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**Electronic fee collection — Evaluation of  
equipment for conformity to  
ISO/TS 17575-2 —**

**Part 1:  
Test suite structure and test purposes**

*Perception du télépéage — Évaluation de conformité de l'équipement à  
l'ISO/TS 17575-2 —*

*Partie 1: Structure de la suite d'essais et objectifs d'essai*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 16401-1 was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*, in collaboration with Technical Committee CEN/TC 278, *Road transport and traffic telematics*.

ISO/TS 16401 consists of the following parts, under the general title *Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-2*:

- *Part 1: Test suite structure and test purposes*
- *Part 2: Abstract test suite*

## Introduction

This part of ISO/TS 16401 is part of a set of standards that supports interoperability of autonomous EFC-systems, which includes ISO/TS 17575 parts 1 to 4 that define the EFC context data, their *charge reports* and their use of communication infrastructure.

Within the suite of EFC standards this conformance evaluation procedure defines the process and tests for conformity evaluation of Front End Communications API and *Front End application* that comply with the requirements in ISO/TS 17575-2.

This part of ISO/TS 16401 is intended to

- assess Front End Communications API and *Front End application* capabilities,
- assess Front End Communications API and *Front End application* behaviour,
- serve as a guide for Front End Communications API and *Front End application* conformance evaluation and type approval,
- achieve comparability between the results of the corresponding tests applied in different places at different times, and
- facilitate communications between parties.

This part of ISO/TS 16401 is based on

- ISO/TS 17575-2, and
- the ISO/IEC 9646 family of standards on conformance test methodology.

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# Electronic fee collection — Evaluation of equipment for conformity to ISO/TS 17575-2 —

## Part 1: Test suite structure and test purposes

### 1 Scope

This part of ISO/TS 16401 specifies the test suite structure (TSS) and test purposes (TP) to evaluate the conformity of Front End Communications API and *Front End application* to ISO/TS 17575-2.

The objective of this part of ISO/TS 16401 is to provide a basis for conformance tests for Front End Communications API and *Front End application* in Electronic Fee Collection based on autonomous on-board equipment (OBE) to enable interoperability between different equipment supplied by different manufacturers.

This part of ISO/TS 16401 covers the test purposes for Front End Communications API covering functionalities related to instance handling, session handling, communication service primitives (i.e. sending/receiving of ADUs) and visible state transitions. It fully covers EFC communication services claimed in ISO/TS 17575-2 clause 7 and PICS proforma Clause B.2 ISO/TS 17575-2. Claims related to Front End Storage capacity are outside of the scope of this part of ISO/TS 16401.

This part of ISO/TS 16401 covers the test purposes for *Front End application* related to session establishment on *Back End* request and related to session re-establishment when session requested by *Back End* failed. There are no other claims with respect to *Front End application* claimed in ISO/TS 17575-2.

The underlying communication technology requirements for layer 1-4 specified in Clause 8 ISO/TS 17575-2 is outside of the scope of this part of ISO/TS 16401.

Similarly *Back End* communications API is outside of the scope of this part of ISO/TS 16401. According to ISO/TS 17575-2 it is expected that these Front End Communications API will be reflected in the BE, however BE Communications API is outside of the scope of ISO/TS 17575-2.

### 2 Normative references

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

ISO/TS 17575-1, *Electronic fee collection — Application interface definition for autonomous systems — Part 2: Charging*

ISO/TS 17575-2, *Electronic fee collection — Application interface definition for autonomous systems — Part 2: Communication and connection to the lower layers*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TS 17575-1 and the following apply.

**3.1 contract**  
expression of an agreement between two or more parties concerning the use of the road infrastructure

[ISO 14906:2011, definition 3.7]

NOTE A *contract* specifies obligations, permissions and prohibitions for the objects involved.

**3.2 Front End application**  
part of the Front End above the API

**3.3 service provider**  
operator that accepts the user's payment means and in return provides a *road-use* service to the user

NOTE Taken from ISO 14906:2004.

**3.4 toll charger**  
legal entity charging toll for vehicles in a *toll domain*

[ISO/TS 17574:2009, definition 3.27]

## 4 Abbreviations

For the purposes of this document, the following abbreviations apply throughout the document unless otherwise specified.

ADU	Application Data Unit
API	Application Programming Interface
ASN.1	Abstract Syntax Notation One
ATS	Abstract Test Suite
BE	<i>Back End</i>
BI	Invalid Behaviour
BV	Valid Behaviour
CCC	Compliance Check Communication
CN	Cellular Network
DUT	Device Under Tests
EFC	Electronic Fee Collection
FE	Front End
GNSS	Global Navigation Satellite Systems
HMI	Human Machine Interface
ID	Identifier

OBE	On-Board Equipment
PCTR	Protocol Conformance Test Report
PICS	Protocol Implementation Conformance Statements
TP	Test Purposes
TSS	Test Suite Structure
VAT	Value Added Tax

## 5 Test Suite Structure (TSS)

### 5.1 Structure

Table 1 — Test Suite Structures shows the Test Suite Structure (TSS).

Table 1 — Test Suite Structures

Group	Type of DUT	Behaviour
Instance Handling	Front End Communications API	Valid Behaviour
		Invalid Behaviour
Session Handling	Front End Communications API	Valid Behaviour
		Invalid Behaviour
	<i>Front End application</i>	Valid Behaviour
Communication Service Primitives	Front End Communications API	Valid Behaviour
		Invalid Behaviour
State Transitions	Front End Communications API	Valid Behaviour

### 5.2 Reference to conformance test specifications

This part of ISO/TS 16401 takes into account already defined test purposes for conformance to the base standards by referencing them, so that:

- For test purposes that are **identical** to those defined in the base standards conformance test cases direct reference is reported. For reader's convenience, the title or a verbal description of the referenced test purpose is given, together with the reference.
- For test purposes that are **derived** from those defined in the base standards conformance test cases, a direct reference is reported, plus an indication on how the referred test purpose has to be modified for the profile conformance testing.
- For test purposes that are **specific** to ISO/TS 17575-2, a complete description is given.
- An indication on whether a test purpose is **identical**, **derived**, or **specific** is given in each test purpose.

5.3 Test Purposes (TP)

5.3.1 TP definition conventions

The TPs are defined following the rules shown in Table 2 — TP Definition Rules below. All Test Purposes are defined in Annex A and Annex B, including the special notation and symbol conventions that shall be used.

Table 2 — TP Definition Rules

<b>TP ID according to the TP naming conventions</b>	Title
	Reference
	TP origin
	Initial condition
	Stimulus and expected behaviour
TP ID	The TP ID is a unique identifier. It shall be specified according to the TP naming conventions defined in the sub-clause below.
Title	Short description of Test Purpose objective.
Reference	The reference should contain the references of the subject to be validated by the actual TP (specification reference, clause, paragraph), or the reference to the standard document defining the TP.
TP origin	Indicates if the TP is <b>identical</b> to a TP defined in another test standard, <b>derived</b> from a TP defined in another test standard, or <b>specific</b> for this standard profile.
Initial condition	The condition defines in which initial state the DUT has to be to apply the actual TP.
Stimulus and expected behaviour	Definition of the events the tester performs, and the events that are expected from the DUT to conform to the base specification.

5.3.2 TP naming conventions

Each TP is given a unique identification. This unique identification is built up to contain the following string of information:

**TP/<group>/<dut>/<x>-<nn>**

TP : to indicate that it is a Test Purpose;

<group> : which group TP belongs to;

<dut> : type of DUT (i.e. API or APPL);

X : type of testing (i.e. Valid Behaviour tests – BV, or Invalid Behaviour tests – BI);

<nn> : sequential TP number (01-99).

The naming conventions are as described in Table 3.

**Table 3 — TP naming convention**

Identifier: TP/&lt;group&gt;/&lt;dut&gt;/&lt;x&gt;-&lt;nn&gt;

<group>		
<i>applicable for FE Communications API</i>	IH	Instance Handling
<i>applicable for FE Communications API</i>	SH	Session Handling
<i>applicable for FE Application</i>	SH	Session Handling
<i>applicable for FE Communications API</i>	CSP	Communications Service Primitives
<i>applicable for FE Communications API</i>	ST	State Transitions
<dut> = type of DUT	API	Front End Communications API
	APPL	<i>Front End application</i>
x = Type of testing	BV	Valid Behaviour Tests
	BI	Invalid Behaviour Tests
<nn> = sequential number	(01-99)	Test Purpose Number

#### 5.4 Protocol Conformance Test Report (PCTR)

The supplier of the Front End and Back End, respectively, is responsible for providing a Protocol Conformance Test Report (PCTR).

The supplier of the Front End and the Back End shall complete a PCTR; see Annex C and Annex D for the proformas.

## Annex A (normative)

### TP for Front End Communications API

#### A.1 Introduction

This annex contains the Test Purposes (TP) for the conformity evaluation of Front End Communications API to ISO/TS 17575-2.

##### A.1.1 TP symbols conventions

A special notation and symbol convention is used, as defined in what follows.

Symbols are used in the description of the TPs, with meanings according to Table A.1 below.

**Table A.1 — Description of TP Symbols**

SYMBOL	DESCRIPTION
XXX(Type1=value1) □	The Tester executes an XXX method of Front End Communications API with argument of Type1 having value value1.  Value1 shall be stored in tester's memory for further TP processing.
□ R:ReturnedType	The DUT returns a value of type ReturnedType
□ C:CallbackName (Type1)	The DUT provides a callback CallbackName receiving variable of type Type1.
Type ISO/TS 17575-2	Anytime Type defined in ISO/TS 17575-2 is used, it means a variable of Type.
A → B	A "is transformed" into B
∅	Means "empty" or "not set".
A   B	A OR B
A != B	A is not equal B
i = i+1	Increment variable i by 1

Testing Front End Communications API it is needed to trigger operations and observe the DUT feedback both from the *Front End application* and Remote End (i.e. *Back End*) perspective. Thus there are two test points located as shown in Figure A.1.

