring"	54
5.2.2		SSF relay - rS	55
	5.2.2.1	Valid Behaviour tests (BV)	55
	5.2.2.1.1	SSF-FSM state "Waiting For Instructions".....	55
	5.2.2.1.2	SSF-FSM state "Waiting For End Of User Interaction".....	56
	5.2.2.2	Invalid Behaviour tests (BI)	62
	5.2.2.2.1	SSF-FSM state "Waiting For Instructions".....	62
	5.2.2.2.2	SSF-FSM state "Waiting For End Of User Interaction"	62
	5.2.2.3	Inopportune Behaviour tests (BO)	63
	5.2.2.3.1	SSF-FSM state "Idle"	63
	5.2.2.3.2	SSF-FSM state "Waiting For Instructions".....	63
	5.2.2.3.3	SSF-FSM state "Waiting for End of User Interaction".....	64
	5.2.2.3.4	SSF-FSM state "Monitoring"	64
5.2.3		Initiating SSF - iS	65
	5.2.3.1	Valid Behaviour tests (BV)	65
	5.2.3.1.1	SSF-FSM state "Waiting For Instructions".....	65
	5.2.3.1.2	SSF-FSM state "Waiting For End Of Temporary Connection"	66
	5.2.3.2	Invalid Behaviour tests (BI)	67
	5.2.3.2.1	SSF-FSM state "Waiting For Instructions".....	67
	5.2.3.2.2	SSF-FSM state "Waiting For End Of Temporary Connection"	68
	5.2.3.3	Inopportune Behaviour tests (BO)	68
	5.2.3.3.1	SSF-FSM state "Idle"	68
	5.2.3.3.2	SSF-FSM state "Waiting For Instructions".....	69
	5.2.3.3.3	SSF-FSM state "Waiting for End of Temporary Connection"	69
	5.2.3.3.4	SSF-FSM state "Monitoring"	70
5.2.4		Assisting SSF - aS.....	70
	5.2.4.1	Valid Behaviour tests (BV)	70
	5.2.4.1.1	SSF-FSM state "Idle"	70
	5.2.4.1.2	SSF-FSM state "Waiting For Instructions".....	71
	5.2.4.1.3	SSF-FSM state "Waiting For End Of User Interaction".....	73
	5.2.4.2	Invalid Behaviour tests (BI)	75
	5.2.4.2.1	SSF-FSM state "Waiting For Instructions".....	75
	5.2.4.2.2	SSF-FSM state "Waiting for End of User Interaction".....	75
	5.2.4.3	Inopportune Behaviour tests (BO)	76
	5.2.4.3.1	SSF-FSM state "Waiting For Instructions".....	76
5.3		Intelligent Peripheral (IP).....	77
	5.3.1	Valid Behaviour tests (BV)	77
	5.3.1.1	SRSM-FSM state "Idle".....	77
	5.3.1.2	SRSM-FSM state "Connected"	77
	5.3.1.2.1	Network events	77
	5.3.1.2.2	Operations.....	78

	5.3.1.2.3	Operation errors.....	82
5.3.1.3	SRSM-FSM state "User Interaction".....		83
	5.3.1.3.1	Network events.....	83
	5.3.1.3.2	Operations.....	83
5.3.2	Invalid Behaviour tests (BI).....		84
	5.3.2.1	SRSM-FSM state "Connected".....	84
	5.3.2.2	SRSM-FSM state "User Interaction".....	84
5.3.3	Inopportune Behaviour tests (BO).....		85
	5.3.3.1	SRSM-FSM state "Idle".....	85
	5.3.3.2	SRSM-FSM state "Connected".....	85
6	Compliance.....		85
Annex A (informative):	TP coverage.....		86
History.....			87

Blank page

Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is part 3 of a multi-part standard covering the Capability Set 1 (CS1) core Intelligent Network Protocol (INAP) as described below:

Part 1: "Protocol specification";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification for Service Switching Function (SSF) and Specialized Resource Function (SRF)";

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for SSF and SRF";

Part 5: "Protocol specification for the Service Control Function (SCF) - Service Data Function (SDF) interface";

Part 6: "PICS proforma specification for the SCF-SDF interface".

NOTE: Further parts of this standard may be identified later.

Transposition dates	
Date of adoption of this ETS:	1 March 1996
Date of latest announcement of this ETS (doa):	31 May 1996
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 November 1996
Date of withdrawal of any conflicting National Standard (dow):	30 November 1996

Blank page

1 Scope

This third part of ETS 300 374 provides the Test Suite Structure and Test Purposes (TSS&TP) for conformance testing of the Service Switching Function (SSF) and the Specialized Resource Function (SRF) of the core Intelligent Network Application Protocol (INAP) of Intelligent Network (IN) Capability Set 1 (CS1) according to ETS 300 374-1 [1].

ISO/IEC 9646-1 [3] and ISO/IEC 9646-2 [4] are used as the basis for the test methodology.

2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 374-1 (1994): "Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1); Core Intelligent Network Application Protocol (INAP); Part 1: Protocol specification".
- [2] ETS 300 374-2: "Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1); Core Intelligent Network Application Protocol (INAP); Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification for Service Switching Function (SSF), Specialized Resource Function (SRF) and Service Control Function (SCF)".
- [3] ISO/IEC 9646-1: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [4] ISO/IEC 9646-2: "Information technology - Open systems interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the following definitions apply:

- terms defined in ETS 300 374-1 [1];
- terms defined in ISO/IEC 9646-1 [3] and in ISO/IEC 9646-2 [4].

In particular, the following terms defined in ISO/IEC 9646-1 [3] apply:

- Abstract Test Suite (ATS);
- Implementation Under Test (IUT);
- System Under Test (SUT);
- Protocol Implementation Conformance Statement (PICS).

3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

aS	assisting SSF
aSSP	assisting SSP
ATS	Abstract Test Suite
BI	Invalid Behaviour tests
BO	Inopportune Behaviour tests
bS	tests for SSP basic functions
BV	Valid Behaviour tests
CA	Capability tests
cl	IP with direct path to SCP
EDP-N	Event Detection Point - Notification
EDP-R	Event Detection Point - Request
FE	Functional Entity
FSM	Finite State Machine
IN	Intelligent Network
INAP	Intelligent Network Application Protocol
IP	Intelligent Peripheral
iS	initiating SSF
iSSP	initiating SSP
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
PDU	Protocol Data Unit
rS	SSF relay
SCF	Service Control Function
SCP	Service Control Point
SDF	Service Data Function
SDP	Service Data Point
SRF	Specialized Resource Function
SRSM	SRF call State Model
SSF	Service Switching Function
SSME	SSF Management Entity
SSP	Service Switching Point
SUT	System Under Test
TCAP	Transaction Capabilities Application Part
TDP	Trigger Detection Point
TP	Test Purpose
TSS	Test Suite Structure

4 Test Suite Structure (TSS)

4.1 Overview

Tables 1 and 2 show the structure of the test suites for SSF and SRF.

Table 1: Test suite structure of the SSF tests

SUT	Interface	Category	State	Group
SSP	SCF-SSF bS: SSP basic functions	CA	State 1	Network event
				Operation
			State 3	Operation
			State 6	Network event
			Operation	
		BV	State 1	Network event
				Operation
			State 3	Network event
				Operation
			State 6	Network event
				Operation
			Operation error	
		State 7	Operation	
				Operation error
		State 8	Network event	
		BI	State 1	Operation
			State 3	Operation
	Operation error			
	State 6		Operation	
	BO	State 7	Operation	
		State 1	Operation	
		State 3	Operation	
	SCF-SSF-SRF rS: add. for SSP with relay functions	BV	State 6	Operation
State 3			Operation	
State 4			Network event	
		Operation		
		Operation error		
BI		State 3	Operation	
		State 4	Operation	
BO		State 1	Operation	
		State 3	Operation	
		State 4	Operation	
		State 6	Operation	

(continued)

Table 1 (concluded): Test suite structure of the SSF tests

SUT	Interface	Category	State	Group	
SSP	SCF-SSF iS: add. for SSP acting as initiating SSP	BV	State 3	Operation	
			State 5	Network event	
				Operation	
		Operation error			
		BI	State 3	Operation	
			State 5	Operation	
		BO	State 1	Operation	
			State 3	Operation	
			State 5	Operation	
	State 6		Operation		
	SCF-SSF aS: add. for SSP acting as assisting SSP	BV	State 1	Network event	
				State 3	Network event
					Operation
			Operation error		
			State 4	Network event	
				Operation	
		Operation error			
		BI	State 3	Operation	
State 4			Operation		
BO	State 3	Operation			
	State 4	Operation			

Table 2: Test suite structure of the SRF tests

SUT	Interface	Category	State	Group
IP	SCF-SRF cI (IP direct path to SCP)	BV	State 1	Network event
			State 2	Network event
				Operation
				Operation error
			State 3	Network event
				Operation
		Operation		
		BI	State 2	Operation
			State 3	Operation
BO	State 1	Operation		
	State 2	Operation		

4.2 Physical scenarios

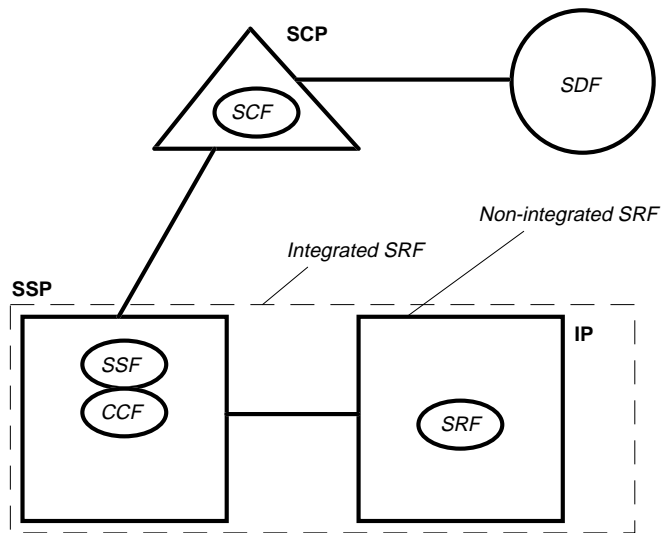
The test suites given in subclause 4.1 are based on the mapping of Functional Entities (FE) to Physical Entities (PE) as shown in table 3.

Table 3: Mapping of functional entities to physical entities

PE	FE			
	SRF	SSF	SCF	SDF
SSP	o	m	n/a	n/a
SCP	n/a	n/a	m	o
SDP	n/a	n/a	n/a	m
IP	m	n/a	n/a	n/a

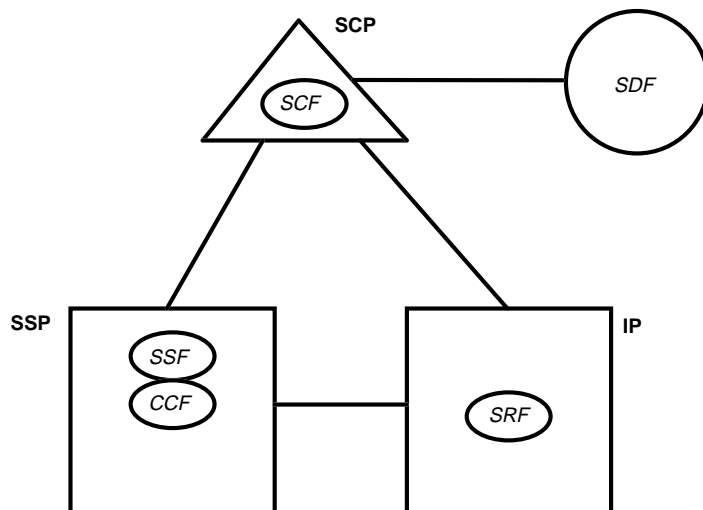
The application of the test suites according to subclause 4.1 is given in figures 1 to 5 for a number of different example physical scenarios.

The following figures illustrate mainly the SRF configurations. The SDP is included for better understanding of the whole IN configuration. Nevertheless, it possible to support an SCP with an integrated SDF.



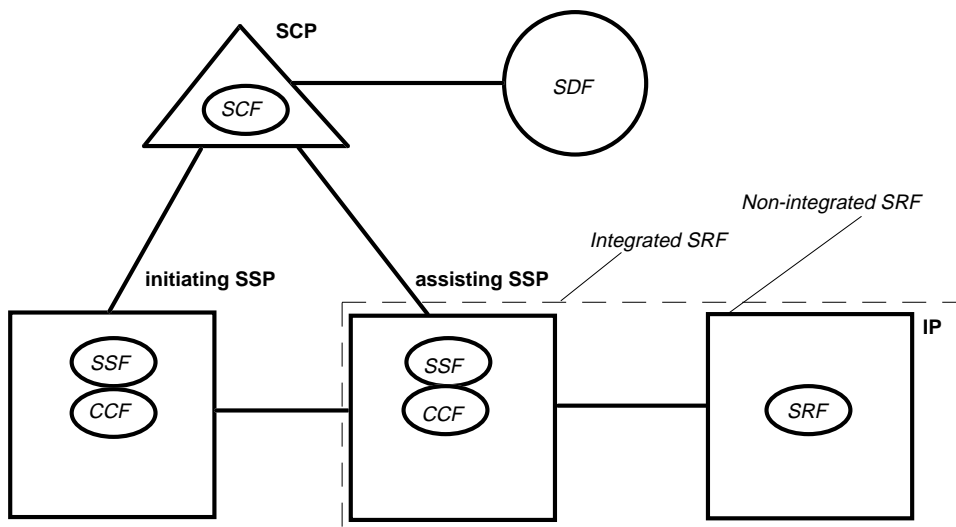
applied test suite groups for SSP testing: bS + rS

Figure 1: Example for SCP with single SSP Non-integrated or Integrated SRF



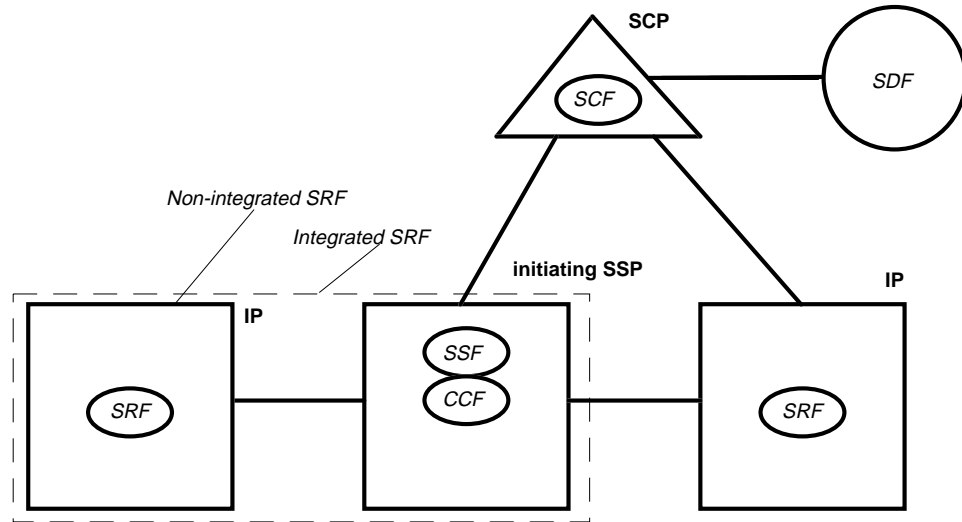
applied test suite groups for iSSP testing: bS + iS
 applied test suite groups for IP testing: cl

Figure 2: Example for direct path SCP - IP



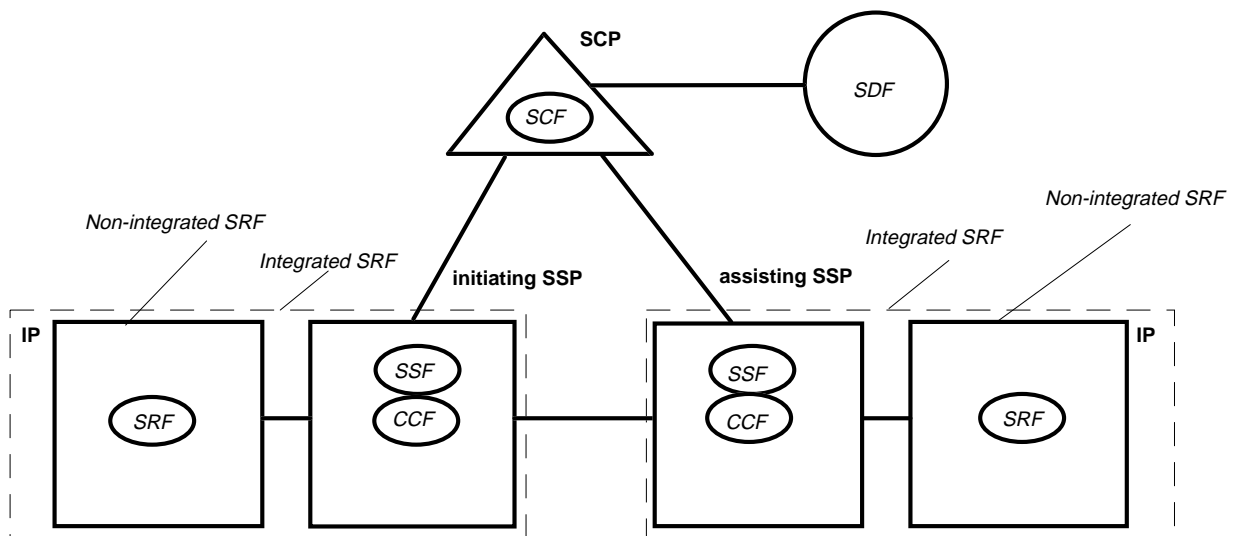
applied test suite groups for iSSP testing: bS + iS
 applied test suite groups for aSSP testing: aS + rS

