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Conformance testing for file transfer over  
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Part 2: ETS 300 075 Test Suite Structure  
and Test Purposes (TSS&TP)**

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## Contents

Foreword .....	7
1 Scope .....	9
2 Normative references.....	9
3 Definitions and abbreviations .....	9
3.1 Definitions .....	9
3.2 Abbreviations .....	10
4 Test suite overview.....	10
4.1 Test Suite Structure (TSS).....	10
4.2 Test groups.....	12
4.2.1 Major roles.....	12
4.2.2 Main test groups.....	12
4.2.2.1 Basic Interconnection Test (IT).....	12
4.2.2.2 Capability Tests (CA).....	13
4.2.2.3 Valid Behaviour Tests (BV).....	13
4.2.2.4 Invalid Behaviour Tests (BI).....	13
4.2.2.5 Inopportune Behaviour Tests (BO).....	13
4.2.3 Functional units test groups .....	13
4.3 Test step structure .....	13
4.3.1 State definitions.....	13
4.3.2 Preambles .....	14
4.3.3 Postambles.....	14
5 Test Purposes presentation .....	14
5.1 Introduction .....	14
5.2 Test Purpose naming convention .....	14
5.3 Test Purpose writing rules .....	15
5.3.1 Initiator.....	15
5.3.2 Acceptor .....	15
6 Test Purposes .....	15
6.1 IUT as a master .....	15
6.1.1 M/Basic Interconnection Tests (IT) .....	16
6.1.2 M/Capability Tests (CA) .....	16
6.1.2.1 M/CA/Association .....	16
6.1.2.2 M/CA/Access .....	16
6.1.2.3 M/CA/Directory .....	17
6.1.2.4 M/CA/Save.....	17
6.1.2.5 M/CA/Load.....	17
6.1.2.6 M/CA/Rename .....	17
6.1.2.7 M/CA/Delete .....	17
6.1.2.8 M/CA/File Transfer .....	18
6.1.2.9 M/CA/Typed Data .....	18
6.1.3 M/Valid Behaviour Tests (BV) .....	18
6.1.3.1 M/BV/Protocol Interactions .....	18
6.1.3.1.1 M/BV/PI/Association .....	19
6.1.3.1.2 M/BV/PI/Access .....	19
6.1.3.1.3 M/BV/PI/Directory .....	19
6.1.3.1.4 M/BV/PI/Save.....	19
6.1.3.1.5 M/BV/PI/Load.....	20
6.1.3.1.6 M/BV/PI/Rename .....	20
6.1.3.1.7 M/BV/PI/Delete .....	20
6.1.3.1.8 M/BV/PI/File Transfer .....	20
6.1.3.1.9 M/BV/PI/Typed Data .....	22

6.1.3.2	M/BV/Parameter Variations .....	22
6.1.3.2.1	M/BV/PV/File Transfer .....	22
6.1.3.3	M/BV/Parameter Combinations .....	23
6.1.3.3.1	M/BV/PC/File Transfer .....	23
6.1.3.4	M/BV/Inopportune Event .....	23
6.1.3.4.1	M/BV/IE/Association .....	23
6.1.3.4.2	M/BV/IE/Access .....	24
6.1.3.4.3	M/BV/IE/Save .....	24
6.1.3.4.4	M/BV/IE/Load .....	24
6.1.3.4.5	M/BV/IE/Typed Data .....	24
6.1.3.5	M/BV/Timer Variations .....	25
6.1.3.5.1	M/BV/TI/Access .....	25
6.1.3.5.2	M/BV/TI/Directory .....	25
6.1.3.5.3	M/BV/TI/File Transfer .....	25
6.1.4	M/Invalid Behaviour Tests (BI) .....	26
6.1.4.1	M/BI/Parameter Variations .....	26
6.1.4.1.1	M/BI/PV/Association .....	26
6.1.4.1.2	M/BI/PV/Access .....	27
6.1.4.1.3	M/BI/PV/Directory .....	27
6.1.4.1.4	M/BI/PV/Save .....	27
6.1.4.1.5	M/BI/PV/Load .....	28
6.1.4.1.6	M/BI/PV/Rename .....	28
6.1.4.1.7	M/BI/PV/Delete .....	28
6.1.4.1.8	M/BI/PV/File Transfer .....	29
6.1.4.1.9	M/BI/PV/Typed Data .....	30
6.1.4.2	M/BI/Parameter Combinations .....	30
6.1.4.2.1	M/BI/PC/File Transfer .....	30
6.1.5	M/Inopportune Behaviour Tests (BO) .....	30
6.1.5.1	M/BO/Inopportune Event .....	30
6.1.5.1.1	M/BO/IE/Association .....	31
6.1.5.1.2	M/BO/IE/Access .....	31
6.1.5.1.3	M/BO/IE/Directory .....	32
6.1.5.1.4	M/BO/IE/Save .....	32
6.1.5.1.5	M/BO/IE/Load .....	32
6.1.5.1.6	M/BO/IE/Rename .....	33
6.1.5.1.7	M/BO/IE/Delete .....	33
6.1.5.1.8	M/BO/IE/File Transfer .....	33
6.2	IUT as a Slave .....	34
6.2.1	S/Basic Interconnection Tests (IT) .....	34
6.2.2	S/Capability Tests (CA) .....	34
6.2.2.1	S/CA/Association .....	34
6.2.2.2	S/CA/Access .....	35
6.2.2.3	S/CA/Directory .....	35
6.2.2.4	S/CA/Save .....	35
6.2.2.5	S/CA/Load .....	35
6.2.2.6	S/CA/Rename .....	36
6.2.2.7	S/CA/Delete .....	36
6.2.2.8	S/CA/File Transfer .....	36
6.2.2.9	S/CA/Typed Data .....	36
6.2.3	S/Valid Behaviour Tests (BV) .....	37
6.2.3.1	S/BV/Protocol Interactions .....	37
6.2.3.1.1	S/BV/PI/Association .....	37
6.2.3.1.2	S/BV/PI/File Transfer .....	37
6.2.3.1.3	S/BV/PI/Typed Data .....	38
6.2.3.2	S/BV/Parameter Variations .....	39
6.2.3.2.1	S/BV/PV/Access .....	39
6.2.3.2.2	S/BV/PV/Directory .....	39
6.2.3.2.3	S/BV/PV/Save .....	40
6.2.3.2.4	S/BV/PV/Load .....	40
6.2.3.2.5	S/BV/PV/Rename .....	40
6.2.3.2.6	S/BV/PV/Delete .....	40
6.2.3.2.7	S/BV/PV/File Transfer .....	41
6.2.3.3	S/BV/Parameter Combinations .....	41

6.2.3.3.1	S/BV/PC/Association .....	42
6.2.3.3.2	S/BV/PC/Directory .....	42
6.2.3.3.3	S/BV/PC/Save.....	42
6.2.3.3.4	S/BV/PC/Load.....	42
6.2.3.3.5	S/BV/PC/Rename .....	43
6.2.3.3.6	S/BV/PC/Delete .....	43
6.2.3.3.7	S/BV/PC/File Transfer .....	43
6.2.3.4	S/BV/Inopportune Event .....	43
6.2.3.4.1	S/BV/IE/Association .....	44
6.2.3.4.2	S/BV/IE/Access.....	44
6.2.3.4.3	S/BV/IE/Save .....	44
6.2.3.4.4	S/BV/IE/Load .....	44
6.2.4	S/Invalid Behaviour Tests (BI).....	44
6.2.4.1	S/BI/Parameter Variations .....	45
6.2.4.1.1	S/BI/PV/Association .....	45
6.2.4.1.2	S/BI/PV/Access.....	45
6.2.4.1.3	S/BI/PV/Directory .....	46
6.2.4.1.4	S/BI/PV/Save .....	46
6.2.4.1.5	S/BI/PV/Load .....	46
6.2.4.1.6	S/BI/PV/Rename .....	47
6.2.4.1.7	S/BI/PV/Delete .....	47
6.2.4.1.8	S/BI/PV/File Transfer .....	47
6.2.4.1.9	S/BI/PV/Typed Data.....	48
6.2.4.2	S/BI/Parameter Combinations .....	49
6.2.4.2.1	S/BI/PC/File Transfer .....	49
6.2.5	S/Inopportune Behaviour Tests (BO) .....	49
6.2.5.1	S/BO/Inopportune Event.....	49
6.2.5.1.1	S/BO/IE/Association .....	49
6.2.5.1.2	S/BO/IE/Access .....	50
6.2.5.1.3	S/BO/IE/Save .....	50
6.2.5.1.4	S/BO/IE/Load .....	51
6.2.5.1.5	S/BO/IE/File Transfer .....	51
Annex A (informative): Test Identifier acronyms .....	52	
History.....	53	

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## Foreword

Part 2 of this Interim European Telecommunication Standard (I-ETS) has been produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI).

An ETSI standard may be given I-ETS status either because it is regarded as a provisional solution ahead of a more advanced standard, or because it is immature and requires a "trial period". The life of an I-ETS is limited to three years after which it can be converted into an ETS, have its life extended for a further two years, be replaced by a new version, or be withdrawn.

This is the second part of an I-ETS which comprise three parts as follows:

"Terminal Equipment (TE); Conformance testing for file transfer over the Integrated Services Digital Network (ISDN):

Part 1: ETS 300 075 Protocol Implementation Conformance Statement (PICS) proforma;

**Part 2: ETS 300 075 Test Suite Structure and Test Purposes (TSS&TP);**

Part 3: Conformance testing for ETS 300 075 restricted by ETS 300 383 - Abstract Test suite (ATS)".

<b>Proposed announcement date</b>	
Date of adoption of this I-ETS:	30 August 1996
Date of latest announcement of this I-ETS (doa):	31 December 1996

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## 1 Scope

Part 2 of this Interim European Telecommunication Standard (I-ETS) specifies the Test Suite Structure and Test Purposes (TSS&TP) for the Telesoftware Data Unit (TDU) layer protocol requirements of ETS 300 075 [1], restricted to the test specification for simple file transfer over the ISDN. Only the protocol exchanges aspects are described here, i.e. no Test Purpose concerning the telesoftware application and its specific parameters values is specified here.