Application emulation test point is using directly with DUT and emulates the *Front End application* layer. It is identified in the following test purposes by AppEm discriminator.

Remote End emulation test point is linked with DUT over communications channel. Depending on the test purposes it emulates application, presentation and session layer. It is identified in the following test purposes by RemEnd discriminator.

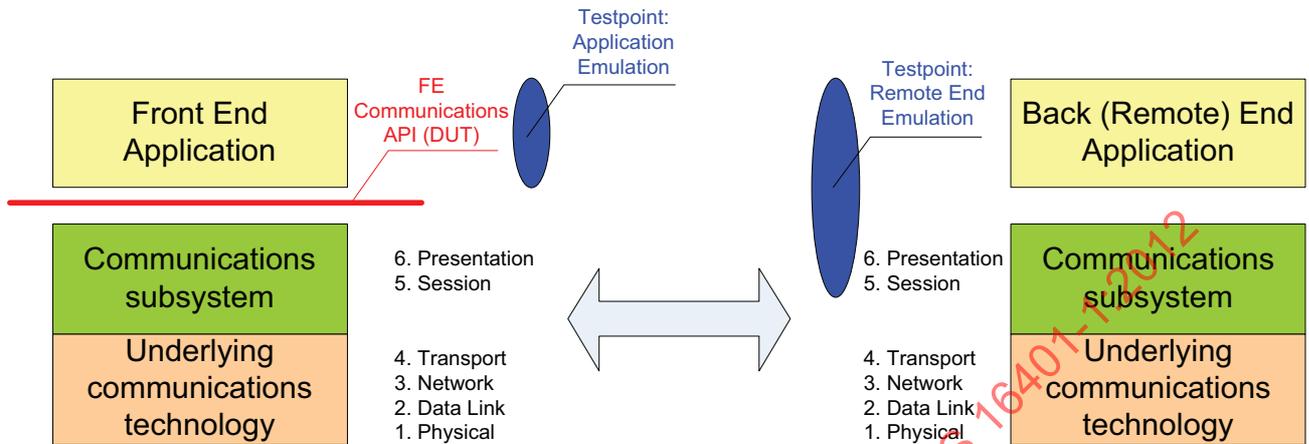


Figure A.1 — Handling of ADUs applicable for particular TP

## A.2 Instance Handling

These Test Purposes apply to instance handling as claimed in ISO/TS 17575-2 clause B.2 with respect to following PICS proforma entries:

- API supports InitialiseInstance;
- API supports SetParameter;
- API supports GetParameter;
- API supports DeleteParameter;
- API supports DropInstance;
- API supports StackAvail.

### A.2.1 BV test purposes (Valid Behaviour tests)

Test subgroup objective:

- to test DUT behaviour with respect to instance initialization including multiple instance handling in parallel;
- to test DUT behaviour with respect to parameter setting and updating;
- to test DUT behaviour with respect to parameter getting;
- to test DUT behaviour with respect to parameter deleting;
- to test DUT behaviour with respect to availability of communications stack;

- to test DUT behaviour with respect to dropping the session with following severities:
- SENormal;
- SEUrgent;
- SEUnconditional.

TP/IH/API/BV/01	<b>Verify the communications interface initialization</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	Front End Communications API must handle at least one underlying communications stack which StackID equals to stack1. Set of Callback instances is instantiated.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	InitialiseInstance (StackID = stack1, Callbacks = cb1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: Instace
3	Verify whether Instance is valid		
4	IF verify OK THEN TP passed ELSE TP failed ENDI		

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TP/IH/API/BV/02	<b>Verify the multiple instance communications interface initialization based on the same communications stack</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2.1
Initial Condition	Front End Communications API must handle at least one underlying communications stack which StackID equals to stack1. Sets of Callback instances are instantiated.

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	InitialiseInstance (StackID = stack1, Callbacks = cb1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: Instance
3	Verify whether Instance is valid			
4	IF verify OK THEN GOTO step5 ELSE TP failed ENDIF			
5	InitialiseInstance (StackID = stack1, Callbacks = cb2)	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: Instance
7	Verify whether Instance is vali			
8	IF verify OK THEN GOTO step 9 ELSE TP failed ENDIF			
9	InitialiseInstance (StackID = stack1, Callbacks = cb3)	AppEm	<input type="checkbox"/>	
10		AppEm	<input type="checkbox"/>	Instance
11	Verify whether Instance <input type="checkbox"/> s valid			
12	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BV/03	<b>Verify the multiple instance communications interface initialization based on different communications stack</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2.1
Initial Condition	Front End Communications API must handle at least 2 underlying communications stacks which StackID equals to stack1 and stack2. Sets of Callback instances are instantiated.

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	InitialiseInstance (StackID = stack1, Callbacks = cb1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: Instance
3	Verify whether Instance is valid			
4	IF verify OK THEN GOTO step5 ELSE TP failed ENDIF			
5	InitialiseInstance (StackID = stack2, Callbacks = cb2)	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: Instance
7	Verify whether Instance is vali			
8	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BV/04	<b>Verify that parameter is set by Front End Application (single parameter)</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 is created.		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	SetParameter (Instance = instance1, Parameter = "Parameter1", Value = "Value1")	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R:CEN175□52Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
6		AppEm <input type="checkbox"/>	R: String
7	IF (String equals to Valu1) THEN T passed <input type="checkbox"/> ELSE TP failed ENDIF		

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TP/IH/API/BV/05	<b>Verify that parameter is set by Front End Application for multiple instances (different parameter names)</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 and instance2 are created.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SetParameter (Instance = instance1, Parameter = "Parameter1", Value = "Value1")	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
6		AppEm <input type="checkbox"/>	R: String
7	IF (String equals <input type="checkbox"/> to Value1) THEN GOTO step8 ELSE TP failed ENDIF		
8	SetParameter (Instance = instance2, Parameter = "Parameter2", Value = "Value2")	AppEm <input type="checkbox"/>	
9		AppEm <input type="checkbox"/>	R: CEN175752Error
10	Verify whether CEN175752Error equals to ERNoError		
11	IF verify NOT <input type="checkbox"/> K THEN TP failed ENDIF		
12	GetParameter (Instance = instance2, Parameter = "Parameter2")	AppEm <input type="checkbox"/>	
13		AppEm <input type="checkbox"/>	R: String
14	IF (String equals to Value2) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BV/06	<b>Verify that parameter is set by Front End Application for multiple instances (the same parameter names)</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 and instance2 are created.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SetParameter (Instance = instance1, Parameter = "Parameter1", Value = "Value1")	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
6		AppEm <input type="checkbox"/>	R: String
7	IF (String equals to Value1) THEN GOTO step8 ELSE TP failed ENDIF		
8	SetParameter (Instance = instance2, Parameter = "Parameter1", Value = "Value2")	AppEm <input type="checkbox"/>	
9		AppEm <input type="checkbox"/>	R: CEN175752Error
10	Verify whether CEN175752Error equals to ERNoError		
11	IF verify NOT OK THEN TP failed ENDIF		
12	GetParameter (Instance = instance2, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
13		AppEm <input type="checkbox"/>	R: String
14	IF (String equals to Value2) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BV/07	<b>Verify that parameter is updated by Front End Application</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 is created.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SetParameter (Instance = instance1, Parameter = "Parameter1", Value = "Value1")	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm	<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> R: String
7	IF (String equals to Value1) THEN GOTO step8 ELSE TP failed ENDIF		
8	SetParameter (Instance = instance1, Parameter = "Parameter1", Value = "Value2")	AppEm	<input type="checkbox"/>
9		AppEm	<input type="checkbox"/> R: CEN175752Error
10	Verify whether CEN175752Error equals to ERNoError		
11	IF verify NOT OK THEN TP failed ENDIF		
12	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm	<input type="checkbox"/>
13		AppEm	<input type="checkbox"/> R: String
14	IF (String equals to Value2) THEN GOTO step8 ELSE TP failed ENDIF		

TP/IH/API/BV/08	<b>Verify that parameter's value is fetched by the Front End Application</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2.1			
Initial Condition	A valid Instance instance1 is created. Parameter1 has already been set with value1.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: String
3	IF (String equals to Value1) THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BV/09	<b>Verify that parameter's value is fetched by the Front End Application (multiple instances)</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2.1
Initial Condition	A valid Instance instance1, instance2 and instance3 are created. Parameter1 in instance1 has already been set with value1. Parameter2 in instance1 has already been set with value2. Parameter1 in instance3 has already been set with value3.

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: String
3	IF (String equals to Value1) THEN GOTO step4 ELSE TP failed ENDIF			
4	GetParameter (Instance = instance2, Parameter = "Parameter2")	AppEm	<input type="checkbox"/>	
5		AppEm	<input type="checkbox"/>	R: String
6	IF (String equals to Value2) THEN GOTO step7 ELSE <input type="checkbox"/> P failed ENDIF			
7	GetParameter (Instance = instance3, Parameter = "Parameter1")	AppEm	<input type="checkbox"/>	
8		AppEm	<input type="checkbox"/>	R: String
9	IF (String equals to Value3) THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BV/10	<b>Verify that parameter is deleted by Front End Application (single parameter)</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 is created. Parameter1 has already been set by <i>Front End application</i> .		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DeleteParameter (Instance = instance1, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
6		AppEm <input type="checkbox"/>	R: String
7	IF (String has invalid value) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BV/11	<b>Verify that parameter is deleted by Front End Application (multiple parameters)</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2.1
Initial Condition	A valid Instance instance1, instance2 and instance3 are created. Parameter1 in instance1 has already been set. Parameter2 in instance2 has already been set. Parameter1 in instance3 has already been set.