Figure 3: Example for SSP Assist/Hand-off (assisting SSP with relay)



applied test suite groups for iSSP testing: bS + iS + rS
 applied test suite groups for IP testing: cl

Figure 4: Example for SSP Assist/Hand-off (initiating SSP with relay)



applied test suite groups for iSSP testing: bS + iS + rS
 applied test suite groups for aSSP testing: aS + rS

Figure 5: Example for SSP Assist/Hand-off (initiating and assisting SSP with relay)

4.3 Test groups

4.3.1 Interface groups

4.3.1.1 Basic SSF - bS

The defined test purposes cover the INAP procedures at the SSP for the basic functions as described in ETS 300 374-1 [1], clauses 7 to 10. The basic functions are the INAP procedures at the SSP for the following operations:

- ActivateServiceFiltering
- ActivityTest
- ApplyCharging
- ApplyChargingReport
- CallInformationRequest
- CallInformationReport
- Cancel (CCF events)
- CollectInformation
- Connect
- Continue
- EventNotificationCharging
- EventReportBCSM
- FurnishChargingInformation
- InitialDP
- InitiateCallAttempt
- ReleaseCall
- RequestNotificationChargingEvent
- RequestReportBCSMEvent
- ResetTimer
- SendChargingInformation
- ServiceFilteringResponse

4.3.1.2 SSF relay - rS

The defined test purposes cover the INAP procedures at the SSP needed in addition to the basic functions for the user interaction with relay as described in ETS 300 374-1 [1], clauses 7 to 10. These are the procedures for the following operations:

- Cancel (PA, PC)
- ConnectToResource
- DisconnectForwardConnection
- PlayAnnouncement
- PromptAndCollectUserInformation
- SpecializedResourceReport

4.3.1.3 Initiating SSF - iS

The defined test purposes cover the INAP procedures at the initiating SSP needed in addition to the basic functions as described in ETS 300 374-1 [1], clauses 7 to 10. These are the procedures for the following operations:

- Connect (hand-off)
- DisconnectForwardConnection
- EstablishTemporaryConnection

4.3.1.4 Assisting SSF - aS

The defined test purposes cover the INAP procedures at the assisting SSP needed in addition to the basic and relay functions as described in ETS 300 374-1 [1], clauses 7 to 10. These are the procedures for the following operations:

AssistRequestInstructions

4.3.1.5 IP with direct path to SCP - ci

The defined test purposes cover the INAP procedures at the IP related to the SRF-SCF interface in case of a direct path between SCP and IP as described in ETS 300 374-1 [1], clauses 7 to 10. These are the procedures for the following operations:

AssistRequestInstructions
Cancel
PlayAnnouncement
PromptAndCollectUserInformation
SpecializedResourceReport

4.3.2 Main test groups

4.3.2.1 Capability tests (CA)

Capability testing provides a limited testing to ascertain the capabilities stated in the PICS can be observed.

4.3.2.2 Valid Behaviour tests (BV)

Predefined state transitions are considered as valid. The test purposes in the valid behaviour test sub group cover as far as reasonable the verification of the normal and exceptional procedures of the various Finite State Machines (FSMs), i.e. a valid behaviour test is a test where the message sequence and the message contents is considered as valid.

4.3.2.3 Invalid Behaviour tests (BI)

This test sub group is intended to verify that the IUT is able to react properly having received an invalid Protocol Data Unit (PDU). An invalid PDU is defined as a syntactically incorrect message.

4.3.2.4 Inopportune Behaviour tests (BO)

This test group is intended to verify that the IUT is able to react properly in the case an inopportune protocol event occurring. Such an event is syntactically correct but occurs when it is not expected, e.g. a correctly coded operation is received in a wrong state (the IUT may respond by sending error UnexpectedComponentSequence).

4.4 Test step structure

4.4.1 Preambles

The preamble test group contains the preamble test steps needed for initialisation of the IUT before testing the particular test purpose. Each preamble shall start from the IUT initial state as defined in subclause 5.1.4.

4.4.2 Postambles

After each test case the IUT shall be brought back to the initial state as defined in subclause 5.1.4.

4.5 Timers of the Abstract Test Suite (ATS)

This subclause describes the timers and counters used in the ATS. The "min" and "max" indications define if the timer value represents the minimum or maximum limit of a timer. The timer values contain some additional tolerances for delays caused by test simulators. Therefore, a bigger timer tolerance is given than defined in ETS 300 374-1 [1]:

Minimum value of ATS timer = minimum ETS timer;

Maximum value of ATS timer = maximum ETS timer × 1,2.

Table 4 shows the identified timers used in the ATS and the references to ETS 300 374-1 [1].

Table 4: ATS timer values

ATS timer name	ATS timer value [s]	ETS timer name	Reference to ETS 300 374-1 [1]
T _{SSFmin}	(note)	T _{SSF}	not defined
T _{SSFmax}	(note)		
T _{SRFmin}	(note)	T _{SRF}	not defined
T _{SRFmax}	(note)		
T _{SCF-SSFmin}	(note)	T _{SCF-SSF}	not defined
T _{SCF-SSFmax}	(note)		
T _{ActTestmin}	(note)	T _{ActTest}	not defined
T _{ActTestmax}	(note)		
T _{ASSIST/HAND-OFFmin}	(note)	T _{ASSIST/HAND-OFF}	not defined
T _{ASSIST/HAND-OFFmax}	(note)		
T _{asfmin}	1	T _{asf}	6.1
T _{asfmax}	12		
T _{atmin}	1	T _{at}	6.1
T _{atmax}	12		
T _{acmin}	1	T _{ac}	6.1
T _{acmax}	12		
T _{acmin}	1	T _{acr}	6.1
T _{acrmax}	12		
T _{arimin}	1	T _{ari}	6.1
T _{arimax}	12		
T _{cgmin}	1	T _{cg}	6.1
T _{cgmax}	12		
T _{cirpmin}	1	T _{cirp}	6.1
T _{cirpmax}	12		
T _{cirqmin}	1	T _{cirq}	6.1
T _{cirqmax}	12		
T _{canmin}	1	T _{can}	6.1
T _{canmax}	12		
T _{cimin}	1	T _{ci}	6.1
T _{cimax}	72		

(continued)

Table 4 (concluded): ATS timer values

ATS timer name	ATS timer value [s]	ETS timer name	Reference to ETS 300 374-1 [1]
T_{conmin}	1	T_{con}	6.1
T_{conmax}	12		
T_{ctrmin}	1	T_{ctr}	6.1
T_{ctrmax}	12		
T_{cuemin}	1	T_{cue}	6.1
T_{cuemax}	12		
T_{dfcmin}	1	T_{dfc}	6.1
T_{dfcmax}	12		
T_{etcmin}	1	T_{etc}	6.1
T_{etcmax}	72		
T_{encmin}	1	T_{enc}	6.1
T_{encmax}	12		
T_{erbmin}	1	T_{erb}	6.1
T_{erbmax}	12		
T_{fcimin}	1	T_{fci}	6.1
T_{fcimax}	12		
T_{idpmin}	1	T_{idp}	6.1
T_{idpmax}	12		
T_{icamin}	1	T_{ica}	6.1
T_{icamax}	12		
T_{rcmin}	1	T_{rc}	6.1
T_{rcmax}	12		
T_{rncmin}	1	T_{rnc}	6.1
T_{rncmax}	12		
T_{rrbmin}	1	T_{rrb}	6.1
T_{rrbmax}	12		
T_{rtmin}	1	T_{rt}	6.1
T_{rtmax}	12		
T_{scimin}	1	T_{sci}	6.1
T_{scimax}	12		
T_{sfrmin}	1	T_{sfr}	6.1
T_{sfrmax}	12		
T_{pamin}	1	T_{pa}	6.1
T_{pamax}	1 800		
T_{pcmin}	1	T_{pc}	6.1
T_{pcmax}	1 800		
T_{srrmin}	1	T_{srr}	6.1
T_{srrmax}	12		
NOTE: The value of this timer is given in ETS 300 374-2 [2].			

5 Test Purposes (TP)

5.1 Introduction

For each test requirement a TP is defined.

At the start of each test sub group the preambles and the postambles are listed.

5.1.1 Test purpose naming convention

The identifier of the TP is built according to the scheme in table 5.

Table 5: TP identifier naming convention scheme

Identifier:	IN<t><c><s><g><nn>				
<t>	=	interface:	(1)	SCP: Basic SCF (bC)	(not used)
			(2)	SCP: SCF-SSF relay handling (rC)	(not used)
			(3)	SCP: SCF Assist with relay handling (aC)	(not used)
			(4)	SCP: SCF direct path IP handling (pC)	(not used)
			(5)	SCP: SCF-SDF handling (dC)	(not used)
			6	SSP: Basic SSF (bS)	
			7	SSP: SSF relay (rS)	
			8	SSP: Initiating SSF (iS)	
			9	SSP: Assisting SSF (aS)	
			A	IP: SCF-SRF direct path to SCP (cl)	
			(B)	SDP: SCF-SDF direct path to SCP (cD)	(not used)
<c>	=	category:	1	BIT, Basic Interconnection tests	(not used)
			2	CA, Capability tests	
			3	BV, Valid Behaviour tests	
			4	BI, Invalid Behaviour tests	
			5	BO, Inopportune Behaviour tests	
<s>	=	state:	0	not relevant	
			1	State 1 / State a in case of SSF	
			2	State 2 / State b in case of SSF	
			3	State 3 / State c in case of SSF	
			4	State 4 / State d in case of SSF	
			5	State 5 / State e in case of SSF	
			6	State 6 / State f in case of SSF	
			7	State 7 / State ma in case of SSF	
			8	State 8 / State mb in case of SSF	
<g>	=	group:	0	Network event	
			1	Operation	
			2	Return result	
			3	Operation error	
<nn>	=	sequential number:	(01-99)		

5.1.2 Source of test purpose definition

The test purposes are based on ETS 300 374-1 [1]. In each test purpose, a reference to the relevant subclauses of ETS 300 374-1 [1] is made below the test purpose name.

5.1.3 Initial state

The initial state for all SUTs (SSP, IP) shall be "Idle" for all test purposes.

5.1.4 Untested procedures

Application Context Name negotiation is not tested. Tests on Application Context Name negotiation shall be part of test purposes and associated ATS for Transaction Capabilities Application Part (TCAP) testing.

5.2 Service Switching Point (SSP)

5.2.1 Basic SSF - bS

The test group objective is to test the INAP procedures at the SSP for basic functions.

5.2.1.1 Capability tests (CA)

The test group objective is to test the SSP general capability of interconnecting with the partner entity.

5.2.1.1.1 SSF-FSM state "Idle"

The test group objective is to check the capability of the IUT of establishing a relation between the SCP and SSP initiated by the SSP or by the SCP.

5.2.1.1.1.1 Network events

Preamble: -
Postamble: ReleaseCall invoke and terminate the dialogue.

IN621001 To ensure that the IUT being in the "Idle" state, at detection of a TDP,

7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and all parameters related to the called party, with at least the
parameters:
- serviceKey,
- calledPartyNumber.

5.2.1.1.1.2 Operations

Preamble: -
Postamble: ReleaseCall invoke and terminate the dialogue.

IN621101 To ensure that the IUT being in the "Idle" state, receiving an **InitiateCallAttempt**
invoke containing mandatory parameters only, with:

7.1.5.1, - destinationRoutingAddress,
9.20 followed by a **RequestReportBCSMEvent** invoke with:
- bcsmEvents including at least:
- eventTypeBCSM (routeSelectFailure),
- eventTypeBCSM (oCalledPartyBusy),
- eventTypeBCSM (oNoAnswer),
- eventTypeBCSM (oAnswer),
- monitorMode being interrupted,
and a **Continue** invoke,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

5.2.1.1.2 SSF-FSM state "Waiting For Instructions"

The test group objective is to check the capability of the IUT to handle Connect operations on a detected IN call.

Preamble: Trigger detected. InitialDP invoke has been sent.
Postamble: Terminate the dialogue.

IN623101 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing mandatory parameters only, with:
7.1.5.3, - destinationRoutingAddress,
9.11
does not return any error, reject the invoke or abort the dialogue within the operation time out.

5.2.1.1.3 SSF-FSM state "Monitoring"

The test group objective is to check the capability of the IUT to handle detection point related instructions sent by the SCP.

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-R armed on oAnswer, Connect invoke received.
Postamble: ReleaseCall invoke and terminate the dialogue.

IN626001 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on oAnswer,
7.1.5.6, sends an **EventReportBCSM** invoke, containing all mandatory parameters, with
9.17 at least the parameter:
- eventTypeBCSM (oAnswer).

5.2.1.1.4 SSME-FSM state "Idle"

The test group objective is to check the capability of the IUT to handle non call associated operation sent by the SCP.

Preamble: -
Postamble: ActivateServiceFiltering invoke with filteringTimeOut being duration with value = 0.

IN627101 To ensure that the IUT being in the "Idle" state, receiving an **ActivateServiceFiltering** invoke containing mandatory parameters only, with:
7.1.1.4, - filteredCallTreatment including sFBillingChargingCharacteristics only,
9.1 - filteringCharacteristics being interval,
- filteringTimeOut being duration,
- filteringCriteria being serviceKey,
sends **ActivateServiceFiltering** result and terminates the dialogue by means of basic end.

Preamble: -
Postamble: CallGap invoke with gapIndicators including duration (0).

IN627102 To ensure that the IUT being in the "Idle" state, receiving a **CallGap** invoke containing mandatory parameters only, with:
7.1.1.4, - gapCriteria being gapOnService,
9.6 - gapIndicators
does not return any error, reject the invoke or abort the dialogue within the operation timeout and terminates the dialogue by means of prearranged end.

5.2.1.2 Valid Behaviour tests (BV)

The test group objective is to test the SSP capability of reacting correctly on network events and of accepting and if appropriate responding to PDUs (operations, operation errors) that are syntactically and semantically valid.

5.2.1.2.1 SSF-FSM state "Idle"

The test group objective is to check that a valid operation InitialDP is sent to the SCP and a valid InitiateCallAttempt operation is accepted in the SSF-FSM state "Idle".

5.2.1.2.1.1 Network events

Preamble: -
Postamble: ReleaseCall invoke and terminate the dialogue.

- IN631001 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and all parameters related to the called party, with at least the
parameters:
- serviceKey,
- calledPartyNumber.
- IN631002 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and all parameters related to the calling party, with at least the
parameters:
- serviceKey,
- callingPartyNumber.
- IN631003 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and all parameters related to the calling party, with at least the
parameters:
- serviceKey,
- callingPartysCategory.
- IN631004 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and all parameters related to location information, with at least the
parameters:
- serviceKey,
- locationNumber.
- IN631005 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and all parameters related to supplementary services, with at least
the parameters:
- serviceKey,
- originalCalledPartyID.

- IN631006 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
- 7.1.5.1,
9.19 initiates a dialogue and sends an **InitialDP** invoke containing all mandatory parameters and all parameters related to supplementary services, with at least the parameters:
- serviceKey,
 - forwardCallIndicators.
- IN631007 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
- 7.1.5.1,
9.19 initiates a dialogue and sends an **InitialDP** invoke containing all mandatory parameters and all parameters related to supplementary services, with at least the parameters:
- serviceKey,
 - redirectingPartyID.
- IN631008 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
- 7.1.5.1,
9.19 initiates a dialogue and sends an **InitialDP** invoke containing all mandatory parameters and all parameters related to supplementary services, with at least the parameters:
- serviceKey,
 - redirectionInformation.
- IN631009 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
- 7.1.5.1,
9.19 initiates a dialogue and sends an **InitialDP** invoke containing all mandatory parameters and all parameters related to the type of connection and teleservice, with at least the parameters:
- serviceKey,
 - highLayerCompatibility,
 - bearerCapability being bearerCap.
- IN631010 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
- 7.1.5.1,
9.19 initiates a dialogue and sends an **InitialDP** invoke containing all mandatory parameters and all parameters related to additional information, with at least the parameters:
- serviceKey,
 - additionalCallingPartyNumber.
- IN631011 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
- 7.1.5.1,
9.19 initiates a dialogue and sends an **InitialDP** invoke containing all mandatory parameters and indicating the TDP, with at least the parameters:
- serviceKey,
 - eventTypeBCSM.
- IN631012 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
- 7.1.5.1,
9.19 initiates a dialogue and sends an **InitialDP** invoke containing all mandatory parameters and the network operator specific parameter indicating SRF capabilities, with at least the parameters:
- serviceKey,
 - iPSSPCapabilities.