The ISO/IEC standard for the methodology of conformance testing (ISO/IEC 9646-1 [2], ISO/IEC 9646-2 [3] and ISO/IEC 9646-3 [4]) is used as a basis for the test methodology.

## 2 Normative references

Part 2 of this I-ETS incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this part of the I-ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 075 (1994): "Terminal Equipment (TE); Processable data, File transfer".
- [2] ISO/IEC 9646-1 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [3] ISO/IEC 9646-2 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".
- [4] ISO/IEC 9646-3 (1992): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: Tree and Tabular Combined Notation (TTCN)".
- [5] ETS 300 383 (1995): "Integrated Service Digital Network (ISDN); File transfer over the ISDN-EUROFILE transfer profile".

## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of this part of the I-ETS, the following definitions apply:

**Abstract Test Suite (ATS):** A test suite composed of abstract test cases (ISO/IEC 9646-1 [2]).

**Implementation Under Test (IUT):** An implementation of one or more Open Systems Interconnection (OSI) protocols in an adjacent user/provider relationship, being the part of a real open system which is to be studied by testing (ISO/IEC 9646-1 [2]).

**Lower Tester (LT):** The representation in ISO/IEC 9646-1 [2] of the means of providing, during test execution, indirect control and observation of the lower service boundary of the IUT via the underlying service-provider (ISO/IEC 9646-1 [2]).

**NOTE:** The underlying service-provider is immediately beneath the (lowest) protocol which is the focus of testing. It may use one or more OSI layers, or only the Physical medium.

**master:** The entity which controls the dialogue.

**PICS proforma:** A profile RL plus the set of ICS proformas which when completed for a system and taken together with the profile RL become a profile ICS [ISO/IEC 9646-1 [2]].

**PIXIT proforma:** A profile XRL plus the set of IXIT proformas which when completed for an SUT and taken together with the profile XRL become a profile IXIT [ISO/IEC 9646-1 [2]].

**Point Of Control and Observation (PCO):** A point within a testing environment where the occurrence of test events is to be controlled and observed, as defined in an Abstract Test Method [ISO/IEC 9646-1 [2]].

**Protocol Implementation Conformance Statement (PICS):** An ICS for an implementation or system claimed to conform to a given protocol specification [ISO/IEC 9646-1 [2]].

**Protocol Implementation Extra Information For Testing (PIXIT):** An IXIT related to testing for conformance to a given protocol specification [ISO/IEC 9646-1 [2]].

**slave:** The entity which performs the operations requested by the Master.

**System Under Test (SUT):** The real open system in which the IUT resides [ISO/IEC 9646-1 [2]].

**Upper Tester (UT):** The representation in ISO/IEC 9646-1 [2] of means of providing, during test execution, control and observation of the upper service boundary of the IUT as defined by the chosen Abstract Test Method [ISO/IEC 9646-1 [2]].

### 3.2 Abbreviations

For the purposes of this part of the I-ETS, the following abbreviations apply:

ATS	Abstract Test Suite
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
LT	Lower Tester
OSI	Open Systems Interconnection
PCO	Point of Control and Observation
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SUT	System Under Test
TDU	Telesoftware Data Unit
TE	Terminal Equipment
TLV	Type, Length and Value
TSS	Test Suite Structure
TSS&TP	Test Suite Structure and Test Purposes
TTCN	Tree and Tabular Combined Notation
UT	Upper Tester

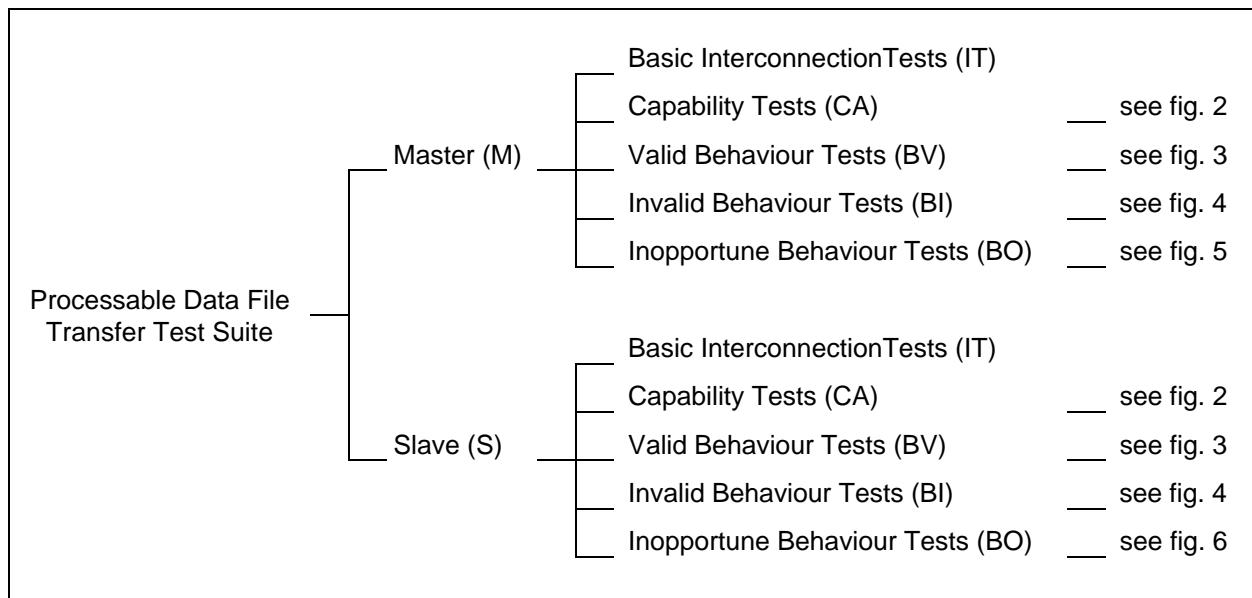
## 4 Test suite overview

### 4.1 Test Suite Structure (TSS)

The Test Suite Structure (TSS) complies, in general, with ISO/IEC 9646-2 [3]. It is restricted to the use of ETS 300 075 [1] for the EUROFILE transfer profile (ETS 300 383 [5]; e.g. T\_Protocol testing in Symmetrical Service).

The test suite consists of test groups and test cases. Each test case has a narrowly defined purpose. Within the test suite nested test groups are used to provide a logical ordering of the test cases.

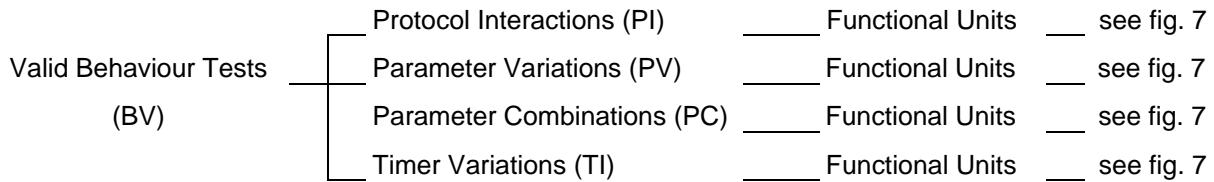
Figure 1 shows the TSS for TDU testing. The test suite is hierarchically structured, and is composed of 4 levels in the tree structure.



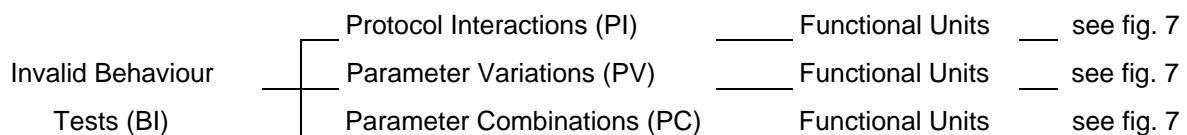
**Figure 1: ETS 300 075 Test Suite Structure**

Capability Tests (CA) \_\_\_\_\_ Functional Units \_\_\_\_\_ see figure 7

**Figure 2: Capability test group structure**



**Figure 3: Valid Behaviour Test Group Structure**



**Figure 4: Invalid Behaviour Test Group Structure**



Figure 5: Inopportune Behaviour Test Group Structure (Initiator)

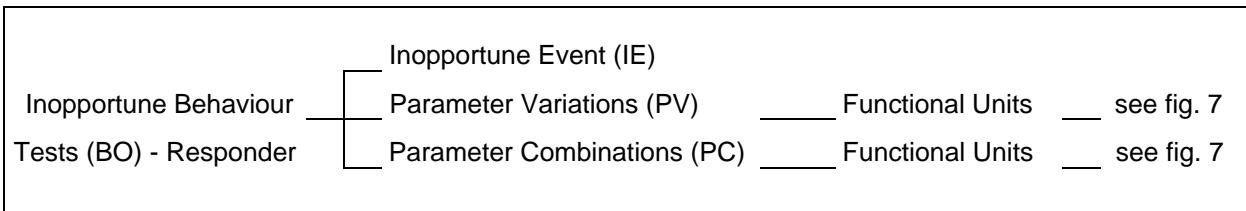


Figure 6: Inopportune Behaviour Test Group Structure (Responder)

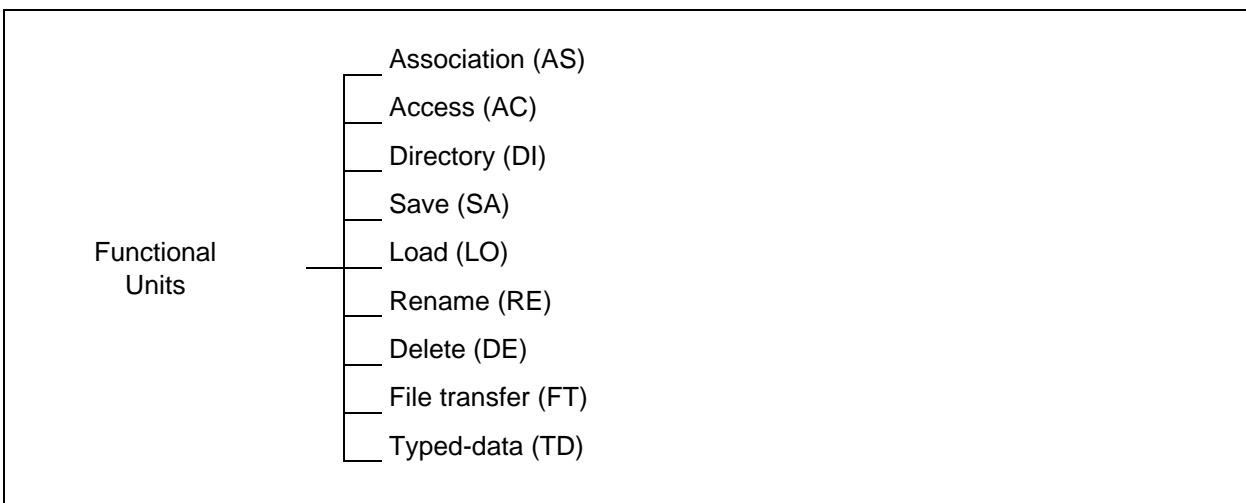


Figure 7: Functional units

## 4.2 Test groups

At the highest level, the TSS consists of the roles, which determine the set of services.