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DeleteParameter (Instance = instance1, Parameter = "Parameter1")	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: String
7	IF (String has invalid value) THEN GOTO step8 ELSE TP failed ENDIF			
8	DeleteParameter (Instance = instance2, Parameter = "Parameter2")		<input type="checkbox"/>	
9		AppEm	<input type="checkbox"/>	R: CEN175752Error
10	Verify whether CEN175752Error equals to ERNoError	AppEm		
11	IF verify NOT OK THEN TP failed ENDIF			
12	GetParameter (Instance = instance2, Parameter = "Parameter2")		<input type="checkbox"/>	
13			<input type="checkbox"/>	R: String
14	IF (String has invalid value) THEN GOTO step15 ELSE TP failed ENDIF			

15	DeleteParameter (Instance = instance3, Parameter = "Parameter1")		<input type="checkbox"/>	
16			<input type="checkbox"/>	R: CEN175752Error
17	Verify whether CEN175752Error equals to ERNoError			
18	IF verify NOT OK THEN TP failed ENDIF			
19	GetParameter (Instance = instance3, Parameter = "Parameter1")		<input type="checkbox"/>	
20			<input type="checkbox"/>	R: String
21	IF (String has invalid value) THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BV/12	<b>Verify whether StackAvail returns that communication stack is available</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.5			
Initial Condition	A valid Instance instance1 has already been created. Communication stack for instance1 is available			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	StackAvail (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: Boolean
3	IF (returned <input type="checkbox"/> TRUE THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BV/13	<b>Verify whether StackAvail returns that communication stack is available (multiple instances)</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.5		
Initial Condition	A valid Instance instance1 and instance2 have already been created. Communication stack for instance1 and instance2 is available		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	StackAvail (Instance = instance1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: Boolean
3	IF (returned FALSE) THEN TP failed ENDIF		
4	StackAvail (Instance = instance2)	AppEm	<input type="checkbox"/>
5		AppEm	<input type="checkbox"/> R: Boolean
6	IF (returned TRUE) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BV/14	<b>Verify whether StackAvail returns that communication stack is unavailable</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.5		
Initial Condition	A valid Instance instance1 has already been created. Communication stack for instance1 is not available		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	StackAvail (Instance = instance1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: Boolean
3	IF (returned FALSE) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BV/15	<b>Verify whether StackAvail returns that communication stack is unavailable (multiple instances)</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.5			
Initial Condition	A valid Instance instance1 and instance2 have already been created. Communication stack for instance1 and instance2 are not available			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	StackAvail (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: Boolean
3	IF (returned TRUE) THEN TP failed ENDIF			
4	StackAvail (Instance = instance2)	AppEm	<input type="checkbox"/>	
5		AppEm	<input type="checkbox"/>	R: Boolean
6	IF (returned FALSE) THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BV/16	<b>Verify whether StackAvail returns that communication stack is available (for first instance) and unavailable (for second instance)</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.5
Initial Condition	A valid Instance instance1 and instance2 has already been created. Communication stack for instance1 is available. Communication stack for instance2 is unavailable

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	StackAvail (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: Boolean
3	IF (returned FALSE) THEN TP failed ENDIF			
4	StackAvail (Instance = instance2)	AppEm	<input type="checkbox"/>	
5		AppEm	<input type="checkbox"/>	R: Boolean
6	IF (returned FALSE) THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BV/17	<b>Dropping the instance with SENormal severity</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2			
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BV/18	<b>Dropping the instance with SEUrgent severity</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2			
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BV/19	<b>Dropping the instance with SEUnconditional severity</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUnconditional)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

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TP/IH/API/BV/20	<b>Dropping the instance with SEUnconditional severity once session is in STStarting state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.                  Session for instance1 is being established.                  Session is in state Session is in state STStarting</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUnconditional)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify OK THEN TP passed ELSE TP fail <input type="checkbox"/> ENDIF		

TP/IH/API/BV/21	<b>Dropping the instance with SEUnconditional severity once session is in STSessionIdle state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSessionIdle</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUnconditional)	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BV/22	<b>Dropping the instance with SEUnconditional severity once session is in STSendingADU state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingADU</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = S SEUnconditional)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BV/23	<b>Dropping the instance with SEUnconditional severity once session is in STSendingADURequest state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingADURequest</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUnconditional)	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify OK THEN TP passed ESE TP failed ENDIF		

TP/IH/API/BV/24	<b>Dropping the instance with SEUnconditional severity once session is in STSendingUnformattedADU state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingUnformattedADU</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SEUnconditional)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify OK THEN TP passed ELS TP failed ENDIF			

TP/IH/API/BV/25	<b>Dropping the instance with SEUnconditional severity once session is in STSessionRxADUs state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSessionRxADUs</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUnconditional)	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify OK THEN TP passed ELSE TP <input type="checkbox"/> failed ENDIF		

TP/IH/API/BV/26	<b>Dropping the instance with SEUnconditional severity once session is in STErrored state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STErrored</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SEUnconditional)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: <input type="checkbox"/> CEN15752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify OK THEN TP passed ELSE TP failed ENDI			

TP/IH/API/BV/27	<b>Dropping the instance with SEUnconditional severity once session is in STEnding state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STEnding</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUnconditional)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Errr
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

**A.2.2 BI test purposes (Invalid Behaviour tests)**

Test subgroup objective:

- to test DUT invalid behaviour with respect to instance initialization;
- to test DUT invalid behaviour with respect to parameter setting;
- to test DUT invalid behaviour with respect to parameter getting;
- to test DUT invalid behaviour with respect to parameter deleting;
- to test DUT invalid behaviour with respect to availability of communications stack;
- to test DUT invalid behaviour with respect to dropping the session including following severities:
  - SENormal;
  - SEUrgent;

TP/IH/API/BI/01	<b>Verify that FE Communications API returns invalid instance once FE Application selected invalid communication stack</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2.1			
Initial Condition	Set of Callback instances is instantiated.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	InitialiseInstance ( <b>StackID =invalidStack, Callbacks = cb1</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: Instance
3	<b>Verify whether Instance is invalid</b>			
4	<b>IF verify OK THEN TP passed ELSE TP failed ENDIF</b>			

TP/IH/API/BI/02	<b>Verify that FE Communications API returns invalid instance once FE Application provides invalid Callbacks</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2.1			
Initial Condition	Front End Communications API must handle at least one underlying communications stacks which StackID equals to stack1.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	InitialiseInstance ( <b>StackID =invalidStack, Callbacks = ∅</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: Instance
3	<b>Verify whether Instance is invalid</b>			
4	<b>IF verify OK THEN TP passed ELSE TP failed ENDIF</b>			

TP/IH/API/BI/03	<b>Verify parameter setting upon invalid instance</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition			
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SetParameter (Instance = invalidInstance1, Parameter = "Parameter1", Value = "Value1")  Note: InvalidParameter1 may have too many characters what is not handled by FE Communications API	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNotSet		
4	IF verify OK THEN GOTO step5 ELSE TP failed ENDIF		
5	GetParameter (Instance = instance1, Parameter = "InvalidParameter1")	AppEm <input type="checkbox"/>	
6		AppEm <input type="checkbox"/>	R: String
<input type="checkbox"/>	IF (String is invalid) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/04	<b>Verify parameter setting upon invalid parameter</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 is created.		
<b>Stimulus and Expected Behaviour</b>			
	<b>Tester</b>	<b>Test Point</b>	<b>DUT</b>
<b>1</b>	SetParameter (Instance = instance1, Parameter = "InvalidParameter1", Value = "Value1")  Note: InvalidParameter1 may have too many characters what is not handled by FE Communications API	AppEm <input type="checkbox"/>	
<b>2</b>		AppEm <input type="checkbox"/>	R: CEN175752Error
<b>3</b>	Verify whether CEN175752Error equals to ERNotSet		
<b>4</b>	IF verify NOT OK THEN TP failed ENDIF		
<b>5</b>	GetParameter (Instance = instance1, Parameter = "InvalidParameter1")	AppEm <input type="checkbox"/>	
<b>6</b>		AppEm <input type="checkbox"/>	R: String
<b>7</b>	IF (String <input type="checkbox"/> s invalid) THEN TP passed ELSE TP failed ENDIF		