- IN631013 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and the network operator specific parameter indicating IP
availability, with at least the parameters:
- serviceKey,
- iPAvailable.
- IN631014 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and network operator specific extensions, with at least the
parameters:
- serviceKey,
- extensions.
- IN631015 To ensure that the IUT being in the "Idle" state, at detection of a TDP,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and the network operator specific parameter indicating service
interaction, with at least the parameters:
- serviceKey,
- serviceInteractionIndicators.
- Preamble:** Call Gap invoke sent.
Postamble: ReleaseCall invoke and terminate the dialogue.
- IN631016 To ensure that the IUT being in the "Idle" state, at detection of a TDP which matches
the Call Gap Criteria,
7.1.5.1, initiates a dialogue and sends an **InitialDP** invoke containing all mandatory
9.19 parameters and indicating call gapping encountered, with at least the
parameters:
- serviceKey,
- cGEncountered.
- 5.2.1.2.1.2 Operations**
- Preamble:** -
Postamble: ReleaseCall invoke and terminate the dialogue.
- IN631101 To ensure that the IUT being in the "Idle" state, receiving an **InitiateCallAttempt**
invoke containing mandatory parameters only, with:
7.1.5.1, - destinationRoutingAddress,
9.20 followed by a **RequestReportBCSMEEvent** invoke with:
- bCSMEEvent being at least
- eventTypeBCSM (routeSelectFailure),
- eventTypeBCSM (oCalledPartyBusy),
- eventTypeBCSM (oNoAnswer),
- eventTypeBCSM (oAnswer),
- monitorMode being interrupted,
and a **Continue** invoke

does not return any error, reject the invoke or abort the dialogue within the
operation time out.

- IN631102 To ensure that the IUT being in the "Idle" state, receiving an **InitiateCallAttempt** invoke containing mandatory and optional parameters, with:
- 7.1.5.1,
9.20 - destinationRoutingAddress,
 - alertingPattern,
 - callingPartyNumber,
followed by a **RequestReportBCSMEvent** invoke with:
- bCSMEvent being at least
 - eventTypeBCSM (routeSelectFailure),
 - eventTypeBCSM (oCalledPartyBusy),
 - eventTypeBCSM (oNoAnswer),
 - eventTypeBCSM (oAnswer),
 - monitorMode being interrupted,
- and a **Continue** invoke
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
-
- IN631103 To ensure that the IUT being in the "Idle" state, receiving an **InitiateCallAttempt** invoke containing network operator specific extensions, with:
- 7.1.5.1,
9.20 - destinationRoutingAddress,
 - extensions,
followed by a **RequestReportBCSMEvent** invoke with:
- bCSMEvent being at least
 - eventTypeBCSM (routeSelectFailure),
 - eventTypeBCSM (oCalledPartyBusy),
 - eventTypeBCSM (oNoAnswer),
 - eventTypeBCSM (oAnswer),
 - monitorMode being interrupted,
- and a **Continue** invoke
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
-
- IN631104 To ensure that the IUT being in the "Idle" state, receiving an **InitiateCallAttempt** invoke containing the network operator specific parameter indicating service interaction, with:
- 7.1.5.1,
9.20 - destinationRoutingAddress,
 - serviceInteractionIndicators,
followed by a **RequestReportBCSMEvent** invoke with:
- bCSMEvent being at least
 - eventTypeBCSM (routeSelectFailure),
 - eventTypeBCSM (oCalledPartyBusy),
 - eventTypeBCSM (oNoAnswer),
 - eventTypeBCSM (oAnswer),
 - monitorMode being interrupted,
- and a **Continue** invoke
- does not return any error, reject the invoke or abort the dialogue within the operation time out.

5.2.1.2.2 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that the SSF reacts correctly on network events, expiration of the application timer T_{SSF} , and a valid operation or operation sequence is accepted in the SSF-FSM state "Waiting for Instructions".

5.2.1.2.2.1 Network events

Preamble: Trigger detected. InitialDP invoke has been sent. ResetTimer invoke has been received.

Postamble: -

IN633001 To ensure that the IUT being in the "Waiting For Instructions State", at detection of calling party abandon and no call information or charging reports pending,

7.1.5. aborts the dialogue.

IN633002 To ensure that the IUT being in the "Waiting For Instructions" state, at detection of T_{SSF} expiration,

7.1.5.1,
8.3.1 aborts the dialogue.

Preamble: Originating trigger detected. InitialDP invoke has been sent. oAbandon DP is armed as an EDP-N.

Postamble: -

IN633003 To ensure that the IUT being in the "Waiting For Instructions State", at detection of calling party abandon as an EDP-N

7.1.5. sends an **EventReportBCSM** and terminates the dialogue by means of prearranged end.

Preamble: Originating trigger detected. InitialDP invoke has been sent. oAbandon DP is armed as an EDP-N and call information report is requested.

Postamble: -

IN633004 To ensure that the IUT being in the "Waiting For Instructions State", at detection of calling party abandon as an EDP-N and call information report pending,

7.1.5. sends an **EventReportBCSM** followed by a **CallInformationReport** invoke and terminates the dialogue by means of prearranged end.

Preamble: Originating trigger detected. InitialDP invoke has been sent. oDisconnect DP and oMidCall are armed as EDP-R for leg 2. Continue invoke received. MidCall Event has occurred and EventReportBCSM invoke has been sent.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN633005 To ensure that the IUT being in the "Waiting For Instructions State", at detection of call party disconnection as an EDP-R,

7.1.5. sends an **EventReportBCSM** invoke, containing all mandatory parameters, with at least:
- eventTypeBCSM (oDisconnect),
and does not terminate the dialogue.

Preamble: Terminating trigger detected. InitialDP invoke has been sent. tAbandon DP is armed as an EDP-N.

Postamble: -

IN633006 To ensure that the IUT being in the "Waiting For Instructions State", at detection of calling party abandon as an EDP-N

7.1.5. sends an **EventReportBCSM** invoke, containing all mandatory parameters, with at least:
- eventTypeBCSM (oAbandon),
and terminates the dialogue by means of prearranged end.

Preamble: Terminating trigger detected. InitialDP invoke has been sent. tAbandon DP is armed as an EDP-N and call information report is requested.

Postamble: -

IN633007 To ensure that the IUT being in the "Waiting For Instructions State", at detection of calling party abandon as an EDP-N and call information report pending,

7.1.5. sends an **EventReportBCSM** invoke, containing all mandatory parameters, with at least:
- eventTypeBCSM (oAbandon),
followed by a **CallInformationReport** invoke,

and terminates the dialogue by means of prearranged end.

Preamble: Terminating trigger detected. InitialDP invoke has been sent. tDisconnect DP and tMidCall are armed as EDP-R for leg 2. Continue invoke received. MidCall Event has occurred and EventReportBCSM invoke (tMidCall) has been sent.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN633008 To ensure that the IUT being in the "Waiting For Instructions State", at detection of call party disconnection as an EDP-R,

7.1.5. sends an **EventReportBCSM** invoke, containing all mandatory parameters, with at least:
- eventTypeBCSM (oDisconnect)
and does not terminate the dialogue.

5.2.1.2.2.2 Operations

Preamble: Trigger detected. InitialDP invoke has been sent.

Postamble: Terminate the dialogue.

IN633101 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing mandatory parameters only, with:

7.1.5.3,
9.11 - destinationRoutingAddress,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633102 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing parameters valid for local exchanges only, with:

7.1.5.3,
9.11 - destinationRoutingAddress,
- alertingPattern,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

- IN633103
7.1.5.3,
9.11
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing parameters, valid for transit exchanges only with:
- destinationRoutingAddress,
 - routeList,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633104
7.1.5.3,
9.11
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing cutAndPaste parameter with minimum value as stated in ETS 300 374-2 [2], with:
- destinationRoutingAddress,
 - cutAndPaste,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633105
7.1.5.3,
9.11
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing cutAndPaste parameter with maximum value as stated in ETS 300 374-2 [2], with:
- destinationRoutingAddress,
 - cutAndPaste,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633106
7.1.5.3,
9.11
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing parameters related to supplementary services, with:
- destinationRoutingAddress,
 - originalCalledPartyID,
 - redirectingPartyID,
 - redirectionInformation,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633107
7.1.5.3,
9.11
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing mandatory and optional parameters related to the calling party, with:
- destinationRoutingAddress,
 - callingPartyNumber,
 - callingPartysCategory,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633108
7.1.5.3,
9.11
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing network operator specific extensions, with:
- destinationRoutingAddress,
 - extensions,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633109
7.1.5.3,
9.11
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke containing the network operator specific parameter indicating service interaction, with:
- destinationRoutingAddress,
 - serviceInteractionIndicators,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633110 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **ReleaseCall** invoke, with:
7.1.5.3, - cause,
9.23

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633111 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Continue** invoke,
7.1.5.3,
9.13

does not return any error, reject the invoke or abort the dialogue within the operation time out.

Preamble: Trigger detected. InitialDP invoke has been sent.
Postamble: Connect invoke and terminate the dialogue.

IN633112 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **SendChargingInformation** invoke containing mandatory parameters only, with:
7.1.5.3, - sCIBillingChargingCharacteristics,
9.27 - legID being sendingSideID (leg1),

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633113 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **SendChargingInformation** invoke containing network operator specific extensions, with:
7.1.5.3, - sCIBillingChargingCharacteristics,
9.27 - legID being sendingSideID,
- extensions,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

Preamble: Trigger detected. InitialDP invoke has been sent.
Postamble: ReleaseCall invoke and terminate the dialogue.

IN633114 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **FurnishChargingInformation** invoke,
7.1.5.3,
9.18

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633115 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **ResetTimer** invoke containing mandatory parameters only, with:
7.1.5.3, - timerValue being minimum value as stated in ETS 300 374-2 [2],
9.26

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633116 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **ResetTimer** invoke containing mandatory and optional parameters, with:
7.1.5.3, - timerID (0),
9.26 - timerValue being minimum value as stated in ETS 300 374-2 [2],

does not return any error, reject the invoke or abort the dialogue within the operation time out.

- IN633117
7.1.5.3,
9.26
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **ResetTimer** invoke containing network operator specific extensions, with:
- timerValue being minimum value as stated in ETS 300 374-2 [2],
 - extensions,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- Preamble:** Originating trigger detected. InitialDP invoke has been sent.
Postamble: Cancel invoke with allRequests and terminate the dialogue.
- IN633118
7.1.5.3,
9.25
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke indicating a single EDP and containing mandatory parameters only, with:
- bcsmEvents including:
 - eventTypeBCSM (analyzedInformation),
 - monitorMode (interrupted),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633119
7.1.5.3,
9.25
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke indicating multiple EDPs and containing mandatory and optional parameters, with:
- bcsmEvents including:
 - eventTypeBCSM (routeSelectFailure),
 - monitorMode (notifyAndContinue),
- also including:
- eventTypeBCSM (oCalledPartyBusy),
 - monitorMode (notifyAndContinue),
- also including:
- eventTypeBCSM (oNoAnswer),
 - monitorMode (notifyAndContinue),
 - dPSpecificCriteria being applicationTimer,
- and including:
- eventTypeBCSM (oAnswer),
 - monitorMode (interrupted),
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633120
7.1.5.3,
9.25
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke indicating a single EDP and containing mandatory parameters only, with:
- bcsmEvents including:
 - eventTypeBCSM (oAbandon),
 - monitorMode (notifyAndContinue),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.

- IN633121 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEvent** invoke indicating a single EDP on a specific leg, with:
- 7.1.5.3,
9.25
- bcsmEvents including:
 - eventTypeBCSM (oMidCall),
 - monitorMode (interrupted),
 - legID being sendingSideID (leg1),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633122 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEvent** invoke indicating multiple EDPs on different legs, with:
- 7.1.5.3,
9.25
- bcsmEvents including:
 - eventTypeBCSM (oDisconnect),
 - monitorMode (notifyAndContinue),
 - legID being sendingSideID (leg1),
 - eventTypeBCSM (oDisconnect),
 - monitorMode (transparent),
 - legID being sendingSideID (leg2),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633123 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEvent** invoke containing network operator specific extensions, with:
- 7.1.5.3,
9.25
- bcsmEvents including:
 - eventTypeBCSM (oDisconnect)
 - monitorMode (notifyAndContinue)
 - legID being sendingSideID (leg1),
 - extensions,
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- Preamble:** Terminating trigger detected. InitialDP invoke has been sent.
Postamble: Cancel invoke with allRequests and terminate the dialogue.
- IN633124 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEvent** invoke indicating a single EDP and containing mandatory parameters only, with:
- 7.1.5.3,
9.25
- bcsmEvents including:
 - eventTypeBCSM (tAbandon),
 - monitorMode (interrupted),
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.

- IN633125
9.25
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke indicating multiple EDPs and containing mandatory and optional parameters, with:
- bcsmEvents including:
 - eventTypeBCSM (tCalledPartyBusy),
 - monitorMode (interrupted),
 - eventTypeBCSM (tNoAnswer),
 - monitorMode (interrupted),
 - dPSpecificCriteria being applicationTimer,
 - eventTypeBCSM (tAnswer),
 - monitorMode (notifyAndContinue),
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633126
7.1.5.3,
9.25
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke indicating a single EDP on a specific leg, with:
- bcsmEvents including:
 - eventTypeBCSM (tMidCall),
 - monitorMode (transparent),
 - legID being sendingSideID (leg2),
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633127
7.1.5.3,
9.25
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke indicating multiple EDPs on different legs, with:
- bcsmEvents including:
 - eventTypeBCSM (tDisconnect),
 - monitorMode (transparent),
 - legID being sendingSideID (leg1),
 - eventTypeBCSM (tDisconnect),
 - monitorMode (interrupted),
 - legID being sendingSideID (leg2),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633128
7.1.5.3,
9.25
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke containing network operator specific extensions, with:
- bcsmEvents including:
 - eventTypeBCSM (tDisconnect),
 - monitorMode (notifyAndContinue),
 - legID being sendingSideID (leg1),
 - extensions,
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.

Preamble: Trigger detected. InitialDP invoke has been sent.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN633129 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an **ApplyCharging** invoke containing mandatory parameters only, with:

- 7.1.5.3,
9.3
- aChBillingChargingCharacteristics,
 - sendCalculationToSCPIndication (TRUE),

followed by **Connect** invoke containing mandatory parameters only,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633130 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an **ApplyCharging** invoke containing mandatory and optional parameters, with:

- 7.1.5.3,
9.3
- aChBillingChargingCharacteristics,
 - sendCalculationToSCPIndication (TRUE),
 - partyToCharge being sendingSideID (leg1),

followed by **Continue** invoke,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633131 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an **ApplyCharging** invoke containing network operator specific extensions, with:

- 7.1.5.3,
9.3
- aChBillingChargingCharacteristics,
 - sendCalculationToSCPIndication (TRUE),
 - extensions,

followed by **Connect** invoke containing mandatory parameters only,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633132 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestNotificationChargingEvent** invoke containing mandatory parameters only, with:

- 7.1.5.3,
9.24
- eventTypeCharging,
 - monitorMode (interrupted),

followed by **Connect** invoke containing mandatory parameters only,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633133 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestNotificationChargingEvent** invoke containing mandatory and optional parameters, with:

- 7.1.5.3,
9.24
- eventTypeCharging,
 - monitorMode (notifyAndContinue),
 - legID being sendingSideID (leg2),

followed by **Continue** invoke,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

IN633134 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **CallInformationRequest** invoke indicating a single information type, with:

- 7.1.5.3,
9.8
- requestedInformationTypeList (releaseCause),

followed by **Continue** invoke,

does not return any error, reject the invoke or abort the dialogue within the operation time out.

- IN633135
7.1.5.3,
9.8
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **CallInformationRequest** invoke indicating multiple types of information, with:
- requestedInformationTypeList (callAttempt ElapsedTime),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633136
7.1.5.3,
9.8
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **CallInformationRequest** invoke indicating multiple types of information, with:
- requestedInformationTypeList (callStopTime),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633137
7.1.5.3,
9.8
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **CallInformationRequest** invoke indicating multiple types of information, with:
- requestedInformationTypeList (callConnectedElapsedTime),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633138
7.1.5.3,
9.8
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **CallInformationRequest** invoke indicating multiple types of information, with:
- requestedInformationTypeList (calledAddress),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN633139
7.1.5.3,
9.8
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **CallInformationRequest** invoke containing network operator specific extensions, with:
- requestedInformationTypeList (releaseCause),
 - extensions,
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- 5.2.1.2.2.3** **Operation errors**
- Preamble:** Trigger detected. InitialDP invoke has been sent.
Postamble: -
- IN633301
7.1.5.3,
9.19
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **MissingCustomerRecord** on InitialDP,
- returns to "Idle" state.
- IN633302
7.1.5.3,
9.19
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **MissingParameter** on InitialDP,
- returns to "Idle" state.
- IN633303
7.1.5.3,
9.19
- To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **SystemFailure** on InitialDP,
- returns to "Idle" state.

- IN633304 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **TaskRefused** on InitialDP,
7.1.5.3,
9.19 returns to "Idle" state.
- IN633305 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedComponentSequence** on InitialDP,
7.1.5.3,
9.19 returns to "Idle" state.
- IN633306 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedDataValue** on InitialDP,
7.1.5.3,
9.19 returns to "Idle" state.
- IN633307 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedParameter** on InitialDP,
7.1.5.3,
9.19 returns to "Idle" state.
- Preamble:** Trigger detected. InitialDP invoke has been sent ApplyCharging invoke has been received requesting a report at end of connection and Disconnect DP has been armed as an EDP-R. Disconnection event is detected. IUT sends ApplyChargingReport invoke followed by EventReportBCSM invoke.
- Postamble:** -
- IN633308 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **MissingParameter** on ApplyChargingReport,
7.1.5.3,
9.4 returns to "Idle" state.
- IN633309 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedComponentSequence** on ApplyChargingReport,
9.4 returns to "Idle" state.
- IN633310 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedParameter** on ApplyChargingReport,
7.1.5.3,
9.4 returns to "Idle" state.
- IN633311 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedDataValue** on ApplyChargingReport,
7.1.5.3,
9.4 returns to "Idle" state.
- IN633312 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **ParameterOutOfRange** on ApplyChargingReport,
7.1.5.3,
9.4 returns to "Idle" state.
- IN633313 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **SystemFailure** on ApplyChargingReport,
7.1.5.3,
9.4 returns to "Idle" state.
- IN633314 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **TaskRefused** on ApplyChargingReport,
7.1.5.3,
9.4 returns to "Idle" state.