### 4.2.1 Major roles

The Master is the entity which controls the dialogue. The Slave is the entity which performs the operations requested by the Master.

### 4.2.2 Main test groups

#### 4.2.2.1 Basic Interconnection Test (IT)

The IT test should contain a basic set of Test Purposes which assures that there is a sufficient conformance for interconnection and that the chosen parameters are valid for the configuration.

The IT group may have no additional structure.

#### 4.2.2.2 Capability Tests (CA)

The tests in this group are intended to check that the observable external static capabilities of the implementation are valid with respect to the static conformance requirements expressed in the PICS of the IUT.

#### 4.2.2.3 Valid Behaviour Tests (BV)

All tests in the valid behaviour group are intended to verify, as thoroughly as possible, the various functions of the protocol. This test group is further divided into tests that check the IUT's response to:

- Protocol Interactions;
- Parameter Variations;
- Parameter Combinations;
- Timer Variations.

#### 4.2.2.4 Invalid Behaviour Tests (BI)

This test group is intended to verify that the IUT is able to react properly having received an invalid Protocol Data Unit (PDU). Invalid PDU here means a syntactically invalid PDU. This test group is further divided into tests that check the IUT's response to:

- Protocol Interactions;
- Parameter Variations;
- Parameter Combinations.

#### 4.2.2.5 Inopportune Behaviour Tests (BO)

This test group is intended to check that the IUT is able to react properly, in case an inopportune protocol event occurs. This test group is further divided into tests that check the IUT's response to:

- Inopportune Event;
- Protocol Interactions;
- Parameter Variations;
- Parameter Combinations.

### 4.2.3 Functional units test groups

These test groups are:

- AS Association;
- AC Access;
- DI Directory;
- SA Save;
- LO Load;
- RE Rename;
- DE Delete;
- FT File Transfer;
- TD Typed-Data.

### 4.3 Test step structure

#### 4.3.1 State definitions

The following definitions of states correspond to different states entered by the IUT:

IDLE: Physical connection established, no regime established.

States for Association regime management:

ASSOCIATE\_PD: Associate pending, wait for association response PDU;  
ASSOCIATE: Associate regime established.

#### 4.3.2 Preambles

Some of the specific Test Purposes described below require a preamble to ensure the IUT is in the correct state. When requiring a preamble, the test refers to a state which is already defined by a test case.

#### 4.3.3 Postambles

After each test the IUT is brought back to the initial state, using an Abort Request.

### 5 Test Purposes presentation

#### 5.1 Introduction

Clause 5 contains the naming conventions and the writing rules for TDU testing. The first part of this clause describes the naming convention of the Test Purposes referring to the groups to which they belong, and the second part shows the pattern for the content of Test Purposes, depending on whether the IUT is the master or the slave.

#### 5.2 Test Purpose naming convention

The identifier of the Test Purpose naming convention takes the following form where each item of the reference name is composed as shown in the table below:

Table 1: Test Purpose naming conventions

Pattern:	TC<R><C><F><U><NN> where		
<R> :	role	M S	Master Slave
<C> :	category (main test group)	1 2 3 4 5	IT, Basic Interconnection Tests CA, Capability tests BV, Valid Behaviour Tests BO, Inopportune Behaviour Tests BI, Invalid Behaviour Tests
<F> :	functional aspect	I V C E T	PI, Protocol Interaction PV, Parameter Variations PC, Parameter Combinations IE, Inopportune Event TI, Timer Variations
<U> :	functional units	1 2 3 4 5 6 7 8 9	AS, ASsociation establishment AC, ACcess establishment DI, File DIrectory SA, SAve file LO, LOad file RE, REname file DE, DElete file FT, File TRansfer TD, Typed-Data
<NN> :	sequential number	(00-99)	

EXAMPLE: TCM3V107 is the number of **test case 7**, for the **Master**, to test the **valid behaviour** of the IUT, with **parameter variations**, during **association phase**.

### 5.3 Test Purpose writing rules

#### 5.3.1 Initiator

**Table 2: Test Purpose writing rules for the initiator**

<b>Structure</b>	<b>Values</b>
<p><b>Ensure that the IUT in state &lt;state&gt; in order to &lt;goal&gt;</b></p> <p>&lt;action&gt;</p> <p>&lt;conditions&gt;</p> <p>a &lt;PDU type&gt;</p> <p><b>containing a</b></p> <ul style="list-style-type: none"> <li>a) &lt;parameter type&gt;</li> <li><b>parameter encoded as</b></li> <li>&lt;parameter value&gt;</li> </ul> <p>and</p> <p>[repeat if necessary the parameters back to a)]</p> <p><b>then on &lt;action&gt;</b></p> <p><b>from the tester a &lt;PDU type&gt;</b></p> <p><b>with &lt;parameter type&gt;</b></p> <p><b>the IUT &lt;action&gt;</b></p> <p>&lt;state&gt;</p>	<p>Associate Idle, Access regime established</p> <p>establish association regime</p> <p>sends, saves, does, etc...</p> <p>using....</p> <p>Associate request, Access request</p> <p>application name, user data</p> <p>12, !K, ...</p> <p>receiving</p> <p>Associate Response, ...</p> <p>appropriate parameters</p> <p>enters state, remains in state, terminates, ...</p> <p>Association regime established</p>

#### 5.3.2 Acceptor

**Table 3: Test Purpose writing rules for the acceptor**

<b>Structure</b>	<b>Values</b>
<p><b>Ensure that the IUT in state &lt;state&gt; on receiving a &lt;trigger&gt;</b></p> <p>&lt;action&gt;</p> <p>&lt;conditions&gt;</p> <p>a &lt;PDU type&gt;</p> <p><b>containing a</b></p> <ul style="list-style-type: none"> <li>a) &lt;parameter type&gt;</li> <li><b>parameter encoded as</b></li> <li>&lt;parameter value&gt;</li> </ul> <p>and</p> <p>[repeat if necessary the parameters back to a)]</p> <p><b>and [</b> remains in the same state</p> <p>or enters state]</p> <p>&lt;state&gt;</p>	<p>Associate Idle, Access regime established</p> <p>association request</p> <p>sends, saves, does, etc...</p> <p>using....</p> <p>Associate response pos</p> <p>result, ..</p> <p>12, !K, ...</p> <p>Association regime established</p>

## 6 Test Purposes

### 6.1 IUT as a master

**Test group objective:** This test group is to test the action of an IUT when it acts as the Master.

**Subgroups:**

IT	Basic Interconnection Tests;
CA	Capability Tests;
BV	Valid Behaviour Tests;
BI	Invalid Behaviour Tests;
BO	Inopportune Behaviour Tests.

### 6.1.1 M/Basic Interconnection Tests (IT)

No basic interconnection tests are explicitly identified for the testing of ETS 300 075 [1]. If tests are required, the following Test Purpose may be used: TCM2\_101 - M/CA/AS.

### 6.1.2 M/Capability Tests (CA)

**Test group objective:** To test functional capability of the IUT. It is structured according to functional units. The purpose of these tests is to establish whether a functional unit is available and, if so, a representative sample of each of the service elements is exercised.

<b>Subgroups:</b>	AS      Association; AC      Access; DI      Directory; SA      Save; LO      Load; RE      Rename; DE      Delete; FT      File Transfer; TD      Typed Data.
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#### 6.1.2.1 M/CA/Association

**Test group objective:** Checking the capability of the IUT to:

- enter association regime;
- release association regime.

##### Test Purposes (M/CA/AS):

TCM2\_101      Ensure that the IUT in state idle, in order to establish association regime, sends a T\_ASSOCIATE Request, then on receiving from the tester a T\_ASSOCIATE Response Positive with appropriate parameters the IUT enters Association regime (Ref. ETS 300 075 [1], subclause 4.1.3).

TCM2\_102      Ensure that the IUT in state Association regime established, in order to release the association regime, sends a T\_RELEASE request, then on receiving from the tester a T\_RELEASE Response Positive with appropriate parameters the IUT returns to state idle (Ref. ETS 300 075 [1], subclause 4.1.3).

#### 6.1.2.2 M/CA/Access

**Test group objective:** Checking the capability of the IUT to:

- enter access regime;
- terminate access regime.

##### Test Purposes (M/CA/AC):

TCM2\_201      Ensure that the IUT in state Association regime established, in order to establish access regime, sends a T\_ACCESS Request, then on receiving from the tester a T\_ACCESS Response Positive with appropriate parameters the IUT enters Access regime (Ref. ETS 300 075 [1], subclause 4.1.4).

TCM2\_202      Ensure that the IUT in state Access regime established, in order to release the access regime, sends a T\_END\_ACCESS Request, then on receiving from the tester a T\_END\_ACCESS Response Positive with appropriate parameters the IUT returns to state Association regime established (Ref. ETS 300 075 [1], subclause 4.1.4).