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TP/IH/API/BI/05	<b>Verify parameter setting upon invalid value</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 is created.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SetParameter (Instance = instance1, Parameter = "Parameter1", Value = "InvalidValue1")  Note: InvalidValue1 may have too many characters what is not handled by FE Communications API	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNotSet		
4	IF verify NOT OK THEN TP failed ENDIF		
5	GetParameter (Instance = instance1, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
6		AppEm <input type="checkbox"/>	R: String
7	IF (String is invalid) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/06	<b>Verify getting the parameter's value upon invalid instance</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition			
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	GetParameter (Instance = invalidInstance1, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: String
3	IF (String is invalid) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/07	<b>Verify getting the parameter's value once parameter does not exist</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2.1			
Initial Condition	A valid Instance instance1 is created. InvalidParameter has not been set by <i>Front End application</i> .			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	GetParameter ( <b>Instance = instance1, Parameter = "invalidParameter"</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: String
3	IF (String is invalid) THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BI/08	<b>Verify parameter deletion upon invalid instance</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2.1			
Initial Condition				
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	DeleteParameter ( <b>Instance = invalidInstance1, Parameter = "Parameter1"</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNotSet			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BI/09	<b>Verify parameter deletion once parameter does not exist</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 is created.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DeleteParameter (Instance =instance1, Parameter = "Parameter1")	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNotSet		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/10	<b>Verify whether StackAvail returns false not having instance initialized</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.5		
Initial Condition	FE Communications API is initialized		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	StackAvail (Instance = invalidInstance)	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: Boolean
3	IF (returned FALSE) THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/11	<b>Dropping the instance with SENormal severity once no instance is initialized</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	FE Communications API is initialized		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = invalidInstance, Severity = SENormal)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals <input type="checkbox"/> o EUnknownInstance		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/12	<b>Dropping the instance with SEUrgent severity once no instance is initialized</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	FE Communications API is initialized		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = invalidInstance, Severity = SEUrgent)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERUnknownInstance		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/13	<b>Dropping the instance with SEUnconditional severity once no instance is initialized</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	FE Communications API is initialized		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	DropInstance ( Instance = invalidInstance, Severity = SEUnconditional)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERUnknownInstance		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

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TP/IH/API/BI/14	<b>Dropping the instance with SENormal severity once session is in STStarting state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is being established.</p> <p>Session is in state Session is in state STStarting</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDF			

TP/IH/API/BI/15	<b>Dropping the instance with SENormal severity once session is in STSessionIdle state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSessionIdle</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752 Err
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BI/16	<b>Dropping the instance with SENormal severity once session is in STSendingADU state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingADU</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BI/17	<b>Dropping the instance with SENormal severity once session is in STSendingADURequest state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingADURequest</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BI/18	<b>Dropping the instance with SENormal severity once session is in STSendingUnformattedADU state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingUnformattedADU</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>
		AppEm	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/19	<b>Dropping the instance with SENormal severity once session is in STSessionRxADUs state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSessionRxADUs</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BI/20	<b>Dropping the instance with SENormal severity once session is in STErrored state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STErrored</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>
2		AppEm	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/21	<b>Dropping the instance with SENormal severity once session is in STEnding state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STEnding</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SENormal)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/22	<b>Dropping the instance with SEUrgent severity once session is in STStarting state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is being established.</p> <p>Session is in state Session is in state STStarting</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>
2		AppEm	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/IH/API/BI/23	<b>Dropping the instance with SEUrgent severity once session is in STSessionIdle state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.                  Session for instance1 is established.</p> <p>Session is in state Session is in state STSessionIdle</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

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TP/IH/API/BI/24	<b>Dropping the instance with SEUrgent severity once session is in STSendingADU state</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2			
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingADU</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>	
2		AppEm	<input checked="" type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BI/25	<b>Dropping the instance with SEUrgent severity once session is in STSendingADURequest state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.                  Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingADURequest</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BI/26	<b>Dropping the instance with SEUrgent severity once session is in STSendingUnformattedADU state</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2			
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSendingUnformattedADU</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BI/27	<b>Dropping the instance with SEUrgent severity once session is in STSessionRxADUs state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STSessionRxADUs</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/IH/API/BI/28	<b>Dropping the instance with SEUrgent severity once session is in STErrored state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STErrored</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/IH/API/BI/29	<b>Dropping the instance with SEUrgent severity once session is in STEnding state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 is established.</p> <p>Session is in state Session is in state STEnding</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	DropInstance ( Instance = instance1, Severity = SEUrgent)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

### A.3 Session Handling

These Test Purposes apply to session handling as claimed in ISO/TS 17575-2 Clause B.2 with respect to following PICS proforma entries:

- API supports StartSession;
- API supports EndSession.

#### A.3.1 BV test purposes (Valid Behaviour tests)

Test subgroup objective:

- to test DUT behaviour with respect to session establishment including multiple session establishment in parallel;
- to test DUT behaviour with respect to session ending;
- to test DUT behaviour with respect to session failure.

TP/SH/API/BV/01	<b>Session establishment</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.3		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>No session exists for instance1 (STNoSession state).</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	StartSession (Instance = instance1, Reason = any, SessionHandle)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
			Session establishment process over communications stack in progress
5	Verify whether session has been established at remote end	RemEnd	
6	IF verify NOT OK THEN TP failed ENDIF		
7			<input type="checkbox"/> C: InstanceStateChange (Instance, OldState, NewState)
8	IF (Instance equals to instance1 AND OldState equals to (STNoSession OR STStarting) AND NewState equals to STSession(□le) THEN TP passed ELSE TP failed ENDIF		

TP/SH/API/BV/02	<b>Multiple session establishment</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2.3
Initial Condition	<p>A valid Instance instance1 and instance2 have already been created.</p> <p>No session exists for instance1 and instance2 (STNoSession state).</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set) using instance1 and instance2.</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	StartSession (Instance = instance1, Reason = any, SessionHandle )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError	AppEm		
4	IF verifyNOT OK THEN TP failed ENDIF	AppEm		
		RemEnd		Session establishment process over communications stack in progress
5	Verify whether session has been established at remote end	RemEnd		
6	IF verify NOT OK THEN TP failed ENDIF	RemEnd		
7		AppEm	<input type="checkbox"/>	C: InstanceStateChange (Instance, OldState, NewStat <input type="checkbox"/> )
8	IF (Instance equals to instance1 AND OldState equals to (STNoSession OR STStarting) AND NewState equals to STSessionIdle) THEN TP passed ELSE TP failed ENDIF	AppEm		
9	StartSession (Instance = instance1, Reason = any, SessionHandle)	AppEm	<input type="checkbox"/>	
10		AppEm	<input type="checkbox"/>	R: CEN175752Error
11	Verify whether CEN175752Error equals to ERNoError	AppEm		
12	IF verify NOT OK THEN TP failed ENDIF	AppEm		

		RemEnd		Session establishment process over communications stack in progress
13	Verify whether session has been established at remote end	RemEnd		
14	IF verify NOT OK THEN TP failed ENDIF	RemEnd		
15		AppEm	<input type="checkbox"/>	C: InstanceStateChange (Instance, OldState, NewState)
16	IF (Instance equals to instance1 AND OldState equals to (STNoSession OR STStarting) AND NewState equals to STSessionIdle) THEN TP passed ELSE TP failed ENDIF	AppEm		

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TP/SH/API/BV/03	<b>Ending the session</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.4
Initial Condition	A valid Instance instance1 has already been created. Session for instance 1 is established. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	EndSession (Instance = instance1, Reason = any)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5				Completion of <i>transaction</i> in progress
6	Verify whether session has been closed	<input type="checkbox"/> emEnd		
7	IF verify NOT OK THEN TP failed ENDIF			
8			<input type="checkbox"/>	C: InstanceStateChange (Instance, OldState, NewState)
9	IF (Instance equals to instance1 AND OldState equals to (STSessionIdle) AND NewState equals to STNoSession) THEN TP passed ELSE T f <sub>o</sub> iled ENDIF			

TP/SH/API/BV/04	<b>Session failure handling</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.5			
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance 1 is established.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	CommsQuery ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752StateE
3	<b>Assign a received state to oldState1</b>			
4	<b>Session failed due to example communication infrastructure failure</b>	RemEnd		
5		AppEm	<input type="checkbox"/>	C: InstanceStateChange ( <b>Instance, OldState, NewState</b> )
6	<p>IF (Instance equals to inst□nce1 AND                      OldState equals to oldState1 AND                      NewState equals to STErrored)                      THEN TP passed                      ELSE TP failed                      ENDIF</p>			

**A.3.2 BI test purposes (Invalid Behaviour tests)**

Test subgroup objective:

- to test DUT invalid behaviour with respect to session establishment including multiple session establishment in parallel;
- to test DUT invalid behaviour with respect to session ending in each visible state.

TP/SH/API/BI/01	<b>Session establishment once session is already established</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	StartSession (Instance = instance1, Reason = any, SessionHandle )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERInSession			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Verify whether session has been established at remote end	RemEnd		
6	IF verify OK THEN TP failed ELSE TP passed ENDIF			

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TP/SH/API/BI/02	<b>Session establishment once no instance initialized</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2.3			
Initial Condition	FE Communications API is initialized			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	StartSession (Instance = invalidInstance1, Reason = any, SessionHandle )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoInstance			
4	IF verify NOT OK THEN TP failed ELSE TP passed ENDIF			

TP/SH/API/BI/03	<b>Session establishment once end point unknown</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2.3			
Initial Condition	A valid Instance instance1 has already been created. No parameterization has been done to establish session			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	StartSession (Instance = instance1, Reason = any, SessionHandle )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERUnknownEndpoint			
4	IF verify NOT OK THEN TP failed ELSE TP passed ENDIF			

TP/SH/API/BI/04	<b>Ending the session once no instance initialized</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.4		
Initial Condition	FE Communications API is initialized		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	EndSession (Instance = invalidInstance, Reason = any)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoInstance		
4	IF verify NOT OK THEN TP failed ELSE TP passed ENDIF		

TP/SH/API/BI/05	<b>Ending the session once no session is established</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.4		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	EndSession (Instance = instance1, Reason = any)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoInstance		
4	IF verify NOT OK THEN TP failed ELSE TP passed ENDIF		

TP/SH/API/BI/06	<b>Ending the session once session is in STSendingUnformattedADU</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.4		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance 1 is established.</p> <p>Session is in state STSendingUnformattedADU</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	EndSession ( <b>Instance = instance1, Reason != RERemoteDrop</b> )	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	<b>Verify whether CEN175752Error equals to ERInSession</b>		
4	<b>IF verify OK THEN TP passed ELSE TP failed ENDIF</b>		