5.2.1.2.3 SSF-FSM state "Monitoring"

The test group objective is to check that the SSF reacts correctly on network events and a valid operation or operation sequence is accepted in the SSF FSM state "Monitoring".

5.2.1.2.3.1 Network events

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-R armed on oAnswer, Connect invoke received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN636001 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on oAnswer,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing all mandatory parameters, with at least the parameter:

- eventTypeBCSM (oAnswer).

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-R armed on oAbandon, Connect invoke received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN636002 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on oAbandon,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing all mandatory parameters, with at least the parameter:

- eventTypeBCSM (oAbandon).

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-R armed on routeSelectFailure, Connect invoke received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN636003 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on routeSelectFailure,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (routeSelectFailure),
- eventSpecificInformationBCSM being routeSelectFailureSpecificInfo including failureCause.

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-R armed on collectedInfo with dPSpecificCriteria being numberOfDigits (1). CollectInformation invoke received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN636004 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on collectedInfo,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (collectInfo),
- eventSpecificInformationBCSM being collectedInfoSpecificInfo including calledPartyNumber.

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-N armed on oNoAnswer with dPSpecificCriteria being applicationTimer with the minimum value as stated in ETS 300 374-2 [2], Connect invoke received.

Postamble: Terminate the dialogue.

IN636005 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on oNoAnswer,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with:

- eventTypeBCSM (oNoAnswer),
 - miscCallInfo including messageType (notification)
- and terminates the dialogue by means of prearranged end.

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-N armed on oCalledPartyBusy, Connect invoke received.

Postamble: Terminate the dialogue.

IN636006 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on oCalledPartyBusy,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (oCalledPartyBusy),
 - miscCallInfo including messageType (notification),
 - eventSpecificInformationBCSM being oCalledPartyBusySpecificInfo including busyCause
- and terminates the dialogue by means of prearranged end.

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-N armed on analyzedInformation, Connect invoke received.

Postamble: Terminate the dialogue.

IN636007 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on analyzedInformation,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (analyzedInformation),
 - miscCallInfo including messageType (notification),
 - eventSpecificInformationBCSM being analyzedInfoSpecificInfo including calledPartyNumber
- and terminates the dialogue by means of prearranged end.

Preamble: Originating trigger detected. InitialDP invoke has been sent. EDP-N armed on oMidCall for leg 1, Connect invoke received.

Postamble: Terminate the dialogue.

IN636008 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on oMidCall for leg 1,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (oMidCall),
 - legID being receivingSideID (leg1),
 - miscCallInfo including messageType (notification)
- and terminates the dialogue by means of prearranged end.

- Preamble:** Originating trigger detected. InitialDP invoke has been sent. EDP-R armed on oDisconnect for leg 1, Connect invoke received.
- Postamble:** ReleaseCall invoke and terminate the dialogue.
- IN636009 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on oDisconnect for leg 1,
- 7.1.5.6,
9.17 sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:
- eventTypeBCSM (oDisconnect),
 - legID being receivingSideID (leg1),
 - eventSpecificInformationBCSM being oDisconnectSpecificInfo including releaseCause.
- Preamble:** Originating trigger detected. InitialDP invoke has been sent. EDP-N armed on oCalledPartyBusy, Connect invoke received.
- Postamble:** Terminate the dialogue.
- IN636010 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on oCalledPartyBusy,
- 7.1.5.6,
9.17 sends an **EventReportBCSM** invoke, containing network operator specific extensions, with at least the parameters:
- eventTypeBCSM (oCalledPartyBusy),
 - extensions.
- Preamble:** Originating trigger detected. InitialDP invoke has been sent. Charging event notification is requested and EDP-N on oDisconnect armed, Connect invoke received.
- Postamble:** ReleaseCall invoke and terminate the dialogue.
- IN636011 To ensure that the IUT being in the "Monitoring" state, at detection of a charging event,
- 7.1.5.6,
9.16 sends an **EventNotificationCharging** invoke, containing mandatory parameters only, with at least the parameters:
- eventTypeCharging.
- IN636012 To ensure that the IUT being in the "Monitoring" state, at detection of a charging event,
- 7.1.5.6,
9.16 sends an **EventNotificationCharging** invoke, containing mandatory and optional parameters, with at least the parameters:
- eventTypeCharging,
 - eventSpecificInformationCharging.
- IN636013 To ensure that the IUT being in the "Monitoring" state, at detection of a charging event,
- 7.1.5.6,
9.16 sends an **EventNotificationCharging** invoke, containing mandatory and optional parameters, with at least the parameters:
- eventTypeCharging,
 - monitorMode.
- IN636014 To ensure that the IUT being in the "Monitoring" state, at detection of a charging event,
- 7.1.5.6,
9.16 sends an **EventNotificationCharging** invoke, containing mandatory and optional parameters, with at least the parameters:
- eventTypeCharging,
 - legID being receivingSideID.

- IN636015 To ensure that the IUT being in the "Monitoring" state, at detection of a charging event,
- 7.1.5.6,
9.16 sends an **EventNotificationCharging** invoke, containing network operator specific extensions, with at least the parameters:
- eventTypeCharging,
 - extensions.
- Preamble:** Trigger detected. InitialDP invoke has been sent. Call information is requested including releaseCause, Connect invoke received.
- Postamble:** Terminate the dialogue.
- IN636016 To ensure that the IUT being in the "Monitoring" state, at detection of call release,
- 7.1.5.6,
9.7 sends a **CallInformationReport** invoke, containing mandatory parameters only and indicating a single information type, with at least the parameters:
- requestedInformationList including:
 - requestedInformationType (releaseCause),
 - requestedInformationValue being releaseCauseValue
- and terminates the dialogue by means of prearranged end.
- Preamble:** Trigger detected. InitialDP invoke has been sent. Call information is requested including callAttemptElapsedTime, callStopTime, callConnectedElapsedTime and calledAddress, Connect invoke received.
- Postamble:** Terminate the dialogue.
- IN636017 To ensure that the IUT being in the "Monitoring" state, at detection of call release,
- 7.1.5.6,
9.7 sends a **CallInformationReport** invoke, containing mandatory parameters only and indicating a multiple information type, with at least the parameters:
- requestedInformationList including:
 - requestedInformationType (callAttemptElapsedTime),
 - requestedInformationValue being callAttemptElapsedTimeValue,
- also including:
- requestedInformationType (callStopTime),
 - requestedInformationValue being callStopTimeValue,
- also including:
- requestedInformationType (callConnectedElapsedTime),
 - requestedInformationValue being callConnectedElapsedTimeValue,
- and including:
- requestedInformationType (calledAddress),
 - requestedInformationValue being calledAddressValue
- and terminates the dialogue by means of prearranged end.
- Preamble:** Trigger detected. InitialDP invoke has been sent. Call information is requested, Connect invoke received.
- Postamble:** Terminate the dialogue.
- IN636018 To ensure that the IUT being in the "Monitoring" state, at detection of call release,
- 7.1.5.6,
9.7 sends a **CallInformationReport** invoke, containing network operator specific extensions, with at least the parameters:
- requestedInformationList,
 - extensions
- and terminates the dialogue by means of prearranged end.

- Preamble:** Trigger detected. InitialDP invoke has been sent. ApplyCharging invoke and Connect invoke received.
- Postamble:** Terminate the dialogue.
- IN636019 To ensure that the IUT being in the "Monitoring" state, at detection of conditions for charging report,
- 7.1.5.6,
9.4 sends an **ApplyChargingReport** invoke, with:
- callResult.
- Preamble:** Originating trigger detected. InitialDP invoke has been sent. oDisconnect DP is armed as an EDP-N and apply charging report is requested for end of call, Connect invoke received.
- Postamble:** Terminate the dialogue.
- IN636020 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on oDisconnect with legID being sendingSidelD (leg1) and conditions for charging report,
- 7.1.5. sends an **EventReportBCSM** invoke,
followed by an **ApplyChargingReport** invoke,
terminates the dialogue by means of prearranged end.
- Preamble:** Originating trigger detected. InitialDP invoke has been sent. oDisconnect DP is armed as an EDP-R and call information requested, Connect invoke received.
- Postamble:** ReleaseCall invoke and terminate the dialogue.
- IN636021 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on oDisconnect,
- 7.1.5. sends a **CallInformationReport** invoke,
followed by an **EventReportBCSM** invoke and does not terminate the dialogue.
- Preamble:** Originating trigger detected. InitialDP invoke has been sent. oAnswer is armed as an EDP-N, Connect invoke received.
- Postamble:** -
- IN636022 To ensure that the IUT being in the "Monitoring" state, at detection of a calling party abandon,
- 7.1.5. aborts the dialogue.
- Preamble:** Terminating trigger detected. InitialDP invoke has been sent. EDP-R armed on tNoAnswer, Connect invoke received.
- Postamble:** ReleaseCall invoke and terminate the dialogue.
- IN636023 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on tNoAnswer,
- 7.1.5.6,
9.17 sends an **EventReportBCSM** invoke, containing all mandatory parameters, with at least the parameters:
- eventTypeBCSM (tNoAnswer).

Preamble: Terminating trigger detected. InitialDP invoke has been sent. EDP-R armed on tCalledPartyBusy, Connect invoke received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN636024 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on tCalledPartyBusy,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (tCalledPartyBusy),
- eventSpecificInformationBCSM being tCalledPartyBusySpecificInfo including busyCause.

Preamble: Terminating trigger detected. InitialDP invoke has been sent. EDP-N armed on tAnswer, Connect invoke received.

Postamble: Terminate the dialogue.

IN636025 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on tAnswer,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (tAnswer),
- miscCallInfo including messageType (notification)

and terminates the dialogue by means of prearranged end.

Preamble: Terminating trigger detected. InitialDP invoke has been sent. EDP-N armed on tAbandon, Connect invoke received.

Postamble: Terminate the dialogue.

IN636026 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on tAbandon,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (tAbandon),
- miscCallInfo including messageType (notification)

and terminates the dialogue by means of prearranged end.

Preamble: Terminating trigger detected. InitialDP invoke has been sent. EDP-R armed on tMidCall for leg 2, Connect invoke received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN636027 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-R on tMidCall for leg 2,

7.1.5.6,
9.17

sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:

- eventTypeBCSM (tMidCall),
- legID being receivingSideID (leg2).

Preamble: Terminating trigger detected. InitialDP invoke has been sent. EDP-N armed on tDisconnect for leg 2, Connect invoke received.
Postamble: Terminate the dialogue.

IN636028 To ensure that the IUT being in the "Monitoring" state, at detection of an EDP-N on tDisconnect for leg 2,
7.1.5.6,
9.17 sends an **EventReportBCSM** invoke, containing mandatory and optional parameters, with at least the parameters:
- eventTypeBCSM (tDisconnect),
- legID being receivingSideID (leg2),
- miscCallInfo including messageType (notification),
- eventSpecificInformationBCSM being tDisconnectSpecificInfo including releaseCause
and terminates the dialogue by means of prearranged end.

5.2.1.2.3.2 Operations

Preamble: Trigger detected. InitialDP invoke has been sent. Call information is requested, Connect invoke received.
Postamble: Cancel invoke with allRequests and terminate the dialogue.

IN636101 To ensure that the IUT being in the "Monitoring" state, receiving an **ActivityTest** invoke,
7.1.1.4,
9.2 sends an **ActivityTest** result.

Preamble: Originating trigger detected. InitialDP invoke has been sent. oDisconnect is armed as an EDP-N, Connect invoke received.
Postamble: Terminate the dialogue.

IN636102 To ensure that the IUT being in the "Monitoring" state, receiving a **ReleaseCall** invoke, with cause,
7.1.5.6,
9.23 does not return any error, reject the invoke or abort the dialogue within the operation time out and terminates the dialogue by means of prearranged end.

Preamble: Trigger detected. InitialDP invoke has been sent. EDPs are armed on oDisconnect and oMidCall, call information is requested, Connect invoke received.
Postamble: Terminate the dialogue.

IN636103 To ensure that the IUT being in the "Monitoring" state, receiving a **Cancel** invoke, with allRequests,
9.9 does not return any error, reject the invoke or abort the dialogue within the operation time out and terminates the dialogue by means of prearranged end.

Preamble: Trigger detected. InitialDP invoke has been sent. Call information is requested, Connect invoke received.
Postamble: Cancel invoke with allRequests and terminate the dialogue.

IN636104 To ensure that the IUT being in the "Monitoring" state, receiving a **SendChargingInformation** invoke containing mandatory parameters only, with:
7.1.5.6,
9.27 - sCIBillingChargingCharacteristics,
- legID being sendingSideID (leg1),
does not return any error, reject the invoke or abort the dialogue within the operation time out.

- IN636105
7.1.5.6,
9.27
- To ensure that the IUT being in the "Monitoring" state, receiving a **SendChargingInformation** invoke containing network operator specific extensions, with:
- sCIBillingChargingCharacteristics,
 - legID being sendingSideID,
 - extensions,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636106
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke indicating a single EDP and containing mandatory parameters only, with:
- bcsmEvents including:
 - eventTypeBCSM (analyzedInformation),
 - monitorMode (interrupted),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636107
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke indicating multiple EDPs and containing mandatory and optional parameters, with:
- bcsmEvents including:
 - eventTypeBCSM (routeSelectFailure),
 - monitorMode (notifyAndContinue),
- also including:
- eventTypeBCSM (oCalledPartyBusy),
 - monitorMode (notifyAndContinue),
- also including:
- eventTypeBCSM (oNoAnswer),
 - monitorMode (notifyAndContinue),
 - dPSpecificCriteria being applicationTimer,
- and including:
- eventTypeBCSM (oAnswer),
 - monitorMode (interrupted),
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636108
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke indicating a single EDP and containing mandatory parameters only, with:
- bcsmEvents including:
 - eventTypeBCSM (oAbandon),
 - monitorMode (notifyAndContinue),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.

- IN636109
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEEvent** invoke indicating a single EDP on a specific leg, with:
- bcsmEvents including:
 - eventTypeBCSM (oMidCall),
 - monitorMode (interrupted),
 - legID being sendingSideID (leg1),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636110
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEEvent** invoke indicating multiple EDPs on different legs, with:
- bcsmEvents including:
 - eventTypeBCSM (oDisconnect),
 - monitorMode (notifyAndContinue),
 - legID being sendingSideID (leg1),
 - eventTypeBCSM (oDisconnect),
 - monitorMode (transparent),
 - legID being sendingSideID (leg2),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636111
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEEvent** invoke containing network operator specific extensions, with:
- bcsmEvents including:
 - eventTypeBCSM (oDisconnect)
 - monitorMode (notifyAndContinue)
 - legID being sendingSideID (leg1),
 - extensions,
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636112
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEEvent** invoke indicating a single EDP and containing mandatory parameters only, with:
- bcsmEvents including:
 - eventTypeBCSM (tAbandon),
 - monitorMode (interrupted),
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.

- IN636113
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke indicating multiple EDPs and containing mandatory and optional parameters, with:
- bcsmEvents including:
 - eventTypeBCSM (tCalledPartyBusy),
 - monitorMode (interrupted),
 - eventTypeBCSM (tNoAnswer),
 - monitorMode (interrupted),
 - dPSpecificCriteria being applicationTimer,
 - eventTypeBCSM (tAnswer),
 - monitorMode (notifyAndContinue),
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636114
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke indicating a single EDP on a specific leg, with:
- bcsmEvents including:
 - eventTypeBCSM (tMidCall),
 - monitorMode (transparent),
 - legID being sendingSideID (leg2),
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636115
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke indicating multiple EDPs on different legs, with:
- bcsmEvents including:
 - eventTypeBCSM (tDisconnect),
 - monitorMode (transparent),
 - legID being sendingSideID (leg1),
 - eventTypeBCSM (tDisconnect),
 - monitorMode (interrupted),
 - legID being sendingSideID (leg2),
- followed by **Continue** invoke,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.
- IN636116
7.1.5.6,
9.25
- To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke containing network operator specific extensions, with:
- bcsmEvents including:
 - eventTypeBCSM (tDisconnect),
 - monitorMode (notifyAndContinue),
 - legID being sendingSideID (leg1),
 - extensions,
- followed by **Connect** invoke containing mandatory parameters only,
- does not return any error, reject the invoke or abort the dialogue within the operation time out.