#### 6.1.2.3 M/CA/Directory

**Test group objective:** Checking the capability of the IUT to send a Directory request without file transfer.

**Test Purposes (M/CA/DI):**

- TCM2\_301 Ensure that the IUT in state Access regime established, in order to request the file directory of the tester, sends a T\_DIRECTORY Request, then on receiving from the tester a T\_DIRECTORY Response Positive with appropriate parameters the IUT enters Transfer regime as a receiver (Ref. ETS 300 075 [1], subclause 4.1.4.3.1).

#### 6.1.2.4 M/CA/Save

**Test group objective:** Checking the capability of the IUT to send a Save request without file transfer.

**Test Purposes (M/CA/SA):**

- TCM2\_401 Ensure that the IUT in state Access regime established, in order to save a file, sends a T\_SAVE Request, then on receiving from the tester a T\_SAVE Response Positive with appropriate parameters the IUT enters Transfer regime as a sender (Ref. ETS 300 075 [1], subclause 4.1.4.5.1).

#### 6.1.2.5 M/CA/Load

**Test group objective:** Checking the capability of the IUT to send a Load request without file transfer.

**Test Purposes (M/CA/LO):**

- TCM2\_501 Ensure that the IUT in state Access regime established, in order to load a file, sends a T\_LOAD Request, then on receiving from the tester a T\_LOAD Response Positive with appropriate parameters the IUT enters Transfer regime as a receiver (Ref. ETS 300 075 [1], subclause 4.1.4.4.1).

#### 6.1.2.6 M/CA/Rename

**Test group objective:** Checking the capability of the IUT to send a Rename request.

**Test Purposes (M/CA/RE):**

- TCM2\_601 Ensure that the IUT in state Access regime established, in order to rename a file, sends a T\_RENAME Request, then on receiving from the tester a T\_RENAME Response Positive with appropriate parameters the IUT remains in state Access regime established (Ref. ETS 300 075 [1], subclause 4.1.4.6.1).

#### 6.1.2.7 M/CA/Delete

**Test group objective:** Checking the capability of the IUT to send a Delete request.

**Test Purposes (M/CA/DE):**

- TCM2\_701 Ensure that the IUT in state Access regime established, in order to delete a file, sends a T\_DELETE Request, then on receiving from the tester a T\_DELETE Response Positive with appropriate parameters the IUT remains in state Access regime established (Ref. ETS 300 075 [1], subclause 4.1.4.7.1).

#### 6.1.2.8 M/CA/File Transfer

**Test group objective:** Checking the capability of the IUT to:

- send data by a Write request with no confirmation requested;
- send data by a Write request with confirmation requested;
- receive correctly a confirmed Write request.

**Test Purposes (M/CA/FT):**

TCM2_801	Ensure that the IUT in state Transfer regime established, in order to transfer a file, sends a T_WRITE Request containing an explicit confirmation parameter encoded as no confirmation requested, remains in state Transfer regime established (Ref. ETS 300 075 [1], subclause 4.1.5).
TCM2_802	Ensure that the IUT in state Transfer regime established, in order to transfer a file, sends a T_WRITE Request containing an explicit confirmation parameter encoded as confirmation requested; then on receiving from the tester a T_WRITE Response Positive the IUT remains in state Transfer regime established (Ref. ETS 300 075 [1], subclause 6.2.12.2).
TCM2_803	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a T_WRITE Request containing explicit confirmation parameter encoded as confirmation requested, sends a T_WRITE Response Positive and remains in state transfer regime established (Ref. ETS 300 075 [1], subclause 4.1.5).

#### 6.1.2.9 M/CA/Typed Data

**Test group objective:** Checking the capability of the IUT to send a message to the tester.

**Test Purposes (M/CA/TD):**

TCM2_901	Ensure that the IUT in state Access regime established, in order to transfer information, sends a T_TYPED_DATA Request, and remains in state Access regime established (Ref. ETS 300 075 [1], subclause 6.2.11).
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#### 6.1.3 M/Valid Behaviour Tests (BV)

**Test group objective:** Checking the following conformance areas for the Master.

<b>Subgroups:</b>	PI Protocol Interactions; PV Parameter Variations; PC Parameter Combinations; IE Inopportune Event.
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##### 6.1.3.1 M/BV/Protocol Interactions

**Test group objective:** Checking the valid behaviour subgrouped by functional units.

<b>Subgroups:</b>	AS Association; AC Access; DI Directory; SA Save; LO Load; RE Rename; DE Delete; FT File Transfer; TD Typed Data.
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#### 6.1.3.1.1 M/BV/PI/Association

**Test group objective:** Checking the valid behaviour of the IUT:

- on association regime establishment refusal;
- on a correct association release from the slave.

**Test Purposes (M/BV/PI/AS):**

TCM3I101 Ensure that the IUT in state Idle, in order to establish association regime, sends a T\_ASSOCIATE Request; then on receiving from the tester a T\_ASSOCIATE Response Negative with appropriate parameters, the IUT shall not establish the association regime (Ref. ETS 300 075 [1], subclause 6.2.1.2).

TCM3I102 Ensure that the IUT in association regime established, on receiving from the tester a T\_RELEASE Request with appropriate parameters, sends a T\_RELEASE Response Positive and terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.2.3).

#### 6.1.3.1.2 M/BV/PI/Access

**Test group objective:** Checking the valid behaviour of the IUT:

- on access regime establishment refusal;
- on reception of five successive negative acknowledgements to access establishment request.

**Test Purposes (M/BV/PI/AC):**

TCM3I201 Ensure that the IUT in state association regime established, in order to establish access regime, sends a T\_ACCESS Request; then on receiving from the tester a T\_ACCESS Response Negative with appropriate parameters, the IUT remains in state association regime established (Ref. ETS 300 075 [1], subclause 6.2.2.2).

TCM3I202 Ensure that the IUT in state association regime established, in order to establish access regime, sends five successive T\_ACCESS Request; then on receiving from the tester the fifth T\_ACCESS Response Negative, the IUT terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.1.3.1.3 M/BV/PI/Directory

**Test group objective:** Checking the valid behaviour of the IUT on Directory request refusal;

**Test Purposes (M/BV/PI/DI):**

TCM3I301 Ensure that the IUT in state access regime established, in order to request the file directory of the tester, sends a T\_DIRECTORY Request; then on receiving from the tester a T\_DIRECTORY Response Negative with appropriate parameters, the IUT returns to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.6.2).

#### 6.1.3.1.4 M/BV/PI/Save

**Test group objective:** Checking the valid behaviour of the IUT:

- on save request refusal;
- on reception of five successive acknowledgements to save requests.

**Test Purposes (M/BV/PI/SA):**

- TCM3I401 Ensure that the IUT in state access regime established, in order to request a file saving, sends a T\_SAVE Request; then on receiving from the tester a T\_SAVE Response Negative with appropriate parameters, the IUT returns to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.8.2).
- TCM3I402 Ensure that the IUT in state access regime established, in order to request a file saving, sends five successive T\_SAVE Request; then on receiving from the tester the fifth T\_SAVE Response Negative, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

**6.1.3.1.5 M/BV/PI/Load**

**Test group objective:** Checking the valid behaviour of the IUT:

- on load request refusal;
- on reception of five successive acknowledgements to load requests.

**Test Purposes (M/BV/PI/LO):**

- TCM3I501 Ensure that the IUT in state access regime established, in order to request a file loading, sends a T\_LOAD Request; then on receiving from the tester a T\_LOAD Response Negative with appropriate parameters, the IUT returns to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.7.2).
- TCM3I502 Ensure that the IUT in state access regime established, in order to request a file loading, sends five successive T\_LOAD Request; then on receiving from the tester the fifth T\_LOAD Response Negative, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

**6.1.3.1.6 M/BV/PI/Rename**

**Test group objective:** Checking the valid behaviour of the IUT on Rename request refusal.

**Test Purposes (M/BV/PI/RE):**

- TCM3I601 Ensure that the IUT in state access regime established, in order to rename a file, sends a T\_RENAME Request; then on receiving from the tester a T\_RENAME Response Negative with appropriate parameters, the IUT returns to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.9.2).

**6.1.3.1.7 M/BV/PI/Delete**

**Test group objective:** Checking the valid behaviour of the IUT on Delete request refusal.

**Test Purposes (M/BV/PI/DE):**

- TCM3I701 Ensure that the IUT in state access regime established, in order to delete a file, sends a T\_DELETE Request; then on receiving from the tester a T\_DELETE Response Negative with appropriate parameters, the IUT returns to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.10.2).

**6.1.3.1.8 M/BV/PI/File Transfer**

**Test group objective:** Checking that the IUT, on file transfer, is able to:

- receive a file correctly with no confirmation requested;
- receive a file correctly without confirmation requested;
- send a file completely and correctly;
- resume file transfer from the correct recovery point;
- abandon transfer on repeated negative acknowledges;

- restart file transfer from the beginning;
- give up file transfer on transfer reject;
- perform a recovery with a Load request;
- perform a recovery with a Save request;
- receive a file with empty file content;
- abandon transfer after expiration of application response timer;
- receive a file correctly with last block empty.