TP/SH/API/BI/07	<b>Ending the session once session is in STSendingADU</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.4
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance 1 is established.</p> <p>Session is in state Session is in state STSendingADU</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	EndSession (Instance = instance1, Reason != RERemoteDrop)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERInSession			
4	IF verify <input type="checkbox"/> K THEN TP passed ELSE TP failed ENDIF			

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TP/SH/API/BI/08	<b>Ending the session once session is in STSendingADURequest</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.4
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance 1 is established.</p> <p>Session is in state Session is in state STSendingADURequest</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	EndSession (Instance = instance1, Reason != RERemoteDrop)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R_EN=5752Error
3	Verify whether CEN175752Error equals to ERInSession			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/SH/API/BI/09	<b>Ending the session once session is in STAwaitingADUConfirm</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.4		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance 1 is established.</p> <p>Session is in state Session is in state STAwaitingADUConfirm</p> <p>NOTE see test purposes for other operations and corresponding to this state which specify the steps how to fulfil this precondition.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	EndSession (Instance = instance1, Reason != RERemoteDrop)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERInSession		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

### A.4 Communication Service Primitives

These Test Purposes apply to communication service primitives as claimed in ISO/TS 17575-2 Clause B.2 with respect to following PICS proforma entries:

- API supports SendUnformattedADU;
- API supports SendADUSetStart;
- API supports SendADU;
- API supports SendADUSetEnd;
- API supports UnformattedADUReceived Event;
- API supports ADUReceived Event;
- API supports ADUSent Event;
- API supports ADUSendOK Event.

#### A.4.1 BV test purposes (Valid Behaviour tests)

Test subgroup objective:

- to test DUT behaviour with respect to sending unformatted ADU while one and multiple sessions are established;
- to test DUT behaviour with respect to sending set of structured ADU while one and multiple sessions are established:
  - having one ADU in a set;
  - having multiple ADUs in a set;
- to test DUT behaviour with respect to receiving unformatted ADU while one and multiple sessions are established;
- to test DUT behaviour with respect to receiving structured ADU while one and multiple sessions are established;
- to test DUT behaviour with respect to ADU request from remote end.

TP/CSP/API/BV/01	<b>Sending unformatted ADU</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.2		
Initial Condition	A valid Instance instance1 has already been created. Session for instance1 has already been established. Session related to Instance1 is in STSessionIdle state.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendUnformattedADU (Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
			Unformatted ADU is being sent
5	Remote end acknowledges receipt of ADU	RemEnd	<input type="checkbox"/>
6			<input type="checkbox"/> C: ADUSent (Instance)
7	<input type="checkbox"/> F (Instance equals to instance1) THEN TP passed ELSE TP failed ENDIF		

TP/CSP/API/BV/02	<b>Sending unformatted ADU (multiple sessions)</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.2		
Initial Condition	A valid Instance instance1 and instance2 has already been created. Session for instance1 and instance2 has already been established. Instance1 and instance2 are in STSessionIdle state.		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	SendUnformattedADU (Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
			Unformatted ADU is being sent
5	Remote end acknowledges receipt of ADU	RemEn	<input type="checkbox"/>
6			<input type="checkbox"/> C: ADUSent (Instance)
7	IF (Instance NOT equals to instance1) THEN TP failed ENDIF		
8	SendUnformattedADU (Instance = instance2, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>
9		AppEm	<input type="checkbox"/> R: CEN175752Error
10	Verify whether CEN175752Error equals to ERNoError		
11	IF verify NOT OK THEN TP failed ENDIF		
			Unformatted ADU is being sent
12	Remote end acknowledges receipt of ADU	RemEnd	<input type="checkbox"/>
13			<input type="checkbox"/> C: ADUSent (Instance)
14	IF (Instance equals to instance2) THEN TP passed ELSE TP failed ENDIF		

TP/CSP/API/BV/03	<b>Sending one structured ADU</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session for instance1 has already been established.</p> <p>Session related to instance1 is in STSessionIdle state.</p>		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> C: ADUSendOK(Instance, CanSend)
7	Verify whether Instance equals to instance1 AND CanSend equals to TRUE		
8	IF verify NOT OK THEN TP failed ENDIF		
9	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>
10		AppEm	<input type="checkbox"/> R: WORD
11	Verify whether returned value is greater than 0		
12	IF verify NOT OK THEN TP failed ENDIF		
13	SendADUSetEnd(Instance = instance1)	AppEm	<input type="checkbox"/>
14		AppEm	<input type="checkbox"/> R: CEN175752Error
15	Verify whether CEN175752Error equals to ERNoError		
16	IF verify NOT OK THEN TP failed ENDIF		
17	Remote end acknowledges receipt of ADU	RemEnd	<input type="checkbox"/>

18		AppEm	<input type="checkbox"/>	C: ADUSent (Instance)
19	IF (Instance equals to instance1) THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BV/04	<b>Sending multiple structured ADUs in one ADU set (n messages)</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session for instance1 has already been established. Session related to instance1 is in STSessionIdle state.

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	C: ADUSendOK(Instance, CanSend)
7	Verify whether Instance equals to instance1 AND CanSend equals to TRUE			
8	IF verify NOT OK THEN TP failed ENDIF			
9	i=0  NOTE: i is internal counter used by DUT to send n consecutive SendADU messages			
10	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>	
11		AppEm	<input type="checkbox"/>	R: WORD
12	Verify whether returned value is greater than 0			
13	IF verify NOT OK THEN TP failed			

	<b>ENDIF</b>			
<b>14</b>	i=i+1			
<b>15</b>	IF (i < n) THEN GOTO STEP10 ENDIF			
<b>16</b>	SendADUSetEnd(Instance = instance1)	AppEm	<input type="checkbox"/>	
<b>17</b>		AppEm	<input type="checkbox"/>	R: CEN75752Error
<b>18</b>	Verify whether CEN175752Error equals to ERNoError			
<b>19</b>	IF verify NOT OK THEN TP failed ENDIF			
<b>20</b>	Remote end acknowledges receipt of ADU	RemEnd	<input type="checkbox"/>	
<b>21</b>		AppEm	<input type="checkbox"/>	C: ADUSent (Instance)
<b>22</b>	IF (Instance equals to instance1) THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BV/05	<b>Sending structured ADUs (multiple sessions)</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	A valid Instance instance1 and instance 2 has already been created. Session for instance1 and instance2 has already been established. Instance1 and instance2 is in STSessionIdle state.		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> C: ADUSendOK(Instance, CanSend)
7	Verify whether Instance equals to instance1 AND CanSend equals to TRUE		
8	IF verify NOT OK THEN TP failed ENDIF		
9	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>
10		AppEm	<input type="checkbox"/> R: WORD
11	Verify whether returned value is greater than 0		
12	IF verify NOT OK THEN TP failed ENDIF		
13	SendADUSetEnd(Instance = instance1)	AppEm	<input type="checkbox"/>
14		AppEm	<input type="checkbox"/> R: CEN175752Error
15	Verify whether CEN175752Error equals to ERNoError		
16	IF verify NOT OK THEN TP failed ENDIF		
17	Remote end acknowledges receipt of ADU	RemEnd	<input type="checkbox"/>

18		AppEm	<input type="checkbox"/>	C: ADUSent (Instance)
19	IF (Instance equals to instance1) THEN TP GOTO STEP20 ELSE TP failed ENDIF			
20	SendADUSetStart (Instance = instance2)	AppEm	<input type="checkbox"/>	
21		AppEm	<input type="checkbox"/>	R: CEN175752Error
22	Verify whether CEN175752Error equals to ERNoError			
23	IF verify NOT OK THEN TP failed ENDIF			
24	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>	
25		AppEm	<input type="checkbox"/>	C: ADUSendOK(Instance, CanSend)
26	Verify whether Instance equals to instance1 AND CanSend equals to TRUE			
27	IF verify NOT OK THEN TP failed ENDIF			
28	SendADU (Instance = instance2, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>	
29		AppEm	<input type="checkbox"/>	R: WORD
30	Verify whether returned value is greater than 0			
31	IF verify NOT OK THEN TP failed ENDIF			
32	SendADUSetEnd(Instance = instance2)	AppEm	<input type="checkbox"/>	
33		AppEm	<input type="checkbox"/>	R: CEN175752Error
34	Verify whether CEN175752Error equals to ERNoError			
35	IF verify NOT OK THEN TP failed ENDIF			
36	Remote end acknowledges receipt of ADU	RemEnd	<input type="checkbox"/>	
37		AppEm	<input type="checkbox"/>	C: ADUSent (Instance)
38	IF (Instance equals to instance2) THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BV/06	<b>Receipt of unformatted ADU</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2.1
Initial Condition	A valid Instance instance1 has already been created. Session for instance 1 is established. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	Unformatted ADU is sent from the remote end, consisting of certain payload P of length L, using a session related to instance1.	RemEnd	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	C: UnformattedADUReceived ( Instance, UnformattedMessageLen, UnformattedMessage)
3	Verify whether: Instance equals to instance1 AND UnformattedMessageLen equals to L AND UnformattedMessage equals to P			
4	IF verify NOT OK THEN T <input type="checkbox"/> failed ENDIF			
5	Verify whether the remote end has been informed that ADU was received.	RemEnd		
6	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/CSP/API/BV/07	<b>Receipt of unformatted ADUs for multiple sessions</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	<p>A valid Instance instance1 and instance2 have already been created.</p> <p>Session for instance1 and instance2 are established.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	Unformatted ADU is sent from the remote end, consisting of certain payload P1 of length L1, using a session related to instance1.	RemEnd	<input type="checkbox"/>
		AppEm	<input type="checkbox"/> C: UnformattedADUReceived ( Instance, UnformattedMessageLen, UnformattedMessage)
3	Verify whether: Instance equals to instance1 AND UnformattedMessageLen equals to L1 AND UnformattedMessage equals to P1		
4	IF verify NOT OK THEN TP <input type="checkbox"/> failed ENDIF		
5	Verify whether the remote end has been informed that ADU was received.	RemEnd	
6	IF verify NOT OK THEN TP failed ENDIF		
7	Unformatted ADU is sent from the remote end, consisting of certain payload P2 of length L2, using a session related to instance2.	RemEnd	<input type="checkbox"/>
8		AppEm	<input type="checkbox"/> C: UnformattedADUReceived ( Instance, UnformattedMessageLen, UnformattedMessage)
9	Verify whether: Instance equals to instance2 AND UnformattedMessageLen equals to L2 AND UnformattedMessage equals to P2		
10	IF verify NOT OK THEN TP failed ENDIF		