Preamble:	Trigger detected. InitialDP invoke has been sent.
Postamble:	ReleaseCall invoke and terminate the dialogue.
IN636117 7.1.5.6, 9.24	To ensure that the IUT being in the "Monitoring" state, receiving a RequestNotificationChargingEvent invoke containing mandatory parameters only, with: <ul style="list-style-type: none">- eventTypeCharging,- monitorMode (interrupted), followed by Connect invoke containing mandatory parameters only, does not return any error, reject the invoke or abort the dialogue within the operation time out.
IN636118 7.1.5.3, 9.24	To ensure that the IUT being in the "Monitoring" state, receiving a RequestNotificationChargingEvent invoke containing mandatory and optional parameters, with: <ul style="list-style-type: none">- eventTypeCharging,- monitorMode (notifyAndContinue),- legID being sendingSideID (leg2), followed by Continue invoke, does not return any error, reject the invoke or abort the dialogue within the operation time out.
5.2.1.2.3.3	Operation errors
Preamble:	Trigger detected. InitialDP invoke has been sent. Call information is requested, Connect invoke received. Conditions for charging report fulfilled, ApplyChargingReport invoke is sent.
Postamble:	-
IN636301 7.1.5.6, 9.4	To ensure that the IUT being in the "Monitoring" state, receiving an error MissingParameter on ApplyChargingReport, returns to "Idle" state.
IN636302 7.1.5.6, 9.4	To ensure that the IUT being in the "Monitoring" state, receiving an error UnexpectedComponentSequence on ApplyChargingReport, returns to "Idle" state.
IN636303 7.1.5.6, 9.4	To ensure that the IUT being in the "Monitoring" state, receiving an error UnexpectedParameter on ApplyChargingReport, returns to "Idle" state.
IN636304 7.1.5.6, 9.4	To ensure that the IUT being in the "Monitoring" state, receiving an error UnexpectedDataValue on ApplyChargingReport, returns to "Idle" state.
IN636305 7.1.5.6, 9.4	To ensure that the IUT being in the "Monitoring" state, receiving an error ParameterOutOfRange on ApplyChargingReport, returns to "Idle" state.
IN636306 7.1.5.6, 9.4	To ensure that the IUT being in the "Monitoring" state, receiving an error SystemFailure on ApplyChargingReport, returns to "Idle" state.

IN636307 To ensure that the IUT being in the "Monitoring" state, receiving an error **TaskRefused** on ApplyChargingReport,
 7.1.5.6,
 9.4 returns to "Idle" state.

5.2.1.2.4 SSME-FSM state "Idle"

The test group objective is to check that a valid operation **ActivateServiceFiltering** or **CallGap** is accepted in the SSME-FSM state "Idle".

Preamble:

-

Postamble:

ActivateServiceFiltering invoke with filteringTimeOut being duration with value = 0.

IN637101 To ensure that the IUT being in the "Idle" state, receiving an **ActivateServiceFiltering** invoke containing mandatory parameters only, with:
 7.1.1.4,
 9.1

- filteredCallTreatment including sFBillingChargingCharacteristics only,
- filteringCharacteristics being interval,
- filteringTimeOut being duration,
- filteringCriteria being serviceKey,

sends **ActivateServiceFiltering** result and terminates the dialogue by means of basic end.

IN637102 To ensure that the IUT being in the "Idle" state, receiving an **ActivateServiceFiltering** invoke containing mandatory and optional parameters, with:
 7.1.1.4,
 9.1

- filteredCallTreatment including:
 - sFBillingChargingCharacteristics,
 - informationToSend,
 - maximumNumberOfCounters,
- filteringCharacteristics being numberOfCalls,
- filteringTimeOut being stopTime,
- filteringCriteria being addressAndService including:
 - calledAddressValue,
 - serviceKey,
 - callingAddressValue,
 - locationNumber,
- startTime,

sends **ActivateServiceFiltering** result and terminates the dialogue by means of basic end.

IN637103 To ensure that the IUT being in the "Idle" state, receiving an **ActivateServiceFiltering** invoke containing network operator specific extensions, with:
 7.1.1.4,
 9.1

- filteredCallTreatment,
- filteringCharacteristics,
- filteringTimeOut,
- filteringCriteria,
- extensions,

sends **ActivateServiceFiltering** result and terminates the dialogue by means of basic end.

- Preamble:** -
Postamble: CallGap invoke with gapIndicators including duration with value = 0.
- IN637104 To ensure that the IUT being in the "Idle" state, receiving a **CallGap** invoke containing mandatory parameters only, with:
7.1.1.4, - gapCriteria being gapOnService and,
9.6 - gapIndicators
- does not return any error, reject the invoke or abort the dialogue within the operation time out and terminates the dialogue by means of prearranged end.
- IN637105 To ensure that the IUT being in the "Idle" state, receiving a **CallGap** invoke containing mandatory and optional parameters, with:
7.1.1.4, - gapCriteria being callingAddressAndService including:
9.6 - callingAddressValue,
- serviceKey,
- locationNumber,
- gapIndicators,
- controlType,
- gapTreatment being both,
- does not return any error, reject the invoke or abort the dialogue within the operation time out and terminates the dialogue by means of prearranged end.
- IN637106 To ensure that the IUT being in the "Idle" state, receiving a **CallGap** invoke containing network operator specific extensions, with:
7.1.1.4, - gapCriteria,
9.6 - gapIndicators,
- gapTreatment,
- extensions,
- does not return any error, reject the invoke or abort the dialogue within the operation time out and terminates the dialogue by means of prearranged end.

5.2.1.2.5 SSME-FSM state "Non Call Associated Treatment"

The test group objective is to check that a valid operation ServiceFilteringResponse is sent to the SCP in the SSME-FSM state "Non Call Associated Treatment".

Preamble: ActivateServiceFiltering invoke received with filteringCharacteristics being interval, filteredCallTreatment including maximumNumberOfCounters (1), filteringTimeOut being duration and filteringCriteria being serviceKey and ActivateServiceFiltering result sent.

Postamble: -

- IN638001 To ensure that the IUT being in the "Non Call Associated Treatment" state, at the end of a filtering duration,
7.1.1.4, initiates a dialogue, sends a **ServiceFilteringResponse** invoke containing all
9.30 mandatory parameters, with at least the parameters:
- countersValue including 1 counterAndValue,
- filteringCriteria being serviceKey
and terminates the dialogue by means of prearranged end.

Preamble: ActivateServiceFiltering invoke received with filteringCharacteristics being interval, filteredCallTreatment including maximumNumberOfCounters (>1), filteringTimeOut being duration and filteringCriteria being addressAndService including calledAddressValue, serviceKey, callingAddressValue and locationNumber and ActivateServiceFiltering result sent.

Postamble: -

IN638002 To ensure that the IUT being in the "Non Call Associated Treatment" state, at the end of a filtering duration,

7.1.1.4,
9.30 initiates a dialogue, sends a **ServiceFilteringResponse** invoke containing all mandatory parameters, with at least the parameters:

- countersValue including multiple counterAndValue,
- filteringCriteria being addressAndService including:
 - calledAddressValue,
 - serviceKey,
 - callingAddressValue,
 - locationNumber

and terminates the dialogue by means of prearranged end.

Preamble: ActivateServiceFiltering invoke received with filteringCharacteristics being interval, filteredCallTreatment including maximumNumberOfCounters (1), filteringTimeOut being duration, filteringCriteria being serviceKey, and ActivateServiceFiltering result sent.

Postamble: -

IN638003 To ensure that the IUT being in the "Non Call Associated Treatment" state, at the end of a filtering duration,

7.1.1.4,
9.30 initiates a dialogue, sends a **ServiceFilteringResponse** invoke containing network operator specific extensions, with at least the parameters:

- countersValue,
- filteringCriteria,
- extensions

and terminates the dialogue by means of prearranged end.

5.2.1.3 Invalid Behaviour tests (BI)

The test group objective is to test the SSP capability of reacting correctly on PDUs (operations, operation errors) that are syntactically invalid and if appropriate responding to the partner entity.

5.2.1.3.1 SSF-FSM state "Idle"

The test group objective is to check that an invalid InitiateCallAttempt operation is rejected by the SSF in the SSF-FSM state "Idle".

Preamble: -

Postamble: -

IN641101 To ensure that the IUT being in the "Idle" state, receiving an **InitiateCallAttempt** invoke without the parameter destinationRoutingAddress,

7.1.5.1,
9.20 rejects the invoke and terminates the dialogue.

5.2.1.3.2 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that the SSF reacts correctly on receipt of an InitialDP error or an invalid operation in the SSF-FSM state "Waiting For Instructions".

5.2.1.3.2.1 Operations

Preamble: Trigger detected. InitialDP invoke has been sent. ResetTimer invoke is received.
Postamble: ReleaseCall invoke and terminate the dialogue.

IN643101 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an **ActivityTest** invoke with an argument,

7.1.5.1,
9.2 rejects the invoke or aborts the dialogue.

IN643102 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an **ApplyCharging** invoke without the parameter sendCalculationToSCPIndication,

7.1.5.1,
9.3 sends an error MissingParameter.

IN643103 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an **ApplyCharging** invoke with the parameter sendCalculationToSCPIndication set to FALSE,

7.1.5.1,
9.3 sends an error UnexpectedDataValue.

IN643104 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **Connect** invoke without the parameter destinationRoutingAddress,

7.1.5.1,
9.11 rejects the invoke or aborts the dialogue.

IN643105 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an **Continue** invoke with an argument,

7.1.5.1,
9.13 rejects the invoke or aborts the dialogue.

IN643106 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke with:

7.1.5.1,
9.25

- bcsmEvents including eventTypeBCSM (oMidCall)
- but not including legID,

sends an error MissingParameter.

IN643107 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke with:

7.1.5.1,
9.25

- bcsmEvents including eventTypeBCSM (oDisconnect)
- but not including legID,

sends an error MissingParameter.

IN643108 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEEvent** invoke with:

7.1.5.1,
9.25

- bcsmEvents including eventTypeBCSM (tMidCall)
- but not including legID,

sends an error MissingParameter.

IN643109 To ensure that the IUT being in the "Waiting For Instructions" state, receiving a **RequestReportBCSMEvent** invoke with:
 7.1.5.1, - bcsmEvents including eventTypeBCSM (tDisconnect)
 9.25 - but not including legID,

sends an error MissingParameter.

IN643110 To ensure that the IUT being in the "Waiting For Instructions" state receiving a **CollectInformation** invoke without having received a RequestReportBCSMEvent invoke with:
 7.1.5.1, - eventTypeBCSM (collectInfo),
 9.10 - monitorMode (interrupted)

sends an error UnexpectedComponentSequence.

IN643111 To ensure that the IUT being in the "Waiting For Instructions" state receiving a **ReleaseCall** invoke without an argument
 7.1.5.1,
 9.23 rejects the invoke or aborts the dialogue.

5.2.1.3.2.2 Operation errors

Preamble: Trigger detected. InitialDP invoke has been sent.

Postamble: -

IN643301 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an **InitialDP** error in a TC-Continue message,
 7.1.5.1,
 10.2.1 aborts the dialogue.

5.2.1.3.3 SSF-FSM state "Monitoring"

The test group objective is to check that the SSF reacts correctly on receipt of an invalid operation in the SSF-FSM state "Monitoring".

Preamble: Trigger detected. InitialDP invoke has been sent. Connect invoke is received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN646101 To ensure that the IUT being in the "Monitoring" state, receiving an **ActivityTest** invoke with an argument,
 7.1.5.1,
 9.2 rejects the invoke or aborts the dialogue.

IN646102 To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke with:
 7.1.5.1, - bcsmEvents including eventTypeBCSM (oMidCall)
 9.25 - but not including legID,

sends an error MissingParameter.

IN646103 To ensure that the IUT being in the "Monitoring" state, receiving a **RequestReportBCSMEvent** invoke with:
 7.1.5.1, - bcsmEvents including eventTypeBCSM (tDisconnect)
 9.25 - but not including legID,

sends an error MissingParameter.

IN646104 To ensure that the IUT being in the "Monitoring" state receiving a **ReleaseCall** invoke without an argument
 rejects the invoke or aborts the dialogue.

5.2.1.3.4 SSME-FSM state "Idle"

The test group objective is to check that the SSF reacts correctly on receipt of an invalid **ActivateServiceFiltering** operation in the SSME-FSM state "Idle".

Preamble: -
Postamble: -

IN647101 To ensure that the IUT being in the "Idle" state, receiving an **ActivateServiceFiltering** invoke without the parameter **filteredCallTreatment**,
7.1.1.4,
9.1 rejects the invoke and terminates the dialogue by means of basic end.

5.2.1.4 Inopportune Behaviour tests (BO)

The test group objective is to test the SSP capability of reacting correctly on PDUs (operations, operation errors) that are syntactically valid but semantically incorrect, and if appropriate responding to the partner entity.

5.2.1.4.1 SSF-FSM state "Idle"

The test group objective is to check that the SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Idle".

Preamble: -
Postamble: -

IN651101 To ensure that the IUT being in the "Idle" state, receiving an **ActivityTest** invoke,
7.1.5.1,
9.2 rejects the invoke and terminates the dialogue by means of basic end or aborts the dialogue.

IN651102 To ensure that the IUT being in the "Idle" state, receiving an **ApplyCharging** invoke,
7.1.5.1,
9.3 sends an error **UnexpectedComponentSequence** and terminates the dialogue by means of basic end or aborts the dialogue.

IN651103 To ensure that the IUT being in the "Idle" state, receiving a **Cancel** invoke,
7.1.5.1,
9.9 sends an error **CancelFailed** and terminates the dialogue by means of basic end or aborts the dialogue.

IN651104 To ensure that the IUT being in the "Idle" state, receiving a **CollectInformation** invoke,
7.1.5.1,
9.10 sends an error **UnexpectedComponentSequence** and terminates the dialogue by means of basic end or aborts the dialogue.

IN651105 To ensure that the IUT being in the "Idle" state, receiving a **CallInformationRequest** invoke,
7.1.5.1,
9.8 sends an error **UnexpectedComponentSequence** and terminates the dialogue by means of basic end or aborts the dialogue.

IN651106 To ensure that the IUT being in the "Idle" state, receiving an **Connect** invoke,
7.1.5.1,
9.11 sends an error **UnexpectedComponentSequence** and terminates the dialogue by means of basic end or aborts the dialogue.

- IN651107 To ensure that the IUT being in the "Idle" state, receiving a **Continue** invoke,
7.1.5.1, rejects the invoke and terminates the dialogue by means of basic end or aborts
9.13 the dialogue.
- IN651108 To ensure that the IUT being in the "Idle" state, receiving an
FurnishChargingInformation invoke,
7.1.5.1, sends an error UnexpectedComponentSequence and terminates the dialogue
9.18 by means of basic end or aborts the dialogue.
- IN651109 To ensure that the IUT being in the "Idle" state, receiving a **ReleaseCall** invoke,
7.1.5.1, rejects the invoke and terminates the dialogue by means of basic end or aborts
9.23 the dialogue.
- IN651110 To ensure that the IUT being in the "Idle" state, receiving a
RequestNotificationChargingEvent invoke,
7.1.5.1, sends an error UnexpectedComponentSequence and terminates the dialogue
9.24 by means of basic end or aborts the dialogue.
- IN651111 To ensure that the IUT being in the "Idle" state, receiving a
RequestReportBCSMEEvent invoke,
7.1.5.1, sends an error UnexpectedComponentSequence and terminates the dialogue
9.25 by means of basic end or aborts the dialogue.
- IN651112 To ensure that the IUT being in the "Idle" state, receiving a
SendChargingInformation invoke,
7.1.5.1, sends an error UnexpectedComponentSequence and terminates the dialogue
9.27 by means of basic end or aborts the dialogue.

5.2.1.4.2 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that the SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Waiting For Instructions".

Preamble: Trigger detected. InitialDP invoke has been sent.

Postamble: ReleaseCall invoke and terminate the dialogue.

- IN653101 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an
InitiateCallAttempt invoke,
7.1.5.3, sends an error UnexpectedComponentSequence or aborts the dialogue.
9.20

5.2.1.4.3 SSF-FSM state "Monitoring"

The test group objective is to check that the SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Monitoring".

Preamble: Trigger detected. InitialDP invoke has been sent. RequestReportBCSMEEvent invoke with eventTypeBCSM (oDisconnect) and monitorMode (interrupted) received. Connect invoke has been received.

Postamble: Cancel invoke with allRequests, ReleaseCall invoke and terminate the dialogue.

- IN656101 To ensure that the IUT being in the "Monitoring" state, receiving a **CollectInformation**
invoke,
7.1.5.6, sends an error UnexpectedComponentSequence or aborts the dialogue.
9.10

- IN656102 To ensure that the IUT being in the "Monitoring" state, receiving a **CallInformationRequest** invoke,
7.1.5.6,
9.8 sends an error UnexpectedComponentSequence or aborts the dialogue.
- IN656103 To ensure that the IUT being in the "Monitoring" state, receiving a **Connect** invoke,
7.1.5.6,
9.11 sends an error UnexpectedComponentSequence or aborts the dialogue.
- IN656104 To ensure that the IUT being in the "Monitoring" state, receiving a **Continue** invoke,
7.1.5.6,
9.13 aborts the dialogue.
- IN656105 To ensure that the IUT being in the "Monitoring" state, receiving a **FurnishChargingInformation** invoke,
7.1.5.6,
9.18 sends an error UnexpectedComponentSequence or aborts the dialogue.
- IN656106 To ensure that the IUT being in the "Monitoring" state, receiving an **InitiateCallAttempt** invoke,
7.1.5.6,
9.20 sends an error UnexpectedComponentSequence or aborts the dialogue.
- IN656107 To ensure that the IUT being in the "Monitoring" state, receiving a **ResetTimer** invoke,
7.1.5.6,
9.26 sends an error UnexpectedComponentSequence or aborts the dialogue.

5.2.2 SSF relay - rS

The test group objective is to test the INAP procedures at the SSP for user interaction with relay.