**Test Purposes (M/BV/PI/FT):**

TCM3I801	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T_WRITE Request containing an explicit confirmation parameter encoded as no confirmation requested and a T_WRITE_END Request, receives the file completely and correctly, and returns to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.12.3).
TCM3I802	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T_WRITE Request containing an explicit confirmation parameter encoded as confirmation requested and a T_WRITE_END Request, responds with the expected valid PDU sequence. The IUT shall receive the file completely and correctly, and return to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.12.3).
TCM3I803	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a sequence of T_WRITE Request and a T_WRITE_END Request, then on receiving from the tester the valid PDU sequence, if relevant, the IUT returns to state access regime established. Check that the file was transmitted completely and correctly (Ref. ETS 300 075 [1], subclause 6.2.12.3).
TCM3I804	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a T_WRITE Request; then on receiving from the tester a T_WRITE Response Negative with appropriate parameters, the IUT shall resume the transfer from the last acknowledged block (Ref. ETS 300 075 [1], subclause 6.2.12.2).
TCM3I805	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends five successive T_WRITE Request; then on receiving from the tester the fifth T_WRITE Response Negative, the IUT shall send a T_P_EXCEPTION Request and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCM3I806	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a T_WRITE Request; then on receiving from the tester a T_U_EXCEPTION_REPORT Request containing reason parameter encoded as READ RESTART, the IUT shall restart the mass transfer from the beginning (Ref. ETS 300 075 [1], subclause 6.3.2).
TCM3I807	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a T_WRITE Request; then on receiving from the tester a T_U_EXCEPTION_REPORT Request containing reason parameter encoded as TRANSFER REJECT, the IUT shall give up file transfer and return to state access regime established (Ref. ETS 300 075 [1], subclause 6.3.2).
TCM3I808	Ensure that the IUT is able to perform a recovery after a mass transfer abandon from the tester while the IUT is transferring the file. Check that the IUT shall send a T_SAVE Request with correct designation and recovery number in order to send the file correctly from the recovery point (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).

TCM3I809	Ensure that the IUT is able to perform a recovery after a mass transfer abandon from the tester while transferring the file. Check that the IUT shall send a T_LOAD Request with correct designation and recovery number in order to receive the file correctly from the recovery point (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).
TCM3I810	Ensure that the IUT is able to receive a file correctly, on receiving a file containing only a header (file content empty). Check that the IUT receives the file completely and correctly and returns to access regime established (Ref. ETS 300 075 [1], subclause 7.3).
TCM3I811	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T_WRITE Request and a T_WRITE_END Request containing an empty user data field, responds with the expected valid PDU sequence. The IUT shall receive the file completely and correctly, and return to state access regime established (Ref. ETS 300 075 [1], subclause 4.1.5.1.3).

#### **6.1.3.1.9 M/BV/PI/Typed Data**

**Test group objective:** Checking the valid behaviour of the IUT while sending a message.

**Test Purposes (M/BV/PI/TD):**

TCM3I901	Ensure that the IUT, in state access regime established, on receiving from the tester a T_TYPED_DATA remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.11.3).
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#### **6.1.3.2 M/BV/Parameter Variations**

**Test group objective:** Checking the valid behaviour concerning parameter variations. Where no tests have been identified for a functional unit its name has been omitted.

**Subgroups:** FT File Transfer.

#### **6.1.3.2.1 M/BV/PV/File Transfer**

**Test group objective:** Checking the valid behaviour of the IUT on file transfer with:

- file refusal at the end of the transfer from the tester;
- various transfer size blocks;
- alternated confirmed and non confirmed transfer blocks.

**Test Purposes (M/BV/PV/FT):**

TCM3V801	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to finish a file transfer, sends a T_WRITE-END Request; then on receiving from the tester a T_WRITE-END Response Negative containing result parameter encoded as file refusal, the IUT returns to state access regime established. The tester shall not accept the responsibility of the file (Ref. ETS 300 075 [1], subclause 4.1.5.1.4).
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TCM3V802	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T_WRITE Request containing explicit confirmation parameter encoded as explicit confirmation requested and data field encoded with various size blocks, and a T_WRITE-END Request, responds with a sequence of T_WRITE Response Positive with appropriate parameters. The IUT shall receive the file completely and correctly, and return to state access regime established (Ref. ETS 300 075 [1], subclause 4.1.5.1.4).
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TCM3V803 Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T\_WRITE Request containing explicit confirmation parameter encoded as explicit confirmation requested and explicit confirmation not requested alternately, and a T\_WRITE\_END Request, responds with a sequence of T\_WRITE Response Positive with appropriate parameters when relevant. The IUT shall receive the file completely and correctly, and return to state access regime established (Ref. ETS 300 075 [1], subclause 4.1.5.1.4).

#### 6.1.3.3 M/BV/Parameter Combinations

**Test group objective:** Checking the valid behaviour concerning parameter combinations. Where no tests have been identified for a functional unit its name has been omitted.

**Subgroups:** FT File Transfer.

##### 6.1.3.3.1 M/BV/PC/File Transfer

**Test group objective:** Checking the valid behaviour of the IUT on file transfer with an exceeding anticipation window size.

##### Test Purposes (M/BV/PC/FT):

TCM3C801 Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T\_WRITE Request which makes the tester to go beyond the anticipation window size of the IUT, sends a T\_P\_EXCEPTION Request and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

#### 6.1.3.4 M/BV/Inopportune Event

**Test group objective:** Checking the valid behaviour of the IUT facing inopportune events. Where no tests have been identified for a functional unit its name has been omitted.

**Subgroups:** AS Association;  
AC Access;  
SA Save;  
LO Load.

##### 6.1.3.4.1 M/BV/IE/Association

**Test group objective:** Checking the valid behaviour of the IUT in association regime:

- when receiving an abort PDU;
- on an Abort collision.

##### Test Purposes (M/BV/IE/AS):

TCM3E101 Ensure that the IUT in state association regime established, on receiving from the tester a T\_U\_ABORT Request, terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.3).

TCM3E102 Ensure that the IUT in state association regime established, sends a T\_P\_ABORT Request, then on receiving at the same time from the tester a T\_U\_ABORT Request, terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.3).

#### 6.1.3.4.2 M/BV/IE/Access

**Test group objective:** Checking the valid behaviour of the IUT in access regime, on:

- receiving an abort PDU;
- collision between the T\_End\_Access and a T\_Abort.

**Test Purposes (M/BV/IE/AC):**

TCM3E201 Ensure that the IUT in state access regime established, on receiving from the tester a T\_U\_ABORT Request, terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.3).

TCM3E202 Ensure that the IUT, in state access regime established, sends a T\_END\_ACCESS Request; then on receiving from the tester at the same moment a T\_ABORT Request, the IUT fulfils the Abort Request. Check that the IUT terminates association regime (Ref. ETS 300 075 [1], subclause 4.1.7.3).

#### 6.1.3.4.3 M/BV/IE/Save

**Test group objective:** Checking the valid behaviour of the IUT on requesting a file saving, on:

- receiving an abort PDU;
- collision between the T\_Save and a T\_End\_Access.

**Test Purposes (M/BV/IE/SA):**

TCM3E401 Ensure that the IUT in state transfer regime established -IUT as a sender-, on receiving from the tester a T\_U\_ABORT Request, terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.3).

TCM3E402 Ensure that the IUT, in state access regime established, sends a T\_SAVE Request; then on receiving from the tester at the same moment a T\_END\_ACCESS Request, the IUT fulfils the End of Access Request. Check that the IUT terminates access regime (Ref. ETS 300 075 [1], subclause 4.1.7.3).

#### 6.1.3.4.4 M/BV/IE/Load

**Test group objective:** Checking the valid behaviour of the IUT on requesting a file loading, on:

- receiving an abort PDU;
- collision between the T\_Load and a T\_End\_Access.

**Test Purposes (M/BV/IE/LO):**

TCM3E501 Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a T\_U\_ABORT Request, terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.3).

TCM3E502 Ensure that the IUT, in state access regime established, sends a T\_LOAD Request; then on receiving from the tester at the same moment a T\_END\_ACCESS Request, the IUT fulfils the End of Access Request. Check that the IUT terminates access regime (Ref. ETS 300 075 [1], subclause 4.1.7.3).

#### 6.1.3.4.5 M/BV/IE/Typed Data

**Test group objective:** Checking the valid behaviour of the IUT on a collision between a T\_Typed\_Data and a T\_End\_Access.

**Test Purposes (M/BV/IE/TD):**

- TCM3E901 Ensure that the IUT, in state access regime established, sends a T\_TYPED\_DATA Request; then on receiving from the tester at the same moment a T\_END\_ACCESS Request, the IUT fulfils the End of Access Request. Check that the IUT terminates access regime (Ref. ETS 300 075 [1], subclause 4.1.7.3).
- TCM3E902 Ensure that the IUT, in state access regime established, sends a T\_TYPED\_DATA Request; then on receiving from the tester at the same moment a T\_ABORT Request, the IUT fulfils the Abort Request. Check that the IUT terminates association regime (Ref. ETS 300 075 [1], subclause 4.1.7.3).

**6.1.3.5 M/BV/Timer Variations**

**Test group objective:** Checking the valid behaviour of the IUT on timer variations.

**Subgroups:** AC Access;  
DI Directory;  
FT File Transfer.

**6.1.3.5.1 M/BV/TI/Access**

**Test group objective:** Checking the valid behaviour of the IUT at access establishment after expiration of application response timer.

**Test Purposes (M/BV/TI/AC):**

- TCM3T201 Ensure that the IUT in state association regime established, in order to establish access regime, sends a T\_ACCESS Request; then when not receiving a response from the tester, and after the expiration of application response timer, the IUT terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.1.3.5.2 M/BV/TI/Directory**

**Test group objective:** Checking the valid behaviour of the IUT on a Directory request after expiration of the application response timer.

**Test Purposes (M/BV/TI/DI):**

- TCM3T301 Ensure that the IUT in state access regime established, in order to request the file directory of the tester; sends a T\_DIRECTORY Request; then when not receiving a response from the tester, and after the expiration of application response timer, the IUT sends a T\_P\_Exception or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.1.3.5.3 M/BV/TI/File Transfer**

**Test group objective:** Checking the valid behaviour of the IUT on a Write Request after expiration of the application response timer.

**Test Purposes (M/BV/TI/FT):**

- TCM3T801 Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a T\_WRITE Request; then when not receiving a response from the tester, and after the expiration of application response timer, the IUT sends a T\_Transfer\_Reject (Ref. ETS 300 075 [1], subclause 6.3.2).

#### 6.1.4 M/Invalid Behaviour Tests (BI)

**Test group objective:** Checking the IUT's reaction to semantically invalid events.

**Subgroups:** PV Parameter Variations;  
PC Parameter Combinations.

##### 6.1.4.1 M/BI/Parameter Variations

**Test group objective:** Checking the IUT's behaviour to semantically invalid events concerning parameter variations.

**Subgroups:** AS Association;  
AC Access;  
DI Directory;  
SA Save;  
LO Load;  
RE Rename;  
DE Delete;  
FT File Transfer;  
TD Typed Data.