11	Verify whether the remote end has been informed that ADU was received.	RemEnd		
12	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BV/08	<b>Receipt of structured ADU</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.2.1
Initial Condition	A valid Instance instance1 has already been created. Session for instance 1 is established. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	Structured ADU is sent from the remote end using a session related to instance1.	RemEnd	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	C: ADUReceived (Instance, Element)
3	Verify whether: Instance equals to instance <input type="checkbox"/> AD Element corresponds to sent ADU			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Verify whether the remote end has been informed that ADU was received.	RemEnd		
6	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BV/09	<b>Receipt of structured ADU for multiple sessions</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	<p>A valid Instance instance1 and instance2 have already been created.</p> <p>Session for instance1 and instance2 are established.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)</p>		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	Structured ADU is sent from the remote end using a session related to instance1.	RemEnd	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> C: ADUReceived (Instance, Element)
3	Verify whether: Instance equals to instance1 AND Element corresponds to sent ADU		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Verify whether the remote end has been informed that ADU was received.	RemEnd	
6	IF verify NOT OK THEN TP failed ENDIF		
7	Structured ADU is sent from the remote end using a session related to instance2.	RemEnd	<input type="checkbox"/>
8		AppEm	<input type="checkbox"/> C: ADUReceived (Instance, Element)
9	Verify whether: Instance equals to instance2 AND Element corresponds to sent ADU		
10	IF verify NOT OK THEN TP failed ENDIF		
11	Verify whether the remote end has been informed that ADU was received.	RemEnd	
12	IF verify OK THEN TP passed ELSE TP failed ENDIF		

TP/CSP/API/BV/10	<b>Verify whether FE Application receives ADURequest callback</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2.1		
Initial Condition	A valid Instance instance1 has been created. Session for instance1 is established. Session is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	Remote end sends ADU Request for elements E corresponding to instance1	RemEnd	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> C: ADURequest (Instance, Elements)
3	Verify whether: Instance equals to instance1 AND Elements corresponds to E		
4	IF verify NOT OK THEN TP failed ELSE TP passed ENDIF		

**A.4.2 BI test purposes (Invalid Behaviour tests)**

Test subgroup objective:

- to test DUT invalid behaviour with respect to sending unformatted ADU once:
  - no instance exists;
  - no session exists;
  - DUT is in visible state which does not allow sending unformatted ADU.
- to test DUT invalid behaviour with respect to
  - starting ADU set;
  - ending ADU set;
  - sending ADU;
  - once:
    - no instance exists;
    - no session exists;

- DUT is in visible state which does not allow starting and ending ADU set and sending structured ADU.

TP/CSP/API/BI/01	<b>Sending unformatted ADU once no instance is initialized</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.3.2			
Initial Condition	FE Communications API is initialized			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	SendUnformattedADU ( Instance = invalidInstance, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNolInstance			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Verify whether an ADU payload transmitted to remote end	RemEnd		
6	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/02	<b>Sending unformatted ADU once no session is established</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.2		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Verify whether an ADU payload transmitted to remote end	RemEnd	
6	IF verify OK THEN TP failed ELSE TP passed ENDIF		

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TP/CSP/API/BI/03	<b>Sending unformatted ADU once session is in STStarting state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.2
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	StartSession (Instance = instance1, Reason = any, SessionHandle)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	Verify whether CEN175752Error equals to ERBadState			
8	IF verify NOT OK THEN TP failed ENDIF			
9	Verify whether an ADU payload transmitted to remote end	RemEnd		
10	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/04	<b>Sending unformatted ADU once session is in STEnding state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session exists for instance1.</p> <p>Session related to instance1 is in STSessionIdle state.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	EndSession (Instance = instance1, Reason = any)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Er or
7	Verify whether CEN175752Error equals to ERBadState			
8	IF verify NOT OK THEN TP failed ENDIF			
9	Verify whether an ADU payload transmitted to remote end	RemEnd		
10	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/05	<b>Sending unformatted ADU once session is in STErrorred state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.2		
Initial Condition	Session related to instance1 is in STErrorred state.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Verify whether an ADU payload transmitted to remote end	RemEnd	
6	IF verify OK THEN TP failed ELSE TP passed ENDIF		

TP/CSP/API/BI/06	<b>Sending unformatted ADU once another unformatted ADU is being sent</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.2
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session exists for instance1.</p> <p>Session related to instance1 is in STSessionIdle state.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	Verify whether CEN175752Error equals to ERBadState			
8	IF verify NOT OK THEN TP failed ENDIF			
9	Verify whether an ADU payload transmitted to remote end	RemEnd		
10	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/07	<b>Sending unformatted ADU once session is in STSendingADURequest state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.2
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Session related to instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)

## Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals t ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	SendUnformattedADU ( <b>Instance = instance1,</b> <b>MessageLen = any, Message = any)</b>	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	Verify whether CEN175752Error equals to ERBadState			
8	IF verify NO <input type="checkbox"/> OK THEN TP failed ENDIF			
9	Verify whether an ADU payload transmitted to remote end	RemEnd		
10	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/08	<b>Sending unformatted ADU once session is in STSendingADU state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.2
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Session related to instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	C: ADUSendOK(instance, CanSend)
7	IF (Instance equals to instance1 AND CanSend equals to TRUE) THEN GOT <input type="checkbox"/> STEP7 ELSE TP failed ENDIF			
8	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
9		AppEm	<input type="checkbox"/>	R: CEN175752Error
10	Verify whether CEN175752Error equals to ERBadState			
11	IF verify NOT OK THEN TP failed ENDIF			
12	Verify whether an ADU payload transmitted to remote end	RemEnd		
13	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/09	<b>Sending unformatted ADU once session is in STAwaitingADUConfirm state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.2
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Session related to instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set)

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>	
6			<input type="checkbox"/>	C: ADUSendOK(instance, CanSend)
7	IF (Instance equals to instance1 AND CanSend equals to TRUE) THEN GOTO STEP8 ELSE TP failed ENDIF			
8	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>	
9		AppEm	<input type="checkbox"/>	R: WORD
10	Verify whether returned value is greater than 0			
11	IF verify NOT OK THEN TP failed ENDIF			
12	SendADUSetEnd (Instance = instance1)		<input type="checkbox"/>	
13		AppEm	<input type="checkbox"/>	R: CEN175752Error
14	Verify whether CEN175752Error equals to ERNoError			

15	IF verify NOT OK THEN TP failed ENDIF			
16	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
17		AppEm	<input type="checkbox"/>	R: CEN5752Error
18	Verify whether CEN175752Error equals to ERBadState			
19	IF verify NOT OK THEN TP failed ENDIF			
20	Verify whether an ADU payload transmitted to remote end	RemEnd		
21	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/10	<b>Sending unformatted ADU once session failed</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.2
Initial Condition	A valid Instance instance1 has already been created. Session for instance1 has already been established. Session related to instance1 is in STSessionIdle state.

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1a	SendUnformattedADU (Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
1b		RemEnd		In parallel to STEP1a terminate a session at remote en
2		AppEm	<input type="checkbox"/>	R: CEN17572Error
3	Verify whether CEN175752Error equals to ERSessionFailed			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BI/11	<b>Starting ADU set once no instance is initialized</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.3.3			
Initial Condition	FE Communications API is initialized			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to <input type="checkbox"/> ERNolnstance			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BI/12	<b>Starting ADU set once no session is established</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.3.3			
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN75752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BI/13	<b>Starting ADU set once session is in STStarting state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	StartSession (Instance = instance1, Reason = any, SessionHandle)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> R: CEN175752Error
7	Verify whether CEN175752Error equals to ERBadState		
8	IF verify OK THEN TP passed ELSE TP failed ENDIF		

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TP/CSP/API/BI/14	<b>Starting ADU set once session is in STEnding state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Session related to instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	EndSession ( <b>Instance = instance1, Reason = any</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	<b>Verify whether CEN175752Error equals to ERNoError</b>			
4	<b>IF verify NOT OK THEN TP failed ENDIF</b>			
5	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	<b>Verify whether CEN175752Error equals to ERBadState</b>			
8	<b>IF verify OK THEN TP passed ELSE TP failed ENDIF</b>			

TP/CSP/API/BI/15	<b>Starting ADU set once session is in STErrored state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	Session related to instance1 is in STErrored state.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