5.2.2.1 Valid Behaviour tests (BV)

The test group objective is to test the SSP capability of reacting correctly on network events related to user interaction and of accepting and if appropriate responding to PDUs (operations, operation errors) for user interaction with relay that are syntactically and semantically valid.

5.2.2.1.1 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that a valid ConnectToResource operation is accepted in the state "Waiting For Instructions".

Preamble: Trigger detected. InitialDP invoke has been sent.
Postamble: DisconnectForwardConnection invoke, followed by ReleaseCall invoke and terminate the dialogue.

- IN733101 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ConnectToResource** invoke containing mandatory parameters only with:
7.1.5.3,
9.12 - resourceAddress being none

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN733102 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ConnectToResource** invoke containing mandatory parameters only with:
7.1.5.3, - resourceAddress being iPRoutingAddress
9.12

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN733103 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ConnectToResource** invoke containing network operator specific extensions with:
7.1.5.3, - resourceAddress,
9.12 - extensions

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN733104 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ConnectToResource** invoke containing network operator specific parameter indicating service interaction with:
7.1.5.3, - resourceAddress,
9.12 - serviceInteractionIndicators

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

5.2.2.1.2 SSF-FSM state "Waiting For End Of User Interaction"

The test group objective is to test that the SSF being in the state "Waiting For End Of User Interaction" reacts correctly on expiration of T_{SSF} or on receipt of an error on ApplyChargingReport and accepts and correctly handles valid DisconnectForwardConnection, PlayAnnouncement, PromptAndCollectUserInformation and Cancel operations.

5.2.2.1.2.1 Network events

Preamble: Trigger detected. InitialDP invoke has been sent. ConnectToResource invoke has been received.

Postamble: -

IN734001 To ensure that the IUT being in the "Waiting For End Of User Interaction" state at detection of T_{SSF} expiration

7.1.5.4 aborts the dialogue.

5.2.2.1.2.2 Operations

Preamble: Trigger detected. InitialDP invoke has been sent. ConnectToResource invoke has been received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN734101 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **DisconnectForwardConnection** invoke

7.1.5.4, does not return any error, reject the invoke, or abort the dialogue within the
9.14 operation time out.

- IN734102
7.1.5.4,
9.21
- To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory and optional parameters with:
- informationToSend being tone including:
 - toneID,
 - duration,
 - disconnectFromIPForbidden (FALSE),
 - requestAnnouncementComplete (FALSE)
- does not return any error, reject the invoke, or abort the dialogue within the **duration** time out.
- Preamble:** Trigger detected. InitialDP invoke has been sent. ConnectToResource invoke received.
- Postamble:** DisconnectForwardConnection invoke, followed by ReleaseCall invoke and terminate the dialogue.
- IN734103
7.1.5.4,
9.21,
9.31
- To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
- informationToSend being inbandInfo including messageID being elementaryMessageID
- sends **SpecializedResourceReport** invoke.
- IN734104
7.1.5.4,
9.21,
9.29
- To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
- informationToSend being inbandInfo including messageID being text being messageContent
- sends **SpecializedResourceReport** invoke.
- IN734105
7.1.5.4,
9.21,
9.29
- To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
- informationToSend being inbandInfo including messageID being elementaryMessageIDs including multiple elementaryMessageID
- sends **SpecializedResourceReport** invoke.
- IN734106
7.1.5.4,
9.21,
9.29
- To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory parameter only with:
- informationToSend being inbandInfo including messageID being variableMessage including elementaryMessageID and variablePart being integer
- sends **SpecializedResourceReport** invoke.
- IN734107
7.1.5.4,
9.21,
9.29
- To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
- informationToSend being inbandInfo including messageID being variableMessage including elementaryMessageID and variablePart being
 - number
- sends **SpecializedResourceReport** invoke.
- IN734108
7.1.5.4,
9.21,
9.29
- To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
- informationToSend being inbandInfo including messageID being variableMessage including elementaryMessageID and variablePart being
 - time
- sends **SpecializedResourceReport** invoke.

- IN734109 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
- 7.1.5.4,
9.21,
9.29
- informationToSend being inbandInfo including messageID being variableMessage including elementaryMessageID and variablePart being
 - date
- sends **SpecializedResourceReport** invoke.
- IN734110 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
- 7.1.5.4,
9.21,
9.29
- informationToSend being inbandInfo including messageID being variableMessage including elementaryMessageID and variablePart being
 - price
- sends **SpecializedResourceReport** invoke.
- IN734111 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory and optional parameters with:
- 7.1.5.4,
9.21
- informationToSend being inbandInfo including:
 - messageID being elementaryMessageID,
 - numberOfRepetitions,
 - duration,
 - interval
- sends **SpecializedResourceReport** invoke.
- IN734112 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing mandatory and optional parameters with:
- 7.1.5.4,
9.21
- informationToSend being displayInformation
- sends **SpecializedResourceReport** invoke.
- IN734113 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke containing network operator specific extensions with:
- 7.1.5.4,
9.21,
9.29
- informationToSend being tone including toneID,
 - extensions
- sends **SpecializedResourceReport** invoke.
- IN734114 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory parameter only with:
- 7.1.5.4,
9.22
- collectedInfo being collectedDigits including maximumNbOfDigits
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734115 To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- 7.1.5.4,
9.22
- collectedInfo being collectedDigits including:
 - minimumNbOfDigits,
 - maximumNbOfDigits,
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.

- IN734116
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - endOfReplyDigit with the maximum length as stated in ETS 300 374-2 [2],
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734117
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - cancelDigit with the maximum length as stated in ETS 300 374-2 [2],
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734118
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - startDigit with the maximum length as stated in ETS 300 374-2 [2],
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734119
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - firstDigitTimeOut,
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734120
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - interDigitTimeOut,
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.

- IN734121
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - errorTreatment (repeatPrompt),
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734122
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - interruptableAnnInd (FALSE),
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734123
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - voiceInformation
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734124
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - voiceBack,
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- IN734125
7.1.5.4,
9.22
- To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including maximumNbOfDigits,
 - informationToSend being inbandInfo including messageID being elementaryMessageID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.

IN734126 7.1.5.4, 9.22	To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving PromptAndCollectUserInformation invoke containing mandatory and optional parameters with: <ul style="list-style-type: none">- collectedInfo being collectedDigits including maximumNbOfDigits,- informationToSend being inbandinfo after having received the number of digits as specified in maximumNbOfDigits from the user sends PromptAndCollectUserInformation result with digitsResponse.
Preamble:	ConnectToResource invoke received, followed by PlayAnnouncement invoke. Announcement is active.
Postamble:	DisconnectForwardConnection invoke, followed by ReleaseCall invoke and terminate the dialogue.
IN734127 7.1.5.4, 8.1.2.2, 9.9	To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving Cancel invoke containing with: <ul style="list-style-type: none">- invokeID sends error Cancelled on PlayAnnouncement.
5.2.2.1.2.3	Operation errors
Preamble:	Trigger detected. InitialDP invoke has been sent. ApplyCharging invoke and ConnectToResource invoke have been received, followed by PlayAnnouncement invoke. ApplyChargingReport invoke has been sent.
Postamble:	-
IN734301 7.1.5.4, 9.3	To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error MissingParameter on ApplyChargingReport returns to "Idle" state.
IN734302 7.1.5.4, 9.3	To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error UnexpectedComponentSequence on ApplyChargingReport returns to "Idle" state.
IN734303 7.1.5.4, 9.3	To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error UnexpectedParameter on ApplyChargingReport returns to "Idle" state.
IN734304 7.1.5.4, 9.3	To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error UnexpectedDataValue on ApplyChargingReport returns to "Idle" state.
IN734305 7.1.5.4, 9.3	To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error ParameterOutOfRange on ApplyChargingReport returns to "Idle" state.
IN734306 7.1.5.4, 9.3	To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error SystemFailure on ApplyChargingReport returns to "Idle" state.

IN734307 To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error **TaskRefused** on ApplyChargingReport
 7.1.5.4,
 9.3 returns to "Idle" state.

5.2.2.2 Invalid Behaviour tests (BI)

The test group objective is to test the SSP capability of reacting correctly and if appropriate responding to the partner entity on receipt of PDUs (operations, operation errors) for user interaction with relay that are syntactically invalid.

5.2.2.2.1 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that an invalid ConnectToResource operation is rejected by the SSF in the SSF-FSM state "Waiting For Instructions".

Preamble: Trigger detected. InitialDP invoke has been sent.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN743101 To ensure that the IUT being in the state "Waiting For Instructions receiving **ConnectToResource** invoke without resourceAddress
 7.1.5.3,
 10.2 rejects the invoke.

5.2.2.2.2 SSF-FSM state "Waiting For End Of User Interaction"

The test group objective is to check that an invalid PlayAnnouncement or PromptAndCollectUserInformation operation is rejected by the SSF in the SSF-FSM state "Waiting For End Of User Interaction".

Preamble: Trigger detected. InitialDP invoke has been sent to the SCP and SCP has sent back ConnectToResource invoke.

Postamble: DisconnectForwardConnection invoke, ReleaseCall invoke and terminate the dialogue.

IN744101 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PlayAnnouncement** invoke without informationToSend
 7.1.5.4,
 10.2 rejects the invoke.

IN744102 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PromptAndCollectUserInformation** invoke without collectedInfo
 7.1.5.4,
 10.2 rejects the invoke.

IN744103 To ensure that the IUT being in the state "Waiting For End Of User Interaction" receiving **PromptAndCollectUserInformation** invoke with collectedInfo not including maximumNbOfDigits
 7.1.5.4,
 10.2 rejects the invoke.

5.2.2.3 Inopportune Behaviour tests (BO)

The test group objective is to test the SSP capability of responding correctly to operations for user interaction with relay that are syntactically valid but semantically incorrect.

5.2.2.3.1 SSF-FSM state "Idle"

The test group objective is to check that the SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Idle".

Preamble: -
Postamble: -

- IN751101 To ensure that the IUT being in the state "Idle" receiving **ConnectToResource** invoke
7.1.5.1, sends error UnexpectedComponentSequence and terminates the dialogue.
8.1.13
- IN751102 To ensure that the IUT being in the state "Idle" receiving **DisconnectForwardConnection** invoke
7.1.5.1, sends error UnexpectedComponentSequence and terminates the dialogue by
8.1.13 means of basic end.
- IN751103 To ensure that the IUT being in the state "Idle" receiving **PlayAnnouncement** invoke
7.1.5.1, sends error UnexpectedComponentSequence and terminates the dialogue by
8.1.13 means of basic end.
- IN751104 To ensure that the IUT being in the state "Idle" receiving **PromptAndCollectUserInformation** invoke
7.1.5.1, sends error UnexpectedComponentSequence and terminates the dialogue by
8.1.13 means of basic end.
- IN751105 To ensure that the IUT being in the state "Idle" receiving **Cancel** invoke (related to
PlayAnnouncement or **PromptAndCollectUserInformation**)
7.1.5.1, reject the invoke and terminates the dialogue by means of basic end.
8.1.13

5.2.2.3.2 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that the SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Waiting For Instructions".

Preamble: Trigger detected. InitialDP invoke has been sent ResetTimer invoke has been received.
Postamble: ReleaseCall invoke and terminate the dialogue.

- IN753101 To ensure that the IUT being in the state "Waiting For Instructions" receiving **DisconnectForwardConnection** invoke with TC-Continue
7.1.5.3, sends error UnexpectedComponentSequence.
8.1.13
- IN753102 To ensure that the IUT being in the state "Waiting For Instructions" receiving **Cancel** invoke (related to **PlayAnnouncement** or **PromptAndCollectUserInformation**) with TC-Continue
7.1.5.3, sends error CancelFailed (operationNotCancellable).
8.1.13

IN753103 To ensure that the IUT being in the state "Waiting For Instructions" receiving **PlayAnnouncement** invoke with TC-Continue
 7.1.5.3,
 8.1.13 sends error UnexpectedComponentSequence.

IN753104 To ensure that the IUT being in the state "Waiting For Instructions" receiving **PromptAndCollectUserInformation** invoke with TC-Continue
 7.1.5.3,
 8.1.13 sends error UnexpectedComponentSequence.

5.2.2.3.3 SSF-FSM state "Waiting for End of User Interaction"

The test group objective is to check that the SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Waiting for End of User Interaction".

Preamble: Trigger detected. InitialDP invoke has been sent. ConnectToResource invoke was received.

Postamble: DisconnectForwardConnection invoke, followed by ReleaseCall invoke and terminate the dialogue.

IN754105 To ensure that the IUT being in the state "Waiting for End of User Interaction" receiving **InitiateCallAttempt** invoke with TC-Continue
 7.1.5.4,
 8.1.13 sends error UnexpectedComponentSequence.

5.2.2.3.4 SSF-FSM state "Monitoring"

The test group objective is to check that the SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Monitoring".

Preamble: Trigger detected. InitialDP invoke has been sent. RequestReportBCSMEvent invoke with eventTypeBCSM (oDisconnect) and monitorMode (interrupted) received. Connect invoke has been received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN756101 To ensure that the IUT being in the state "Monitoring" receiving **ConnectToResource** invoke with TC-Continue
 7.1.5.6,
 9.12 sends error UnexpectedComponentSequence.

IN756102 To ensure that the IUT being in the state "Monitoring" receiving **DisconnectForwardConnection** invoke with TC-Continue
 7.1.5.6,
 9.14 sends error UnexpectedComponentSequence.

IN756103 To ensure that the IUT being in the state "Monitoring" receiving **PlayAnnouncement** invoke with TC-Continue
 7.1.5.6,
 9.21 sends error UnexpectedComponentSequence.

IN756104 To ensure that the IUT being in the state "Monitoring" receiving **PromptAndCollectUserInformation** invoke with TC-Continue
 7.1.5.6,
 9.22 sends error UnexpectedComponentSequence.

IN756105 To ensure that the IUT being in the state "Monitoring" receiving **Cancel** invoke (related to **PlayAnnouncement** or **PromptAndCollectUserInformation**)
 7.1.5.6,
 9.9 sends error CancelFailed.

5.2.3 Initiating SSF - iS

The test group objective is to test the INAP procedures for an SSP acting as initiating SSP.

5.2.3.1 Valid Behaviour tests (BV)

The test group objective is to test the initiating SSP capability of reacting correctly on network events and of accepting and if appropriate responding to PDUs (operations, operation errors) that are syntactically and semantically valid.

5.2.3.1.1 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that valid EstablishTemporaryConnection or Connect operation is accepted in the SSF FSM state "Waiting For Instructions".

Preamble: Trigger detected. InitialDP invoke has been sent.

Postamble: DisconnectForwardConnection invoke, followed by ReleaseCall invoke and terminate the dialogue.

IN833101 To ensure that the IUT being in the state "Waiting For Instructions" receiving **EstablishTemporaryConnection** invoke containing mandatory parameters only with:

- 7.1.5.3,
9.15
- assistingSSPIPRoutingAddress

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN833102 To ensure that the IUT being in the state "Waiting For Instructions" receiving **EstablishTemporaryConnection** invoke containing mandatory and optional parameters with:

- 7.1.5.3,
9.15
- assistingSSPIPRoutingAddress,
 - correlationID

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN833103 To ensure that the IUT being in the state "Waiting For Instructions" receiving **EstablishTemporaryConnection** invoke containing the network operator specific parameter indicating the originating SCF, with:

- 7.1.5.3,
9.15
- assistingSSPIPRoutingAddress,
 - correlationID,
 - sCFID

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN833104 To ensure that the IUT being in the state "Waiting For Instructions" receiving **EstablishTemporaryConnection** invoke containing network operator specific extensions with:

- 7.1.5.3,
9.15
- assistingSSPIPRoutingAddress,
 - extensions

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN833105 To ensure that the IUT being in the state "Waiting For Instructions" receiving **EstablishTemporaryConnection** invoke containing network operator specific parameter indicating service interaction with:

- 7.1.5.3,
9.15
- assistingSSPIPRoutingAddress,
 - serviceInteractionIndicators

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN833106 To ensure that the IUT being in the state "Waiting For Instructions" receiving **Connect** invoke to initiate a hand-off procedure containing mandatory and optional parameters, with:
7.1.5.3,
9.11

- destinationRoutingAddress,
- correlationID

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN833107 To ensure that the IUT being in the state "Waiting For Instructions" receiving **Connect** invoke to initiate a hand-off procedure containing the network operator specific parameter indicating the originating SCF, with:
7.1.5.3,
9.11

- destinationRoutingAddress,
- correlationID,
- sCFID

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

5.2.3.1.2 SSF-FSM state "Waiting For End Of Temporary Connection"

The test group objective is to test that the SSF being in the state "Waiting For End Of Temporary Connection" reacts correctly on receipt of an error on ApplyChargingReport and accepts a valid DisconnectForwardConnection operation.

5.2.3.1.2.1 Network events

Preamble: Trigger detected. InitialDP invoke has been sent.
EstablishTemporaryConnection invoke has been received.

Postamble: -

IN835001 To ensure that the IUT being in the "Waiting For End Of Temporary Connection" state at detection of T_{SSF} expiration
7.1.5.3,
9.12

aborts the dialogue.

5.2.3.1.2.2 Operation

Preamble: Trigger detected. InitialDP invoke has been sent.
EstablishTemporaryConnection invoke has been received.

Postamble: ReleaseCall invoke and terminate the dialogue.