###### 6.1.4.1.1 M/BI/PV/Association

**Test group objective:** Checking the IUT's reaction to semantically invalid PDUs, while establishing and releasing the association regime, containing:

- an erroneous value;
- an erroneous parameter length;
- an incorrect value.

###### Test Purposes (M/BI/PV/AS):

TCM5V101	Ensure that the IUT in state idle, in order to establish association regime, sends a T_ASSOCIATE Request; then on receiving from the tester a T_ASSOCIATE Response Positive containing called address parameter encoded with an erroneous parameter length, the IUT shall not establish the association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM5V102	Ensure that the IUT in state idle, in order to establish association regime in symmetrical service, sends a T_ASSOCIATE Request; then on receiving from the tester a T_ASSOCIATE Response Positive containing service class parameter encoded as Basic Kernel, the IUT shall not establish the association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM5V103	Ensure that the IUT in state association regime established, on receiving from the tester a T_RELEASE Request containing user data parameter encoded with an erroneous parameter length, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM5V104	Ensure that the IUT in state association regime established, in order to release the association regime, sends a T_RELEASE Request; then on receiving from the tester a T_RELEASE Response Positive containing result parameter encoded with an erroneous value, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.1.4.1.2 M/BI/PV/Access

**Test group objective:** Checking the IUT's reaction to semantically invalid PDUs, while establishing and releasing the access regime, containing:

- a missing parameter;
- an erroneous value;
- an incorrect value.

##### Test Purposes (M/BI/PV/AC):

TCM5V201	Ensure that the IUT, in state association regime established, in order to establish access regime, sends a T_ACCESS Request containing role parameter encoded as Master; then on receiving from the tester a T_ACCESS Response Positive where function parameter is missing, the IUT shall send a T_END_ACCESS Request or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM5V202	Ensure that the IUT, in state association regime established, in order to establish access regime, sends a T_ACCESS Request containing role parameter encoded as Master; then on receiving from the tester a T_ACCESS Response Positive containing result parameter encoded with an erroneous value, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM5V203	Ensure that the IUT, in state association regime established, in order to establish access regime, sends a T_ACCESS Request containing role parameter encoded as Master; then on receiving from the tester a T_ACCESS Response Positive containing functions parameter encoded as no functions handled, the IUT shall send a T_END_ACCESS Request or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM5V204	Ensure that the IUT, in state access regime established, in order to terminate access regime, sends a T_END_ACCESS Request; then on receiving from the tester a T_END_ACCESS Response Positive containing result parameter encoded with an erroneous value, the IUT shall send a T_P_EXCEPTION Request and remain in state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.1.4.1.3 M/BI/PV/Directory

**Test group objective:** Checking the IUT's reaction to a semantically invalid PDU containing an erroneous value, while requesting a file directory.

##### Test Purposes (M/BI/PV/DI):

TCM5V301	Ensure that the IUT, in state access regime established, in order to request the file directory of the tester, sends a T_DIRECTORY Request; then on receiving from the tester a T_DIRECTORY Response Positive containing result parameter encoded with an erroneous value, the IUT shall send a T_P_EXCEPTION or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
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#### 6.1.4.1.4 M/BI/PV/Save

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU containing an erroneous value, while requesting a file saving.

**Test Purposes (M/BI/PV/SA):**

TCM5V401 Ensure that the IUT, in state access regime established, in order to request a file saving, sends a T\_SAVE Request; then on receiving from the tester a T\_SAVE Response Positive containing result parameter encoded with an erroneous value, the IUT shall send a T\_P\_EXCEPTION and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.1.4.1.5 M/BI/PV/Load**

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU containing an erroneous value, while requesting a file loading.

**Test Purposes (M/BI/PV/LO):**

TCM5V501 Ensure that the IUT, in state access regime established, in order to request a file loading, sends a T\_LOAD Request; then on receiving from the tester a T\_LOAD Response Positive containing result parameter encoded with an erroneous value, the IUT shall send a T\_P\_EXCEPTION and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.1.4.1.6 M/BI/PV/Rename**

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU containing an erroneous value, while renaming a file.

**Test Purposes (M/BI/PV/RE):**

TCM5V601 Ensure that the IUT, in state access regime established, in order to rename a file, sends a T\_RENAME Request; then on receiving from the tester a T\_RENAME Response Positive containing result parameter encoded with an erroneous value, the IUT shall send a T\_P\_EXCEPTION and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.1.4.1.7 M/BI/PV/Delete**

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU containing an erroneous value, while deleting a file.

**Test Purposes (M/BI/PV/DE):**

TCM5V701 Ensure that the IUT, in state access regime established, in order to delete a file, sends a T\_DELETE Request; then on receiving from the tester a T\_DELETE Response Positive containing result parameter encoded with an erroneous value, the IUT shall send a T\_P\_EXCEPTION and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.1.4.1.8

#### M/BI/PV/File Transfer

**Test group objective:** Checking the IUT's reaction to the following invalid PDUs, while transferring a file:

- block sequencing error;
- block number missing;
- block position missing;
- restart of file transfer at an inappropriate point;
- resume of the file transfer at an invalid recovery point;
- erroneous value on a response;
- write with erroneous recovery point;
- file containing a Type, Length and Value (TLV) erroneous file header.

#### Test Purposes (M/BI/PV/FT):

TCM5V801	Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester two consecutive T_WRITE Request containing first/last parameter encoded as first, sends a T_P_EXCEPTION and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCM5V802	Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T_WRITE Request where block number is missing, sends a T_P_EXCEPTION and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCM5V803	Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T_WRITE Request where first/last parameter is missing, sends a T_P_EXCEPTION and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCM5V804	Ensure that the IUT, in state transfer regime established -IUT as a receiver-, in order to restart the file transfer, sends a T_P_EXCEPTION containing reason parameter encoded as READ RESTART; then on receiving from the tester a T_WRITE Request containing block number parameter encoded with an invalid value, the IUT shall send a T_P_EXCEPTION and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCM5V805	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file sends a T_WRITE Request, containing explicit confirmation parameter encoded as confirmation requested; then on receiving from the tester a T_WRITE Response Positive encoded with an erroneous value, the IUT shall send a T_P_EXCEPTION Request and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCM5V806	Ensure that the IUT shall not perform the recovery after a mass transfer abandon from the tester, on receiving a T_WRITE Request containing an erroneous block number, i.e. not corresponding to the recovery point (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).
TCM5V807	Ensure that the IUT -IUT as a receiver-, on receiving from the tester a file containing an erroneous TLV file header, sends a negative acknowledgement containing "file refusal" cause or a T_P_Exception or a T_Transfer_Reject or terminates association.

#### 6.1.4.1.9 M/BI/PV/Typed Data

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU where a parameter is missing, while receiving a message.

##### Test Purposes (M/BI/PV/TD):

TCM5V901 Ensure that the IUT, in state access regime established, on receiving from the tester a T\_TYPED\_DATA Request where user data parameter is missing, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.1.4.2 M/BI/Parameter Combinations

**Test group objective:** Checking the IUT's behaviour to semantically invalid events concerning parameter combinations. Where no tests have been identified for a functional unit its name has been omitted.

**Subgroups:** FT File Transfer.

#### 6.1.4.2.1 M/BI/PC/File Transfer

**Test group objective:** Checking the IUT's reaction, while transferring a file, to the following events:

- reception of an exceeding data block size;
- confirmation parameter value contrary to the value negotiated.

##### Test Purposes (M/BI/PC/FT):

TCM5C801 Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T\_WRITE Request containing data parameter encoded with a size greater than the IUT supported size, sends a T\_P\_EXCEPTION\_REPORT Request and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

TCM5C802 Ensure that the IUT, in state transfer regime established -IUT as a receiver and explicit confirmation requested-, on receiving from the tester a T\_WRITE Request containing explicit confirmation parameter encoded as explicit confirmation not requested, sends a T\_P\_EXCEPTION\_REPORT Request and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

#### 6.1.5 M/Inopportune Behaviour Tests (BO)

**Test group objective:** Checking the IUT's reaction to inopportune events.

**Subgroups:** IE Inopportune Event.

#### 6.1.5.1 M/BO/Inopportune Event

**Test group objective:** Checking the reaction of the IUT subgrouped by functional units.

**Subgroups:**

AS	Association;
AC	Access;
DI	Directory;
SA	Save;
LO	Load;
RE	Rename;
DE	Delete;
FT	Transfer.

#### 6.1.5.1.1 M/BO/IE/Association

**Test group objective:** Checking the IUT's reaction, while establishing and releasing association regime, to the following inopportune events:

- protocol conflict;
- inopportune PDU;
- unknown PDU;
- negative acknowledgement when not existing;
- incorrect negative acknowledgement.

##### Test Purposes (M/BO/IE/AS):

TCM4E101	Ensure that the IUT in state idle, in order to establish association regime, sends a T_ASSOCIATE Request; then on receiving from the tester a T_ASSOCIATE Request the IUT shall ignore incoming T_ASSOCIATE Request and enter state ASSOCIATE_PD (Ref. ETS 300 075 [1], subclause 4.1.7.1).
TCM4E102	Ensure that the IUT in state idle, in order to establish association regime, sends a T_ASSOCIATE Request; then on receiving from the tester a T_ACCESS Request the IUT shall not establish association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM4E103	Ensure that the IUT in state association regime established, on receiving from the tester an unknown TDU, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM4E104	Ensure that the IUT in state association regime established, in order to release association regime, sends a T_RELEASE Request; then on receiving from the tester a T_Response_Negative the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.2.2.3).
TCM4E105	Ensure that the IUT in state idle, in order to establish association regime, sends a T_ASSOCIATE Request; then on receiving from the tester a Response Negative not corresponding to T_ASSOCIATE Response Negative, the IUT shall not establish the association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.1.5.1.2 M/BO/IE/Access

**Test group objective:** Checking the IUT's reaction, while establishing and terminating access regime, to the following events:

- inopportune exception PDU;
- incorrect negative acknowledgement;
- protocol conflict;
- unexpected PDU;
- unknown PDU;
- negative acknowledgement reception when not existing.