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TP/CSP/API/BI/16	<b>Starting ADU set once session is in STSendingUnformattedADU state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Session related to instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendUnformattedADU ( <b>Instance = instance1,</b> <b>MessageLen = any, Message = any)</b>	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	<b>Verify whether CEN175752Error equals to ERNoError</b>			
4	<b>IF verify NOT OK THEN TP failed ENDIF</b>			
5	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	<b>Verify whether CEN175752Error equals to ERBadState</b>			
8	<b>IF verify OK THEN TP passed ELSE TP failed ENDIF</b>			

TP/CSP/API/BI/17	<b>Starting ADU set once session is in STSendingADURequest state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session exists for instance1.</p> <p>Session related to instance1 is in STSessionIdle state.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	Verify whether CEN175752Error equals to ERBadState			
8	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/CSP/API/BI/18	<b>Starting ADU set once session is in STSendingADU state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session exists for instance1.</p> <p>Session related to instance1 is in STSessionIdle state.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> C: ADUSendOK(Instance, CanSend)
7	IF (Instance equals to instance1 AND CanSend equals to TRUE) THEN GOTO STEP8 ELSE TP failed ENDIF		
8	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>
9		AppEm	<input type="checkbox"/> R: CEN175752Error
10	Verify whether CEN175752Error equals to ERBadState		
11	IF verify K THEN TP passed ELSE TP failed ENDIF		

TP/CSP/API/BI/19	<b>Starting ADU set once session is in STAwaitingADUConfirm state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session exists for instance1.</p> <p>Session related to instance1 is in STSessionIdle state.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>	
6			<input type="checkbox"/>	C: ADUSendOK(instance, CanSend)
7	IF (Instance equals to instance1 AND CanSend equals to TRUE) THEN GOTO STEP8 ELSE TP failed ENDIF			
8	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>	
9		AppEm	<input type="checkbox"/>	R: WORD
10	Verify whether returned value is greater than 0			
11	IF verify NOT OK THEN TP failed ENDIF			
12	SendADUSetEnd (Instance = instance1)		<input type="checkbox"/>	
13		AppEm	<input type="checkbox"/>	R: CEN175752Error
14	Verify whether CEN175752Error equals to ERNoError			

<input type="checkbox"/>	I verify NOT OK THEN TP failed ENDIF			
16	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>	
17		AppEm	<input type="checkbox"/>	R: CEN175752Error
18	Verify whether CEN175752Error equals to ERBadState			
19	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BI/20	<b>Starting ADU set once session failed</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.3.3			
Initial Condition	A valid Instance instance1 has already been created. Session for instance1 has already been established. Session related to instance1 is in STSessionIdle state.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1a	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>	
1b		RemEnd		In parallel to STEP1a terminate a session at remote end
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERSessionFailed			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BI/21	<b>Sending structured ADU once no instance is initialized</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	FE Communications API is initialized		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendADU (Instance = invalidInstance, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: WORD
3	Verify whether returned value equals to 0		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Verify whether an ADU payload transmitted to remote end	RemEnd	
6	IF verify OK THEN TP failed ELSE TP passed ENDIF		

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TP/CSP/API/BI/22	<b>Sending structured ADU once no session is established</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.3.3			
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: WORD
3	Verify whether returned value equals to 0			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Verify whether an ADU payload transmitted to remote end	RemEnd		
6	IF verify OK THEN TP failed ELSE TP passed ENDIF			

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TP/CSP/API/BI/23	<b>Sending structured ADU once session is in STStarting state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	StartSession (Instance = instance1, Reason = any, SessionHandle)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> R: WORD
7	Verify whether returned value equals to 0		
8	IF verify NOT OK THEN TP failed ENDIF		
9	Verify whether an ADU payload transmitted to remote end	RemEnd	
10	IF verify OK THEN TP failed ELSE TP passed ENDIF		

TP/CSP/API/BI/24	<b>Sending structured ADU once session is in STEnding state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Session related to instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	EndSession (Instance = instance1, Reason = any)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: EN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: WORD
7	Verify whether returned value equals to 0			
8	IF verify NOT OK THEN TP failed ENDIF			
9	Verify whether an ADU payload transmitted to remote end	RemEnd		
10	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/25	<b>Sending structured ADU once session is in STErrored state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	Session related to instance1 is in STErrored state.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: WORD
3	Verify whether returned value equals to 0		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Verify whether an ADU payload transmitted to remote end	RemEnd	
6	IF verify OK THEN TP failed ELSE TP passed ENDIF		

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TP/CSP/API/BI/26	<b>Sending structured ADU once session is in STSendingUnformattedADU state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Session related to instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendUnformattedADU ( Instance = instance1, MessageLen = any, Message = any)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: WORD
7	Verify whether returned value equals to 0			
8	IF verify NOT OK THEN TP failed ENDIF			
9	Verify whether an ADU payload transmitted to remote end	RemEnd		
10	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/27	<b>Sending structured ADU once session is in STSendingADURequest state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session exists for instance1.</p> <p>Session related to instance1 is in STSessionIdle state.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).</p>

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	<b>Verify whether CEN175752Error equals to ERNoError</b>			
4	<b>IF verify NOT OK THEN TP failed ENDIF</b>			
5	SendADU ( <b>Instance = instance1,</b> <b>ElementLen = any,</b> <b>Element = any</b> )	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: WORD
7	<b>Verify whether returned value equals to 0</b>			
8	<b>IF verify NOT OK THEN TP failed ENDIF</b>			
9	<b>Verify whether an ADU payload transmitted to remote end</b>	RemEnd		
10	<b>IF verify OK THEN TP failed ELSE TP passed ENDIF</b>			

TP/CSP/API/BI/28	<b>Sending structured ADU once session is in STAwaitingADUConfirm state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session exists for instance1.</p> <p>Instance1 is in STSessionIdle state.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>
6			<input type="checkbox"/> C: ADUSendOK(instance, CanSend)
7	IF (Instance equals to instance1 AND CanSend equals to TRUE) THEN GOTO STEP8 ELSE TP failed ENDIF		
8	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>
9		AppEm	<input type="checkbox"/> R: WORD
10	Verify whether returned value is greater than 0		
11	IF verify NOT OK THEN TP failed ENDIF		
12	SendADUSetEnd (Instance = instance1)		<input type="checkbox"/>
13		AppEm	<input type="checkbox"/> R: CEN175752Error
14	Verify whether CEN175752Error equals to ERNoError		

15	IF verify NOT OK THE <input type="checkbox"/> T failed ENDIF			
16	SendADU (Instance = instance1, ElementLen = any, Element = any)	AppEm	<input type="checkbox"/>	
17		AppEm	<input type="checkbox"/>	R: WORD
18	Verify whether returned value equals to 0			
19	IF verify OK THEN TP passed ELSE TP failed ENDIF			
20	Verify whether an ADU payload transmitted to remote end	RemEnd		
21	IF verify OK THEN TP failed ELSE TP passed ENDIF			

TP/CSP/API/BI/29	<b>Ending ADU set once no instance is initialized</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.3.3			
Initial Condition	FE Communications API is initialized			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	SendADUSetEnd (Instance = invalidInstance)		<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BI/30	<b>Ending ADU set once no session is established</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.3.3			
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	SendADUSetEnd (Instance = instance1)		<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Er□r
3	Verify whether CEN175752Error equals to ERBadState			
4	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/CSP/API/BI/31	<b>Ending ADU set once session is in STStarting state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	StartSession (Instance = instance1, Reason = any, SessionHandle)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	SendADUSetEnd (Instance = instance1)		<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> R: CEN175752Error
7	Verify whether CEN175752Error equals to ERBadState		
8	IF verify OK THEN TP passed ELSE TP failed ENDIF		

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TP/CSP/API/BI/32	<b>Ending ADU set once session is in STEnding state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	EndSession ( <b>Instance = instance1, Reason = any</b> )	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	<b>Verify whether CEN175752Error equals to ERNoError</b>			
4	<b>IF verify NOT OK THEN TP failed ENDIF</b>			
5	SendADUSetEnd ( <b>Instance = instance1</b> )		<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	<b>Verify whether CEN175752Error equals to ERBadState</b>			
8	<b>IF verify OK THEN TP passed ELSE TP failed ENDIF</b>			

TP/CSP/API/BI/33	<b>Ending ADU set once session is in STErrored state</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	Instance1 is in STErrored state.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendADUSetEnd (Instance = instance1)		<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERBadState		
4	IF verify OK THEN TP passed ELSE TP failed ENDIF		

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TP/CSP/API/BI/34	<b>Ending ADU set once session is in STSendingUnformattedADU state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendUnformattedADU ( <b>Instance = instance1,</b> <b>MessageLen = any, Message = any)</b>	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	<b>Verify whether CEN175752Error equals to ERNoError</b>			
4	<b>IF verify NOT OK</b> <b>THEN TP failed</b> <b>ENDIF</b>			
	SendADUSetEnd ( <b>Instance = instance1</b> )		<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	<b>Verify whether CEN175752Error equals to ERBadState</b>			
8	<b>IF verify OK</b> <b>THEN TP passed</b> <b>ELSE TP failed</b> <b>ENDIF</b>			

TP/CSP/API/BI/35	<b>Ending ADU set once session is in STSendingADURequest state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	SendADUSetEnd (Instance = instance1)		<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: CEN175752Error
7	Verify whether CEN175752Error equals to ERBadState			
8	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/CSP/API/BI/36	<b>Ending ADU set once session is in STAwaitingADUConfirm state</b>
TP Origin	Specific
Reference	ISO/TS 17575-2, Clause 7.3.3
Initial Condition	A valid Instance instance1 has already been created. Session exists for instance1. Instance1 is in STSessionIdle state. Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).