IN835101 To ensure that the IUT being in the state "Waiting For End Of Temporary Connection" receiving **DisconnectForwardConnection** invoke
7.1.5.4,
9.14

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

5.2.3.1.2.3 Operation errors

Preamble: Trigger detected. InitialDP invoke has been sent.
EstablishTemporaryConnection invoke and ApplyCharging invoke have been received, ApplyChargingReport invoke sent.

Postamble: -

IN835301 To ensure that the IUT being in the "Waiting For End Of Temporary Connection" receiving an error **MissingParameter** on ApplyChargingReport
7.1.5.4,
9.4

returns to "Idle" state.

- IN835302 To ensure that the IUT being in the "Waiting For End Of Temporary Connection" receiving an error **UnexpectedComponentSequence** on ApplyChargingReport
7.1.5.4,
9.4 returns to "Idle" state.
- IN835303 To ensure that the IUT being in the "Waiting For End Of Temporary Connection" receiving an error **UnexpectedParameter** on ApplyChargingReport
7.1.5.4,
9.4 returns to "Idle" state.
- IN835304 To ensure that the IUT being in the "Waiting For End Of Temporary Connection" receiving an error **UnexpectedDataValue** on ApplyChargingReport
7.1.5.4,
9.4 returns to "Idle" state.
- IN835305 To ensure that the IUT being in the "Waiting For End Of Temporary Connection" receiving an error **ParameterOutOfRange** on ApplyChargingReport
7.1.5.4,
9.4 returns to "Idle" state.
- IN835306 To ensure that the IUT being in the "Waiting For End Of Temporary Connection" receiving an error **SystemFailure** on ApplyChargingReport
7.1.5.4,
9.4 returns to "Idle" state.
- IN835307 To ensure that the IUT being in the "Waiting For End Of Temporary Connection" receiving an error **TaskRefused** on ApplyChargingReport
7.1.5.4,
9.4 returns to "Idle" state.

5.2.3.2 Invalid Behaviour tests (BI)

The test group objective is to test the initiating SSP capability of reacting correctly on receipt of operations that are syntactically invalid.

5.2.3.2.1 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that an invalid EstablishTemporaryConnection operation is rejected by the SSF in the SSF-FSM state "Waiting For Instructions".

Preamble: Trigger detected. InitialIDP invoke has been sent.

Postamble: DisconnectForwardConnection invoke, followed by ReleaseCall invoke and terminate the dialogue.

- IN843101 To ensure that the IUT being in the state "Waiting For Instructions" receiving **EstablishTemporaryConnection** invoke without assistingSSPIPRoutingAddress
7.1.5.3,
9.15 rejects the invoke.

5.2.3.2 SSF-FSM state "Waiting For End Of Temporary Connection"

The test group objective is to check that an invalid DisconnectForwardConnection operation is rejected by the SSF in the SSF-FSM state "Waiting For End Of Temporary Connection".

Preamble: Trigger detected. InitialDP invoke has been sent.
EstablishTemporaryConnection invoke has been received.
Postamble: ReleaseCall invoke and terminate the dialogue.

IN845101 To ensure that the IUT being in the state "Waiting For End Of Temporary Connection" receiving **DisconnectForwardConnection** invoke with any argument
7.1.5.4,
9.14 rejects the invoke.

5.2.3.3 Inopportune Behaviour tests (BO)

The test group objective is to test the initiating SSP capability of responding correctly to operations for user interaction with relay that are syntactically valid but semantically incorrect.

5.2.3.3.1 SSF-FSM state "Idle"

The test group objective is to check that the initiating SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Idle".

Preamble: -
Postamble: -

IN851101 To ensure that the IUT being in the state "Idle" receiving **ConnectToResource** invoke
7.1.5.1,
8.1.13 sends error UnexpectedComponentSequence and terminates the dialogue by means of basic end or aborts the dialogue.

IN851102 To ensure that the IUT being in the state "Idle" receiving **DisconnectForwardConnection** invoke
7.1.5.1,
8.1.13 sends error UnexpectedComponentSequence and terminates the dialogue by means of basic end or aborts the dialogue.

IN851103 To ensure that the IUT being in the state "Idle" receiving **PlayAnnouncement** invoke
7.1.5.1,
8.1.13 sends error UnexpectedComponentSequence and terminates the dialogue by means of basic end or aborts the dialogue.

IN851104 To ensure that the IUT being in the state "Idle" receiving **PromptAndCollectUserInformation** invoke
7.1.5.1,
8.1.13 sends error UnexpectedComponentSequence and terminates the dialogue by means of basic end or aborts the dialogue.

IN851105 To ensure that the IUT being in the state "Idle" receiving **Cancel** invoke
7.1.5.1,
9.9 rejects the invoke and terminates the dialogue by means of basic end or aborts the dialogue.

5.2.3.3.2 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that the initiating SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Waiting For Instructions".

Preamble: Trigger detected. InitialDP invoke has been sent.
Postamble: ReleaseCall invoke and terminate the dialogue.

IN853101 To ensure that the IUT being in the state "Waiting For Instructions" receiving **DisconnectForwardConnection** invoke with TC-Continue
7.1.5.3,
9.12 sends error UnexpectedComponentSequence.

IN853102 To ensure that the IUT being in the state "Waiting For Instructions" receiving **Cancel** invoke (related to **PlayAnnouncement** or **PromptAndCollectUserInformation**) with TC-Continue
7.1.5.3,
9.12 sends error CancelFailed (operationNotCancellable).

IN853103 To ensure that the IUT being in the state "Waiting For Instructions" receiving **PlayAnnouncement** invoke with TC-Continue
7.1.5.3,
9.12 sends error UnexpectedComponentSequence.

IN853104 To ensure that the IUT being in the state "Waiting For Instructions" receiving **PromptAndCollectUserInformation** invoke with TC-Continue
7.1.5.3,
9.12 sends error UnexpectedComponentSequence.

5.2.3.3.3 SSF-FSM state "Waiting for End of Temporary Connection"

The test group objective is to check that the SSF being in the SSF-FSM state "Waiting for End of User Interaction" reacts correctly on receipt of an operation that is not allowed in this state.

Preamble: Trigger detected. InitialDP invoke has been sent.
EstablishTemporaryConnection operation has been received.
Postamble: DisconnectForwardConnection invoke, ReleaseCall invoke, and terminate the dialogue.

IN855105 To ensure that the IUT being in the state "Waiting for End of Temporary Connection" receiving **InitiateCallAttempt** invoke with TC-Continue
7.1.5.5,
8.1.13 sends error UnexpectedComponentSequence.

IN855109 To ensure that the IUT being in the state "Waiting for End of Temporary Connection" receiving **PlayAnnouncement** invoke with TC-Continue
7.1.5.5,
8.1.13 sends error UnexpectedComponentSequence.

IN855110 To ensure that the IUT being in the state "Waiting for End of Temporary Connection" receiving **PromptAndCollectUserInformation** invoke with TC-Continue
7.1.5.5,
8.1.13 sends error UnexpectedComponentSequence.

5.2.3.3.4 SSF-FSM state "Monitoring"

The test group objective is to check that the SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Monitoring".

Preamble: Trigger detected. InitialDP invoke has been sent. RequestReportBCSMEvent invoke with eventTypeBCSM (oDisconnect) and monitorMode (interrupted) received. Connect invoke received.

Postamble: Cancel invoke with allRequests, ReleaseCall invoke, and terminate the dialogue.

IN856101 To ensure that the IUT being in the state "Monitoring" receiving **DisconnectForwardConnection** invoke with TC-Continue

7.1.5.6,
8.2.17 sends error UnexpectedComponentSequence.

IN856102 To ensure that the IUT being in the state "Monitoring" receiving **EstablishTemporaryConnection** invoke with TC-Continue

7.1.5.6,
8.2.17 sends error UnexpectedComponentSequence.

5.2.4 Assisting SSF - aS

The test group objective is to test the INAP procedures for an SSP acting as assisting SSP.

5.2.4.1 Valid Behaviour tests (BV)

The test group objective is to test the assisting SSP capability of reacting correctly on network events and of accepting and if appropriate responding to PDUs (operations, operation errors) that are syntactically and semantically valid.

5.2.4.1.1 SSF-FSM state "Idle"

The test group objective is to check that on detection of an assist request a valid AssistRequestInstructions operation is sent.

Preamble: -

Postamble: Terminate the dialogue.

IN931101 To ensure that the IUT being in the state "Idle" detecting an assist request

7.1.6.1,
9.12 sends **AssistRequestInstructions** invoke containing all mandatory parameters, with:
- correlationID.

IN931102 To ensure that the IUT being in the state "Idle" detecting an assist request

7.1.6.1,
9.5 sends **AssistRequestInstructions** invoke containing the network operator specific parameter indicating SRF capabilities, with:
- correlationID,
- iPSSPCapabilities.

IN931103 To ensure that the IUT being in the state "Idle" detecting an assist request

7.1.6.1,
9.5 sends **AssistRequestInstructions** invoke containing the network operator specific parameter indicating IP availability, with:
- correlationID,
- iPAvailable.

IN931104 To ensure that the IUT being in the state "Idle" detecting an assist request

7.1.6.1, sends **AssistRequestInstructions** invoke containing network operator specific extensions, with:
9.5 - correlationID,
- extensions.

5.2.4.1.2 SSF-FSM state "Waiting For Instructions"

The test group objective is to test that the SSF being in the state "Waiting For Instructions" reacts correctly on network events or on receipt of an error on AssistRequestInstructions and accepts valid ApplyCharging, ConnectToResource, FurnishChargingInformation, ResetTimer and SendCharging-Information operations.

5.2.4.1.2.1 Network events

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent and ResetTimer invoke has been received.

Postamble: -

IN932001 To ensure that the IUT being in the "Waiting For Instructions" state, at detection of T_{SSF} expiration,
7.1.6.2, aborts the dialogue.
9.12

IN932002 To ensure that the IUT being in the "Waiting For Instructions" state, receiving release indication from initiating SSP,
7.1.6.2, aborts the dialogue.
9.12

5.2.4.1.2.2 Operations

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent.

Postamble: Terminate the dialogue.

IN932101 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ApplyCharging invoke** containing mandatory parameters only, with:
7.1.6.2, - aChBillingChargingCharacteristics,
9.12 - sendCalculationToSCPIndication (TRUE),
followed by **ConnectToResource** invoke

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN932102 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ConnectToResource** invoke containing mandatory parameters only with:
7.1.6.2, - resourceAddress being none
9.12

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

IN932103 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ConnectToResource** invoke containing mandatory parameters only with:
7.1.6.2, - resourceAddress being iPRoutingAddress
9.12

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

- IN932104 To ensure that the IUT being in the state "Waiting For Instructions" receiving **FurnishChargingInformation** invoke
7.1.6.2,
9.12 does not return any error, reject the invoke, or abort the dialogue within the operation time out.
- IN932105 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ResetTimer** containing mandatory parameters only, with:
7.1.6.2,
9.12 - timerValue being minimum value as stated in ETS 300 374-2 [2],
does not return any error, reject the invoke, or abort the dialogue within the operation time out.
- IN932106 To ensure that the IUT being in the state "Waiting For Instructions" receiving **SendChargingInformation** containing mandatory parameters only, with:
7.1.6.2,
9.12 - sCIBillingChargingCharacteristics,
- legID being sendingSideID (leg1),
followed by **ConnectToResource** invoke
does not return any error, reject the invoke, or abort the dialogue within the operation time out.
- 5.2.4.1.2.3 Operation errors**
- Preamble:** An assist request was detected. AssistRequestInstructions invoke has been sent.
- Postamble:** -
- IN932301 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **MissingCustomerRecord** on AssistRequestInstructions,
7.1.6.2, 9.19 returns to "Idle" state.
- IN932302 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **MissingParameter** on AssistRequestInstructions,
7.1.6.2, 9.19 returns to "Idle" state.
- IN932303 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **TaskRefused** on AssistRequestInstructions,
7.1.6.2, 9.19 returns to "Idle" state.
- IN932304 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedComponentSequence** on AssistRequestInstructions,
7.1.6.2, 9.19 returns to "Idle" state.
- IN932305 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedDataValue** on AssistRequestInstructions,
7.1.6.2, 9.19 returns to "Idle" state.
- IN932306 To ensure that the IUT being in the "Waiting For Instructions" state, receiving an error **UnexpectedParameter** on AssistRequestInstructions,
7.1.6.2, 9.19 returns to "Idle" state.

5.2.4.1.3 SSF-FSM state "Waiting For End Of User Interaction"

The test group objective is to test that the SSF being in the state "Waiting For End Of User Interaction" reacts correctly on network events or on receipt of an error on ApplyChargingReport and accepts valid DisconnectForwardConnection, PlayAnnouncement, PromptAndCollectUserInformation, Cancel, ResetTimer and ActivityTest operations.

5.2.4.1.3.1 Network events

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent. ConnectToResource invoke, ResetTimer invoke and ApplyCharging invoke have been received.

Postamble: -

IN933001 To ensure that the IUT being in the "Waiting For End Of User Interaction" state at detection of T_{SSF} expiration

7.1.6.3,
9.12 aborts the dialogue.

IN933002 To ensure that the IUT being in the "Waiting For End Of User Interaction" state at detection of conditions for charging report

7.1.6.3,
9.12 sends **ApplyChargingReport** invoke with callResult.

5.2.4.1.3.2 Operations

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent. ConnectToResource invoke has been received.

Postamble: Terminate the dialogue.

IN933101 To ensure that the IUT being in the "Waiting For End Of User Interaction" state, receiving **DisconnectForwardConnection** invoke

7.1.6.3,
9.12 does not return any error, reject the invoke, or abort the dialogue within the operation time out.

Preamble: AssistRequestInstructions invoke has been sent. ConnectToResource invoke received.

Postamble: DisconnectForwardConnection invoke and terminate the dialogue.

IN933102 To ensure that the IUT being in the "Waiting For End Of User Interaction" state, receiving **PlayAnnouncement** containing mandatory parameters only, with:

7.1.6.3,
9.12 - informationToSend being inbandInfo including messageID being elementaryMessageID.

sends **SpecializedResourceReport** invoke.

IN933103 To ensure that the IUT being in the "Waiting For End Of User Interaction" state, receiving **PromptAndCollectUserInformation** invoke containing mandatory parameters only, with:

7.1.6.3,
9.12 - collectedInfo being collectedDigits including maximumNbOfDigits,
- informationToSend being inbandInfo including messageID being elementaryMessageID.

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

IN933104 To ensure that the IUT being in the "Waiting For End Of User Interaction" state, receiving **ResetTimer** invoke containing mandatory parameters only, with:
7.1.6.3, - timerValue being minimum value as stated in ETS 300 374-2 [2],
9.12

does not return any error, reject the invoke, or abort the dialogue within the operation time out.

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent. ConnectToResource invoke received, followed by PlayAnnouncement invoke. Announcement is active.

Postamble: DisconnectForwardConnection invoke and terminate the dialogue.

IN933105 To ensure that the IUT being in the "Waiting For End Of User Interaction" state receiving **Cancel** invoke with:
7.1.6.3, - invokeID
9.12

sends cancelled error on PlayAnnouncement.

IN933106 To ensure that the IUT being in the "Waiting For End Of User Interaction" state receiving **ActivityTest** invoke
7.1.6.3,
9.12

sends **ActivityTest** result.

5.2.4.1.3.3 Operation errors

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent. ConnectToResource invoke, PlayAnnouncement invoke and ApplyCharging invoke have been received. ApplyChargingReport invoke sent.

Postamble: -

IN933301 To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error **MissingParameter** on ApplyChargingReport
7.1.6.3,
9.12

returns to "Idle" state.

IN933302 To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error **UnexpectedComponentSequence** on ApplyChargingReport
7.1.6.3,
9.12

returns to "Idle" state.

IN933303 To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error **UnexpectedParameter** on ApplyChargingReport
7.1.6.3,
9.12

returns to "Idle" state.

IN933304 To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error **UnexpectedDataValue** on ApplyChargingReport
7.1.6.3,
9.12

returns to "Idle" state.

IN933305 To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error **ParameterOutOfRange** on ApplyChargingReport
7.1.6.3,
9.12

returns to "Idle" state.

IN933306 To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error **SystemFailure** on ApplyChargingReport
7.1.6.3,
9.12

returns to "Idle" state.

IN933307 To ensure that the IUT being in the "Waiting For End Of User Interaction" receiving an error **TaskRefused** on ApplyChargingReport
7.1.6.3,
9.12 returns to "Idle" state.

5.2.4.2 Invalid Behaviour tests (BI)

The test group objective is to test the assisting SSP capability of reacting correctly on receipt of operations that are syntactically invalid.

5.2.4.2.1 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that an invalid ConnectToResource or ResetTimer operation is rejected by the SSF in the SSF-FSM state "Waiting For Instructions".

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent.

Postamble: Terminate the dialogue.

IN942101 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ConnectToResource** invoke without resourceAddress
7.1.6.2,
9.12 rejects the invoke.

IN942102 To ensure that the IUT being in the state "Waiting For Instructions" receiving **ResetTimer** without timerValue
7.1.6.2,
9.12 rejects the invoke.

5.2.4.2.2 SSF-FSM state "Waiting for End of User Interaction"

The test group objective is to check that an invalid DisconnectForwardConnection, PlayAnnouncement, PromptAndCollectUserInformation, ResetTimer or Cancel operation is rejected by the SSF in the SSF-FSM state "Waiting For End of User Interaction".

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent. ConnectToResource invoke has been received.