##### Test Purposes (M/BO/IE/AC):

TCM4E201	Ensure that the IUT in state access regime established, on receiving from the tester a T_P_EXCEPTION_REPORT, remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.15.3).
TCM4E202	Ensure that the IUT in state association regime established, in order to establish access regime, sends a T_ACCESS Request containing role parameter encoded as Master; then on receiving from the tester a T_Response_Negative not corresponding to T_ACCESS Response Negative the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

TCM4E203	Ensure that the IUT in state association regime established, in order to establish access regime, sends a T_ACCESS Request containing role parameter encoded as Master; then on receiving from the tester a T_END_ACCESS Request, the IUT terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM4E204	Ensure that the IUT in state access regime established, on receiving from the tester a T_SAVE Request, sends a T_P_EXCEPTION_REPORT Request or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM4E205	Ensure that the IUT in state access regime established, on receiving from the tester an unknown PDU, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM4E206	Ensure that the IUT in state access regime established, in order to terminate access regime, sends a T_END_ACCESS Request; then on receiving from the tester a T_Response_Negative, the IUT shall send a T_P_EXCEPTION_REPORT Request and remain in state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.1.5.1.3 M/BO/IE/Directory

**Test group objective:** Checking the IUT's reaction to an incorrect negative acknowledgement, while requesting a file directory.

**Test Purposes (M/BO/IE/DI):**

TCM4E301	Ensure that the IUT, in state access regime established, in order to request the file directory of the tester, sends a T_DIRECTORY Request; then on receiving from the tester a T_Response_Negative not corresponding to T_DIRECTORY Response Negative, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
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#### 6.1.5.1.4 M/BO/IE/Save

**Test group objective:** Checking the IUT's reaction, while requesting a file saving, to the following inopportune events:

- incorrect negative acknowledgement;
- protocol conflict.

**Test Purposes (M/BO/IE/SA):**

TCM4E401	Ensure that the IUT, in state access regime established, in order to request a file saving, sends a T_SAVE Request; then on receiving from the tester a T_Response_Negative not corresponding to T_SAVE Response Negative, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCM4E402	Ensure that the IUT, in state transfer regime established -IUT as a sender-, on receiving from the tester a T_WRITE Request, sends a T_P_EXCEPTION_REPORT and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.1.5.1.5 M/BO/IE/Load

**Test group objective:** Checking the IUT's reaction, while requesting a file loading, to the following inopportune events:

- incorrect negative acknowledgement;
- protocol conflict;
- unknown PDU.

**Test Purposes (M/BO/IE/LO):**

- TCM4E501 Ensure that the IUT, in state access regime established, in order to request a file loading, sends a T\_LOAD Request; then on receiving from the tester a T\_Response\_Negative not corresponding to T\_LOAD Response Negative, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCM4E502 Ensure that the IUT, in state transfer regime established, on receiving from the tester a T\_DELETE Request, sends a T\_P\_EXCEPTION\_REPORT and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCM4E503 Ensure that the IUT, in state transfer regime established, on receiving from the tester an unknown PDU, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.1.5.1.6 M/BO/IE/Rename**

**Test group objective:** Checking the IUT's reaction to an incorrect response negative, while renaming a file.

**Test Purposes (M/BO/IE/RE):**

- TCM4E601 Ensure that the IUT, in state access regime established, in order to rename a file, sends a T\_RENAME Request; then on receiving from the tester a T\_Response\_Negative not corresponding to T\_RENAME Response Negative, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.1.5.1.7 M/BO/IE/Delete**

**Test group objective:** Checking the IUT's reaction to an incorrect response negative, while deleting a file.

**Test Purposes (M/BO/IE/DE):**

- TCM4E701 Ensure that the IUT, in state access regime established, in order to delete a file, sends a T\_DELETE Request; then on receiving from the tester a T\_Response\_Negative not corresponding to T\_DELETE Response Negative, the IUT shall terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.1.5.1.8 M/BO/IE/File Transfer**

**Test group objective:** Checking the IUT's reaction, while transferring a file, to the following events:

- protocol conflict;
- incorrect response negative.

**Test Purposes (M/BO/IE/FT):**

- TCM4E801 Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T\_ACCESS Request, sends a T\_P\_EXCEPTION\_REPORT and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

TCM4E802      Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file sends a T\_WRITE Request, containing explicit confirmation parameter encoded as confirmation requested; then on receiving from the tester a T\_Response\_Negative not corresponding to T\_WRITE Response Negative, the IUT shall send a T\_P\_EXCEPTION\_REPORT and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

## 6.2      IUT as a Slave

**Test group objective:** This test group is to test the action of an IUT when the Slave.

**Subgroups:**

IT	Interconnection tests;
CA	Capability tests;
BV	Valid Behaviour Tests;
BI	Invalid Behaviour Tests;
BO	Inopportune Behaviour Tests.

### 6.2.1      S/Basic Interconnection Tests (IT)

No basic interconnection tests are explicitly identified for the testing of ETS 300 075 [1]. If tests are required, the following Test Purpose may be used: TCS2\_101 - S/CA/AS.

### 6.2.2      S/Capability Tests (CA)

**Test group objective:** To test functional capability of the IUT. It is structured according to functional units. The purpose of these test is to establish whether a functional unit is available and, if so, a representative sample of each of the service elements is exercised.

**Subgroups:**

AS	Association;
AC	Access;
DI	Directory;
SA	Save;
LO	Load;
RE	Rename;
DE	Delete;
FT	File Transfer;
TD	Typed Data.

#### 6.2.2.1      S/CA/Association

**Test group objective:** Checking the capability of the IUT to:

- enter association regime;
- release association regime.

#### Test Purposes (S/CA/AS):

TCS2\_101      Ensure that the IUT in state idle, on receiving from the tester a T\_ASSOCIATE Request with appropriate parameters, sends a T\_ASSOCIATE Response Positive and enters state association regime established (Ref. ETS 300 075 [1], subclause 4.1.3).

TCS2\_102      Ensure that the IUT in state association regime established, on receiving from the tester a T\_RELEASE Request with appropriate parameters, sends a T\_RELEASE Response Positive and returns to state idle (Ref. ETS 300 075 [1], subclause 4.1.3).

#### 6.2.2.2 S/CA/Access

**Test group objective:** Checking the capability of the IUT to:

- enter access regime;
- terminate access regime.

**Test Purposes (S/CA/AC):**

- TCS2\_201 Ensure that the IUT in state association regime established, on receiving from the tester a T\_ACCESS Request with appropriate parameters, sends a T\_ACCESS Response Positive and enters state access regime established (Ref. ETS 300 075 [1], subclause 4.1.4).
- TCS2\_202 Ensure that the IUT in state access regime established, on receiving from the tester a T\_END\_ACCESS Request with appropriate parameters, sends a T\_END\_ACCESS Response Positive and returns to state association regime established (Ref. ETS 300 075 [1], subclause 4.1.4).

#### 6.2.2.3 S/CA/Directory

**Test group objective:** Checking the capability of the IUT to respond to a Directory request.

**Test Purposes (S/CA/DI):**

- TCS2\_301 Ensure that the IUT in state access regime established, on receiving from the tester a T\_DIRECTORY Request with appropriate parameters, sends a T\_DIRECTORY Response Positive and enters state transfer regime as a sender (Ref. ETS 300 075 [1], subclause 4.1.4.3.1).

#### 6.2.2.4 S/CA/Save

**Test group objective:** Checking the capability of the IUT to respond to a Save request.

**Test Purposes (S/CA/SA):**

- TCS2\_401 Ensure that the IUT in state access regime established, on receiving from the tester a T\_SAVE Request with appropriate parameters, sends a T\_SAVE Response Positive and enters state transfer regime as a receiver (Ref. ETS 300 075 [1], subclause 4.1.4.5.1).

#### 6.2.2.5 S/CA/Load

**Test group objective:** Checking the capability of the IUT to respond to a Load request.

**Test Purposes (S/CA/LO):**

- TCS2\_501 Ensure that the IUT in state access regime established, on receiving from the tester a T\_LOAD Request with appropriate parameters, sends a T\_LOAD Response Positive and enters state transfer regime as a sender (Ref. ETS 300 075 [1], subclause 4.1.4.4.1).

#### 6.2.2.6 S/CA/Rename

**Test group objective:** Checking the capability of the IUT to respond to a Rename request.

**Test Purposes (S/CA/RE):**

TCS2_601	Ensure that the IUT in state access regime established, on receiving from the tester a T_RENAME Request with appropriate parameters, sends a T_RENAME Response Positive and remains in state access regime established (Ref. ETS 300 075 [1], subclause 4.1.4.6.1).
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#### 6.2.2.7 S/CA/Delete

**Test group objective:** Checking the capability of the IUT to respond to a Delete request.

**Test Purposes (S/CA/DE):**

TCS2_701	Ensure that the IUT in state access regime established, on receiving from the tester a T_DELETE Request with appropriate parameters, sends a T_DELETE Response Positive and remains in state access regime established (Ref. ETS 300 075 [1], subclause 4.1.4.7.1).
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#### 6.2.2.8 S/CA/File Transfer

**Test group objective:** Checking the capability of the IUT to:

- send data by a Write request without confirmation requested;
- send data by a Write request with confirmation requested;
- receive correctly a confirmed Write request.

**Test Purposes (S/CA/FT):**

TCS2_801	Ensure that the IUT in state transfer regime established -IUT as a sender-, sends a T_WRITE Request containing explicit confirmation parameter encoded as no confirmation requested and remains in state transfer regime established (Ref. ETS 300 075 [1], subclause 4.1.5).
TCS2_802	Ensure that the IUT in state transfer regime established -IUT as a sender-, sends a T_WRITE Request containing explicit confirmation parameter encoded as confirmation requested; then on receiving from the tester a T_WRITE Response Positive the IUT remains in state transfer regime established (Ref. ETS 300 075 [1], subclause 4.1.5).
TCS2_803	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a T_WRITE Request containing explicit confirmation parameter encoded as confirmation requested, sends a T_WRITE Response Positive and remains in state transfer regime established (Ref. ETS 300 075 [1], subclause 4.1.5).