Stimulus and Expected Behaviour

	Tester	Test Point		DUT
1	SendADUSetStart (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError			
4	IF verify NOT OK THEN TP failed ENDIF			
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>	
6			<input type="checkbox"/>	C: ADUSendOK(instance, CanSend)
7	IF (Instance equals to instance1 AND CanSend equals to TRUE) THEN GOTO STEP8 ELSE TP failed ENDIF			
8	SendADU (Instance = instance1, ElementLen = any, Element = any).	AppEm	<input type="checkbox"/>	
9		AppEm	<input type="checkbox"/>	R: WORD
10	Verify whether returned value is greater than 0			
11	IF verify NOT OK THEN TP failed ENDIF			
12	SendADUSetEnd (Instance = instance1)		<input type="checkbox"/>	
13		AppEm	<input type="checkbox"/>	R: CEN175752Error
14	Verify whether CEN175752Error equals to ERNoError			

15	IF verify NOT OK THEN TP failed ENDIF			
16	SendADUSetEnd ( <b>Instance = instance1</b> )		<input type="checkbox"/>	
17		AppEm	<input type="checkbox"/>	R: CEN175752Error
18	Verify whether CEN175752Error equals to ERBadState			
19	IF verify OK THEN TP passed ELSE TP failed ENDIF			

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TP/CSP/API/BI/37	<b>Ending ADU set once session failed</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.3.3		
Initial Condition	<p>A valid Instance instance1 has already been created.</p> <p>Session exists for instance1.</p> <p>Instance1 is in STSessionIdle state.</p> <p>Correct parameterization has already been done to establish session (example: ipAddress, port, url, protocol, PDP context, etc. are set).</p>		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	SendADUSetStart ( <b>Instance = instance1</b> )	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752Error
3	Verify whether CEN175752Error equals to ERNoError		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Remote End indicates its ability to receive elements	RemEnd	<input type="checkbox"/>
6			<input type="checkbox"/> C: ADUSendOK(instance, CanSend)
7	IF (Instance equals to instance1 AND CanSend equals to TRUE) THEN GOTO STEP8 ELSE TP failed ENDIF		
8	SendADU (Instance = instance1, ElementLen = any, Element = any).	AppEm	<input type="checkbox"/>
9		AppEm	<input type="checkbox"/> R: WORD
10	Verify whether returned value is greater than 0		
11	IF verify NOT OK THEN TP failed ENDIF		
12a	SendADUSetEnd ( <b>Instance = instance1</b> )		<input type="checkbox"/>
12b		RemEnd	<input type="checkbox"/> In parallel to STEP12a terminate a session at remote end
13		AppEm	<input type="checkbox"/> R: CEN175752Error
14	Verify whether CEN175752Error equals to ERSessionFailed		

1 <input type="checkbox"/>	IF verify OK THEN TP passed ELSE TP failed ENDIF			
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## A.5 State Transition

These Test Purposes apply to state transitions as claimed in ISO/TS 17575-2 Clause B.2 with respect to following PICS proforma entries:

- API supports InstanceStateChange Event;
- API supports CommsQuery;
- API supports SessionRequest Event.

### A.5.1 BV test purposes

Test subgroup objective:

- to test DUT behaviour with respect to state transition by
  - querying DUT about old visible state;
  - triggering DUT to change its visible state;
  - checking whether DUT provides InstanceStateChange upon visible state change;
  - querying DUT about new visible state.

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TP/ST/API/BV/01	<b>State transition from STUnknownInstance to STNoSession</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2			
Initial Condition	Front End Communications API must handle at least one underlying communications stack which StackID equals to stack1. Set of Callback instances is instantiated.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	CommsQuery (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752StateE
3	Verify whether CEN175752StateE equals to STUnknownInstance			
4	IF verify NOT OK THEN TP failed ENDIF			
5	InitialiseInstance (StackID = stack1, Callbacks = cb1)	AppEm	<input type="checkbox"/>	
6		AppEm	<input type="checkbox"/>	R: Instance
7	Verify whether Instance is valid			
8	IF verify OK THEN TP passed ELSE TP failed ENDIF			
9	Assign received Instance as instance1			
10		AppEm	<input type="checkbox"/>	C: InstanceStateChange (Instance, OldState, NewState)
11	Verify whether Instance equals to instance1 AND OldState equals to STUnknownInstance AND NewState equals to STNoSession)			
12	IF verify NOT OK THEN TP failed ENDIF			
13	CommsQuery (Instance = instance1)	AppEm	<input type="checkbox"/>	
14		AppEm	<input type="checkbox"/>	R: CEN175752StateE
15	Verify whether CEN175752StateE equals to STNoSession			
16	IF verify OK THEN TP passed ELSE TP failed ENDIF			

TP/ST/API/BV/02	<b>State transition from STNoSession to STUnknownInstance</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	CommsQuery (Instance = instance1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752StateE
3	Verify whether CEN175752StateE equals to STNoSession		
4	IF verify NOT OK THEN TP failed ENDIF		
5	DroplInstance ( Instance = instance1, Severity = anyl)	AppEm	<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> R: CEN175752Error
7	Verify whether CEN175752Error equals to ERNoError		
8	IF verify NOT OK THEN TP failed ENDIF		
9		AppEm	<input type="checkbox"/> C: InstanceStateChange (Instance, OldState, NewState)
10	Verify whether Instance equals to instance1 AND OldState equals to STNoSession AND NewState <input type="checkbox"/> equals to STUnknownInstance)		
11	IF verify NOT OK THEN TP failed ENDIF		
12	CommsQuery (Instance = instance1)	AppEm	<input type="checkbox"/>
13		AppEm	<input type="checkbox"/> R: CEN175752StateE
14	Verify whether CEN175752StateE equals to STUnknownInstance		
15	IF verify OK THEN TP <input type="checkbox"/> assed ELSE TP failed ENDIF		

TP/ST/API/BV/03	<b>Verify that there is no state change upon receipt of SessionRequest</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
<b>Stimulus and Expected Behaviour</b>			
	Tester	Test Point	DUT
1	CommsQuery (Instance = instance1)	AppEm	<input type="checkbox"/>
2		AppEm	<input type="checkbox"/> R: CEN175752StateE
3	Verify whether CEN175752StateE equals to STNoSession		
4	IF verify NOT OK THEN TP failed ENDIF		
5	Session request from remote end corresponding to instance1	RemEnd	<input type="checkbox"/>
6		AppEm	<input type="checkbox"/> C: SessionRequest(Instance, Handle)
7	Verify whether Instance equals to instance1		
8	IF verify NOT OK THEN TP failed ENDIF		
9	CommsQuery (Instance = instance1)	AppEm	<input type="checkbox"/>
10		AppEm	<input type="checkbox"/> R: CEN175752StateE
11	Verify whether CEN175752StateE equals to STNoSession		
12	IF verify K THEN TP passed ELSE TP failed ENDIF		

TP/ST/API/BV/04	<b>State transition from STNoSession to STStarting</b>		
TP Origin	Specific		
Reference	ISO/TS 17575-2, Clause 7.2		
Initial Condition	A valid Instance instance1 has already been created. No session exists for instance1.		
Stimulus and Expected Behaviour			
	Tester	Test Point	DUT
1	CommsQuery (Instance = instance1)	AppEm <input type="checkbox"/>	
2		AppEm <input type="checkbox"/>	R: CEN175752StateE
3	Verify whether CEN175752StateE equals to STNoSession		
4	IF verify NOT OK THEN TP failed ENDIF		
5	StartSession (Instance = instance1, Reason = any, SessionHandle)	AppEm <input type="checkbox"/>	
6		AppEm <input type="checkbox"/>	R: CEN175752Error
7	Verify whether CEN175752Error equals to ERNoError		
8	IF verify NOT OK THEN TP failed ENDIF		
9		AppEm <input type="checkbox"/>	C: InstanceStateChange (Instance, OldState, NewState)
10	Verify whether Instance equals to instance1 AND OldState equals to STNoSession AND <input type="checkbox"/> NewState equals to STStarting)		
11	IF verify NOT OK THEN TP failed ENDIF		
12	CommsQuery (Instance = instance1)	AppEm <input type="checkbox"/>	
13		AppEm <input type="checkbox"/>	R: CEN175752StateE
14	Verify whether CEN175752StateE equals to STStarting		
15	IF verify OK THEN TP passd <input type="checkbox"/> ELSE TP failed ENDIF		

TP/ST/API/BV/05	<b>State transition from STStarting to STSessionIdle</b>			
TP Origin	Specific			
Reference	ISO/TS 17575-2, Clause 7.2			
Initial Condition	A valid Instance instance1 has already been created. Session for instance1 is being established.			
Stimulus and Expected Behaviour				
	Tester	Test Point		DUT
1	CommsQuery (Instance = instance1)	AppEm	<input type="checkbox"/>	
2		AppEm	<input type="checkbox"/>	R: CEN175752StateE
3	Verify whether CEN175752StateE equals to STStarting			
4	IF verify NOT OK THEN TP failed ENDIF			
5		AppEm	<input type="checkbox"/>	C: InstanceStateChange (Instance, OldState, NewState)
6	Verify whether Instance equals to instance1 AND OldState equals to STNoSession AND NewState equals to STSessionIdle)			
7	IF verify NOT OK THEN TP failed ENDIF			
8	CommsQuery (Instance = instance1)	AppEm	<input type="checkbox"/>	
9		AppEm	<input type="checkbox"/>	R: CEN175752StateE
10	Verify whether CEN175752StateE equals to STSessionIdle			
11	IF verify OK THEN TP passed ELSE TP failed ENDIF			