Postamble: DisconnectForwardConnection invoke and terminate the dialogue.

IN943101 To ensure that the IUT being in the "Waiting For End Of User Interaction" state, receiving **DisconnectForwardConnection** invoke containing an argument
7.1.6.3,
9.12 reject the invoke.

IN943102 To ensure that the IUT being in the "Waiting For End Of User Interaction" state, receiving **PlayAnnouncement** without informationToSend,
7.1.6.3,
9.12 rejects the invoke.

IN943103 To ensure that the IUT being in the "Waiting For End Of User Interaction" state, receiving **PromptAndCollectUserInformation** invoke without collectedInfo
7.1.6.3,
9.12 rejects the invoke.

IN943104 To ensure that the IUT being in the "Waiting For End Of User Interaction" state, receiving **ResetTimer** invoke without timerValue
7.1.6.3,
9.12 reject the invoke.

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent. ConnectToResource invoke received, followed by PlayAnnouncement invoke. Announcement is active.

Postamble: DisconnectForwardConnection invoke and terminate the dialogue.

IN943105 To ensure that the IUT being in the "Waiting For End Of User Interaction" state receiving **Cancel** invoke without argument

7.1.6.3,
9.12 rejects the invoke.

5.2.4.3 Inopportune Behaviour tests (BO)

The test group objective is to test the assisting SSP capability of responding correctly to operations for user interaction with relay that are syntactically valid but semantically incorrect.

5.2.4.3.1 SSF-FSM state "Waiting For Instructions"

The test group objective is to check that the assisting SSF reacts correctly on receipt of an operation that is not allowed in the SSF-FSM state "Waiting For Instructions".

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent and ResetTimer invoke has been received.

Postamble: Terminate the dialogue.

IN952101 To ensure that the IUT being in the "Waiting For Instructions" state, receiving **DisconnectForwardConnection** invoke

7.1.6.2,
9.12 sends an error UnexpectedComponentSequence.

IN952102 To ensure that the IUT being in the "Waiting For Instructions" state, receiving **Cancel** invoke (related to ResetTimer

7.1.6.2,
9.12 sends error CancelFailed (operationNotCancellable).

IN952103 To ensure that the IUT being in the "Waiting For Instructions" state, receiving **PlayAnnouncement** invoke

7.1.1.6.2,
7.3.12 sends an error UnexpectedComponentSequence.

IN952104 To ensure that the IUT being in the "Waiting For Instructions" state, receiving **PromptAndCollectUserInformation** invoke

7.1.6.2,
9.12 sends an error UnexpectedComponentSequence.

5.3 Intelligent Peripheral (IP)

The test group objective is to test the INAP procedures at the IP.

5.3.1 Valid Behaviour tests (BV)

The test group objective is to test the IP capability of reacting correctly on network events and of accepting and if appropriate responding to PDUs (operations, operation errors) that are syntactically and semantically valid.

5.3.1.1 SRSM-FSM state "Idle"

The test group objective is to check that in the "Idle" state on detection of an assist request a valid AssistRequestInstructions operation is sent.

Preamble: -
Postamble: Initiate a bearer channel disconnect request to the SRF and terminate the dialogue.

INA31001 To ensure that the IUT being in the state "Idle" detecting an assist request sends **AssistRequestInstructions** invoke containing all mandatory parameters, with:
7.3.4.1, - correlationID.
7.3.4.2,
9.5

INA31002 To ensure that the IUT being in the state "Idle" detecting an assist request sends **AssistRequestInstructions** invoke containing network operator specific extensions, with:
7.3.4.1, - correlationID,
7.3.4.2, - extensions.
9.5

5.3.1.2 SRSM-FSM state "Connected"

The test group objective is to check that the IP in the "Connected" state reacts correctly on expiration of T_{SRF} and bearer channel disconnection and accepts valid operations PlayAnnouncement and PromptAndCollectUserInformation as well as error indication on AssistRequestInstructions.

5.3.1.2.1 Network events

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent.
Postamble: -

INA32001 To ensure that the IUT being in the "Connected" state, at detection of T_{SRF} expiration, returns to "Idle" state.
7.3.4.2,
8.3.2

INA32002 To ensure that the IUT being in the "Connected" state, receiving bearer channel disconnect indication from SSP, returns to "Idle" state.
7.3.4.2,
10.1.3

5.3.1.2.2 **Operations**

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent. PlayAnnouncement invoke has been received.

Postamble: Initiate a bearer channel disconnect request to the SRF and terminate the dialogue.

INA32101 To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
7.3.4.2, - informationToSend being inbandInfo including messageID being
9.21, elementaryMessageID
9.29
 sends **SpecializedResourceReport** invoke.

INA32102 To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
7.3.4.2, - informationToSend being inbandInfo including messageID being text being
9.21, messageContent
9.29
 sends **SpecializedResourceReport** invoke.

INA32103 To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
7.3.4.2, - informationToSend being inbandInfo including messageID being
9.21, elementaryMessageIDs including multiple elementaryMessageID
9.29
 sends **SpecializedResourceReport** invoke.

INA32104 To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory parameter only with:
7.3.4.2, - informationToSend being inbandInfo including messageID being
9.21, variableMessage including elementaryMessageID and variablePart being integer
9.29
 sends **SpecializedResourceReport** invoke.

INA32105 To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
7.3.4.2, - informationToSend being inbandInfo including messageID being
9.21, variableMessage including elementaryMessageID and variablePart being
9.29 number
 sends **SpecializedResourceReport** invoke.

INA32106 To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
7.3.4.2, - informationToSend being inbandInfo including messageID being
9.21, variableMessage including elementaryMessageID and variablePart being time
9.29
 sends **SpecializedResourceReport** invoke.

INA32107 To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
7.3.4.2, - informationToSend being inbandInfo including messageID being
9.21, variableMessage including elementaryMessageID and variablePart being date
9.29
 sends **SpecializedResourceReport** invoke.

- INA32108
7.3.4.2,
9.21,
9.29
- To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory parameters only with:
- informationToSend being inbandInfo including messageID being variableMessage including elementaryMessageID and variablePart being price
- sends **SpecializedResourceReport** invoke.
- INA32109
7.3.4.2,
9.21,
9.29
- To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory and optional parameters with:
- informationToSend being inbandInfo including:
 - messageID being elementaryMessageID,
 - numberOfRepetitions,
 - duration,
 - interval,
 - disconnectFromIPForbidden (FALSE),
 - requestAnnouncementComplete (FALSE)
- does not return any error, reject the invoke, or abort the dialogue within the duration time out.
- INA32110
7.3.4.2,
9.21,
9.29
- To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory and optional parameters with:
- informationToSend being tone including:
 - toneID,
 - duration,
 - disconnectFromIPForbidden (FALSE),
 - requestAnnouncementComplete (FALSE)
- does not return any error, reject the invoke, or abort the dialogue within the duration time out.
- INA32111
7.3.4.2,
9.21,
9.29
- To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing mandatory and optional parameters with:
- informationToSend being displayInformation,
 - disconnectFromIPForbidden (FALSE)
- sends **SpecializedResourceReport** invoke.
- INA32112
7.3.4.2,
9.21,
9.29
- To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke containing network operator specific extensions with:
- informationToSend being tone including toneID,
 - extensions
- sends **SpecializedResourceReport** invoke.
- INA32113
7.3.4.2,
9.22
- To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory parameter only with:
- collectedInfo being collectedDigits including maximumNbOfDigits after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32114 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
7.3.4.2,
9.22

- collectedInfo being collectedDigits including:
 - minimumNbOfDigits,
 - maximumNbOfDigits,
- disconnectFromIPForbidden (FALSE),
- informationToSend being tone including toneID

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32115 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
7.3.4.2,
9.22

- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - endOfReplyDigit with the maximum length as stated in ETS 300 374-2 [2],
- informationToSend being tone including toneID

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32116 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
7.3.4.2,
9.22

- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - cancelDigit with the maximum length as stated in ETS 300 374-2 [2],
- informationToSend being tone including toneID

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32117 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
7.3.4.2,
9.22

- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - startDigit with the maximum length as stated in ETS 300 374-2 [2],
- informationToSend being tone including toneID

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32118 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
7.3.4.2,
9.22

- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - firstDigitTimeOut,
- informationToSend being tone including toneID

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

- INA32119
7.3.4.2,
9.22
- To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - interDigitTimeOut,
 - disconnectFromIPForbidden (FALSE),
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- INA32120
7.3.4.2,
9.22
- To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - errorTreatment (repeatPrompt),
 - informationToSend being tone including toneID
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- INA32121
7.3.4.2,
9.22
- To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - interruptableAnnInd (FALSE),
 - informationToSend being tone including toneID,
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- INA32122
7.3.4.2,
9.22
- To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - voiceInformation,
 - informationToSend being tone including toneID,
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.
- INA32123
7.3.4.2,
9.22
- To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:
- collectedInfo being collectedDigits including:
 - maximumNbOfDigits,
 - voiceBack,
 - informationToSend being tone including toneID,
- after having received the number of digits as specified in maximumNbOfDigits from the user
- sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32124 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:

7.3.4.2,
9.22

- collectedInfo being collectedDigits including maximumNbOfDigits,
- informationToSend being displayInformation,

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32125 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing mandatory and optional parameters with:

7.3.4.2,
9.22

- collectedInfo being collectedDigits including maximumNbOfDigits,
- informationToSend being inbandInfo including messageID being elementaryMessageID,

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32126 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke containing network operator specific extensions with:

7.3.4.2,
9.22

- collectedInfo being collectedDigits including maximumNbOfDigits,
- informationToSend being tone including toneID
- extensions,

after having received the number of digits as specified in maximumNbOfDigits from the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

INA32127 To ensure that the IUT being in the state "Connected" receiving **Cancel** invoke containing with the invokeID of the PlayAnnouncement invoke

8.2.2,
9.9

sends error Cancelled on **PlayAnnouncement**.

5.3.1.2.3

Operation errors

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent.

Postamble: -

INA32301 To ensure that the IUT being in the "Connected" state, receiving an error **MissingCustomerRecord** on AssistRequestInstructions, returns to "Idle" state.

8.2.6, 10.2

INA32302 To ensure that the IUT being in the "Connected" state, receiving an error **MissingParameter** on AssistRequestInstructions, returns to "Idle" state.

8.2.7, 10.2.

INA32303 To ensure that the IUT being in the "Connected" state, receiving an error **TaskRefused** on AssistRequestInstructions, returns to "Idle" state.

8.2.15, 10.2.

INA32304 To ensure that the IUT being in the "Connected" state, receiving an error **UnexpectedComponentSequence** on AssistRequestInstructions, returns to "Idle" state.

8.2.17, 10.2.

INA32305 To ensure that the IUT being in the "Connected" state, receiving an error
UnexpectedDataValue on AssistRequestInstructions,
8.2.18, 10.2. returns to "Idle" state.

INA32306 To ensure that the IUT being in the "Connected" state, receiving an error
UnexpectedParameter on AssistRequestInstructions,
8.2.19, 10.2. returns to "Idle" state.

5.3.1.3 SRSM-FSM state "User Interaction"

The test group objective is to check that the IP in the "User Interaction" state reacts correctly on expiration of T_{SRF} and bearer channel disconnection and accepts valid operations PlayAnnouncement and PromptAndCollectUserInformation.

5.3.1.3.1 Network events

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent. PlayAnnouncement invoke has been received.

Postamble: -

INA33001 To ensure that the IUT being in the "User Interaction" state, at detection of T_{SRF}
expiration,
7.3.4.3, returns to the "Idle" state
8.3.2

INA33002 To ensure that the IUT being in the "User Interaction" state, receiving bearer channel
disconnect indication from SSP,
7.3.4.3, returns to the "Idle" state
10.1.3

5.3.1.3.2 Operations

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent.

Postamble: Terminate the dialogue.

INA33101 To ensure that the IUT being in the "User Interaction" state, receiving
PlayAnnouncement invoke containing mandatory and optional parameters, with:
7.3.4.3, - informationToSend being inbandInfo including messageID being
9.21 elementaryMessageID,
- disconnectFromIPForbidden (FALSE)

sends SpecializedResourceReport invoke.

INA33102 To ensure that the IUT being in the "User Interaction" state, receiving
PromptAndCollectUserInformation invoke containing mandatory and optional
7.3.4.3, parameters, with:
9.22 - informationToSend being inbandInfo including messageID being
elementaryMessageID,
- collectedInfo being collectedDigits including maximumNbOfDigits,
- disconnectFromIPForbidden (FALSE)
after having received the number of digits as specified in maximumNbOfDigits from
the user

sends **PromptAndCollectUserInformation** result with digitsResponse.

5.3.2 Invalid Behaviour tests (BI)

The test group objective is to test the IP capability of reacting correctly on operations that are syntactically invalid and if appropriate responding to the partner entity.

5.3.2.1 SRSM-FSM state "Connected"

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent.

Postamble: Terminate the dialogue.

INA42101 To ensure that the IUT being in the state "Connected" receiving **PlayAnnouncement** invoke without informationToSend

7.3.4.3,
10.2 rejects the invoke or aborts the dialogue.

INA42102 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke without collectedInfo

7.3.4.3,
10.2 rejects the invoke or aborts the dialogue.

INA42103 To ensure that the IUT being in the state "Connected" receiving **PromptAndCollectUserInformation** invoke with collectedInfo not including maximumNbOfDigits

7.3.4.3,
10.2 rejects the invoke or aborts the dialogue.

5.3.2.2 SRSM-FSM state "User Interaction"

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent.

Postamble: Terminate the dialogue.

INA43101 To ensure that the IUT being in the state "User Interaction" receiving **PlayAnnouncement** invoke without informationToSend

7.3.4.3,
10.2 rejects the invoke or aborts the dialogue.

INA43102 To ensure that the IUT being in the state "User Interaction" receiving **PromptAndCollectUserInformation** invoke without collectedInfo

7.3.4.3,
10.2 rejects the invoke or aborts the dialogue.

INA43103 To ensure that the IUT being in the state "User Interaction" receiving **PromptAndCollectUserInformation** invoke with collectedInfo not including maximumNbOfDigits

7.3.4.3,
10.2 rejects the invoke or aborts the dialogue.

INA43104 To ensure that the IUT being in the state "User Interaction" receiving **Cancel** invoke (related to allRequests)

7.1.5.4,
8.2.3 rejects the invoke.

5.3.3 Inopportune Behaviour tests (BO)

The test group objective is to test the IP capability of reacting correctly on operations that are syntactically valid but semantically incorrect, and if appropriate responding to the partner entity.

5.3.3.1 SRSM-FSM state "Idle"

The test group objective is to check that the IP reacts correctly on receipt of an operation that is not allowed in the SRSM-FSM state "Idle".

Preamble: -
Postamble: -

INA51101 To ensure that the IUT being in the state "Idle" receiving a **PlayAnnouncement** invoke
7.3.4.1, sends error UnexpectedComponentSequence and terminates the dialogue.
8.1.13

INA51102 To ensure that the IUT being in the state "Idle" receiving a **PromptAndCollectUserInformation** invoke
7.3.4.1, sends error UnexpectedComponentSequence and terminates the dialogue.
8.1.13

INA51103 To ensure that the IUT being in the state "Idle" receiving a **Cancel** invoke
7.3.4.1, rejects the invoke and terminates the dialogue.
8.1.13

5.3.3.2 SRSM-FSM state "Connected"

The test group objective is to check that the IP reacts correctly on receipt of an operation that is not allowed in the SRSM-FSM state "Connected".

Preamble: An assist request was detected. AssistRequestInstructions invoke has been sent.
Postamble: Terminate the dialogue.

INA52101 To ensure that the IUT being in the state "Connected" receiving a **Cancel** invoke
(related to allRequests)
7.3.4.2, rejects the invoke or terminates the dialogue.
8.1.13

6 Compliance

An ATS which complies with the TSS&TP specification in this ETS shall:

- a) consist of a set of test cases corresponding to the set or to a subset of the test purposes specified in clause 5;
- b) use a test suite structure which is an appropriate subset of the whole of the test suite structure specified in clause 4;
- c) use the same naming conventions for the test groups and test cases;
- d) maintain the relationship specified in clause 5 between the test groups and test purposes and the entries in the PICS proforma (ETS 300 374-2 [2]) to be used for test case deselection;
- e) comply with ISO/IEC 9646-2 [4].

In the case of a) or b) above, a subset shall be used only where a particular abstract test method makes some test purposes untestable. All testable test purposes from clause 5 shall be included in a compliant ATS.

Annex A (informative): TP coverage

Table A.1 gives some figures about the number of test purposes for each test group.

Table A.1: TP coverage

SUT	Interface	Category	Number of TPs
SSP	SCF-SSF bS : SSP basic functions	CA	6
		BV	143
		BI	18
		BO	20
	SCF-SSF-SRF rS : add. for SSP with relay functions	BV	39
		BI	4
		BO	15
	SCF-SSF iS : add. for SSP acting as initiating SSP	BV	16
		BI	2
		BO	14
	SCF-SSF aS : add. for SSP acting as assisting SSP	BV	31
		BI	7
		BO	4
IP	SCF-SRF cl (IP direct path to SCP)	BV	41
		BI	7
		BO	4

History

Document history			
March 1995	Public Enquiry	PE 81:	1995-03-27 to 1995-08-18
December 1995	Vote	V 94:	1995-12-27 to 1996-02-16
February 1996	First Edition		