#### 6.2.2.9 S/CA/Typed Data

**Test group objective:** Checking the capability of the IUT to send a message.

**Test Purposes (S/CA/TD):**

TCS2_901	Ensure that the IUT in state access regime established, in order to transfer information, sends a T_TYPED_DATA Request, and remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.11.2).
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### 6.2.3 S/Valid Behaviour Tests (BV)

**Test group objective:** Checking the following conformance areas for the Slave.

**Subgroups:**

PI	Protocol Interactions;
PV	Parameter Variations;
PC	Parameter Combinations;
IE	Inopportune Event.

#### 6.2.3.1 S/BV/Protocol Interactions

**Test group objective:** Checking the valid behaviour subgrouped by functional units. Where no tests have been identified for a functional unit its name has been omitted.

**Subgroups:**

AS	Association;
FT	File Transfer;
TD	Typed Data.

##### 6.2.3.1.1 S/BV/PI/Association

**Test group objective:** Checking the valid behaviour of the IUT while releasing the association regime.

**Test Purposes (S/BV/PI/AS):**

TCS3I101 Ensure that the IUT in state association regime established, in order to release association regime, sends a T\_RELEASE Request; then on receiving from the tester a T\_RELEASE Response Positive with appropriate parameters, the IUT terminates association regime (Ref. ETS 300 075 [1], subclause 4.1.3.2.1).

##### 6.2.3.1.2 S/BV/PI/File Transfer

**Test group objective:** Checking that the IUT, on file transfer, is able to:

- receive a file correctly with no confirmation requested;
- receive a file correctly without confirmation requested;
- transfer a file completely and correctly;
- resume file transfer from the recovery point;
- abandon file transfer on repeated negative acknowledges;
- restart file transfer from the beginning;
- give up file transfer on transfer reject;
- perform a recovery with a Load request;
- perform a recovery with a Save request;
- receive a file with empty files content.

**Test Purposes (S/BV/PI/FT):**

TCS3I801 Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T\_WRITE Request containing an explicit confirmation parameter encoded as no confirmation requested and a T\_WRITE\_END Request, receives the file completely and correctly, and returns to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.12.3).

TCS3I802 Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T\_WRITE Request containing an explicit confirmation parameter encoded as confirmation requested and a T\_WRITE\_END Request, responds with the expected valid T\_WRITE Response Positive sequence. The IUT shall receive the file completely and correctly, and return to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.12.3).

TCS3I803	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a sequence of T_WRITE Request and a T_WRITE_END Request, then on receiving from the tester the valid PDU sequence if relevant, the IUT returns to state access regime established. Check that the file was transmitted completely and correctly (Ref. ETS 300 075 [1], subclause 6.2.12.3).
TCS3I804	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a T_WRITE Request; then on receiving from the tester a T_WRITE Response Negative with appropriate parameters, the IUT shall resume the transfer from the last acknowledged block (Ref. ETS 300 075 [1], subclause 6.2.12.2).
TCS3I805	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends five successive T_WRITE Request; then on receiving from the tester the fifth T_WRITE Response Negative, the IUT shall send a T_P_EXCEPTION REPORT and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCS3I806	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a T_WRITE Request; then on receiving from the tester a T_U_EXCEPTION_REPORT containing reason parameter encoded as READ RESTART, the IUT shall restart the mass transfer from the beginning (Ref. ETS 300 075 [1], subclause 6.2.14.2).
TCS3I807	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file, sends a T_WRITE Request; then on receiving from the tester a T_U_EXCEPTION_REPORT Request containing reason parameter encoded as TRANSFER REJECT, the IUT shall give up file transfer and return to state access regime established (Ref. ETS 300 075 [1], subclause 6.2.13.2).
TCS3I808	Ensure that the IUT is able to perform a recovery after a mass transfer abandon from the tester, on receiving a T_LOAD Request containing correct designation and recovery number. Check that the IUT sends the file from the relevant recovery point and returns to access regime (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).
TCS3I809	Ensure that the IUT is able to perform a recovery after a mass transfer abandon from the tester, on receiving a T_SAVE Request containing correct designation and recovery number. Check that the IUT receives the file completely and correctly and returns to access regime established (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).
TCS3I810	Ensure that the IUT is able to receive a file correctly, on receiving a file containing only a header (file's content empty). Check that the IUT receives the file completely and correctly and returns to access regime established (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).

#### 6.2.3.1.3 S/BV/PI/Typed Data

**Test group objective:** Checking the valid behaviour of the IUT while sending a message.

##### Test Purposes (S/BV/PI/TD):

TCS3I901	Ensure that the IUT, in state access regime established, on receiving from the tester a T_TYPED_DATA remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.11.3).
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### 6.2.3.2 S/BV/Parameter Variations

**Test group objective:** Checking the valid behaviour concerning parameter variations. Where no tests have been identified for a functional unit its name has been omitted.

**Subgroups:**

AC	Access;
DI	Directory;
SA	Save;
RE	Rename;
DE	Delete;
FT	File Transfer.

#### 6.2.3.2.1 S/BV/PV/Access

**Test group objective:** Checking the valid behaviour of the IUT on:

- reception of an extra, but TLV correctly coded, parameter;
- reception of a parameter order different from the one defined in the ETS;
- reception of slave role in an Access Request.

**Test Purposes (S/BV/PV/AC):**

TCS3V201	Ensure that the IUT in state association regime established, on receiving from the tester a T_ACCESS Request containing a parameter encoded with an undefined identifier, but a correctly TLV encoding, ignores this parameter in reception and sends a T_ACCESS Response Positive (Ref. ETS 300 075 [1], subclause 7.1.1.3).
TCS3V202	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a T_ACCESS Request containing a different order of the parameters than the one defined in the ETS, sends a T_ACCESS Response Positive (Ref. ETS 300 075 [1], subclause 7.1.1.3).
TCS3V203	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a T_ACCESS Request containing role parameter encoded as Slave, sends a T_ACCESS Response Negative with reason parameter encoded as role refused (Ref. ETS 300 075 [1], subclause 6.2.4.1).

#### 6.2.3.2.2 S/BV/PV/Directory

**Test group objective:** Checking the valid behaviour of the IUT on a directory request of an already existing file.

**Test Purposes (S/BV/PV/DI):**

TCS3V301	Ensure that the IUT in state access regime established, on receiving from the tester a T_DIRECTORY Request containing a designation parameter encoded with a name for which there is no corresponding file for the IUT, sends a T_DIRECTORY Response Negative with reason parameter encoded as "no answer to the request" (Ref. ETS 300 075 [1], subclause 6.2.6.1).
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#### 6.2.3.2.3 S/BV/PV/Save

**Test group objective:** Checking the valid behaviour of the IUT on a saving request of an already existing file.

**Test Purposes (S/BV/PV/SA):**

TCS3V401 Ensure that the IUT in state access regime established, on receiving from the tester a T\_SAVE Request containing a designation parameter encoded with a name of an already existing file for the IUT, sends a T\_SAVE Response Negative containing result parameter encoded as "already existing file" and remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.8.1).

#### 6.2.3.2.4 S/BV/PV/Load

**Test group objective:** Checking the valid behaviour of the IUT on a loading request of a non-existing file.

**Test Purposes (S/BV/PV/LO):**

TCS3V501 Ensure that the IUT in state access regime established, on receiving from the tester a T\_LOAD Request containing a designation parameter encoded with a name of a non-existing file for the IUT, sends a T\_LOAD Response Negative containing result parameter encoded as "unknown file" and remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.7.1).

#### 6.2.3.2.5 S/BV/PV/Rename

**Test group objective:** Checking the valid behaviour of the IUT on renaming request:

- of a non-existing file;
- of a file with a name already in use.

**Test Purposes (S/BV/PV/RE):**

TCS3V601 Ensure that the IUT in state access regime established, on receiving from the tester a T\_RENAME Request containing a designation parameter encoded with a name of a non-existing file for the IUT, sends a T\_RENAME Response Negative containing result parameter encoded as "unknown file" and remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.9.1).

TCS3V602 Ensure that the IUT in state access regime established, on receiving from the tester a T\_RENAME Request containing a new name parameter encoded with a name of an already existing file for the IUT, sends a T\_RENAME Response Negative containing result parameter encoded as "new name already in use" and remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.9.1).

#### 6.2.3.2.6 S/BV/PV/Delete

**Test group objective:** Checking the valid behaviour of the IUT on deleting request of a non-existing file.

**Test Purposes (S/BV/PV/DE):**

TCS3V701 Ensure that the IUT in state access regime established, on receiving from the tester a T\_DELETE Request containing a designation parameter encoded with a name of a non-existing file for the IUT, sends a T\_DELETE Response Negative containing result parameter encoded as "unknown file" and remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.10.1).

### 6.2.3.2.7 S/BV/PV/File Transfer

**Test group objective:** Checking the valid behaviour of the IUT on file transfer with:

- file refusal at the end of the transfer;
- various transfer size blocks;
- alternated confirmed and non confirmed transfer blocks;
- an attribute order different from the one defined in the ETS.

**Test Purposes (S/BV/PV/FT):**

TCS3V801	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to finish a file transfer, sends a T_WRITE-END Request; then on receiving from the tester a T_WRITE-END Response Negative containing result parameter encoded as file refusal, the IUT returns to state access regime established. The IUT has not accepted the responsibility of the file (Ref. ETS 300 075 [1], subclause 4.1.5.1.4).
TCS3V802	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T_WRITE Request containing explicit confirmation parameter encoded as explicit confirmation requested and data field encoded with various size blocks, and a T_WRITE-END Request, responds with a sequence of T_WRITE Response Positive with appropriate parameters. The IUT shall receive the file completely and correctly, and return to state access regime established (Ref. ETS 300 075 [1], subclause 4.1.5.1.4).
TCS3V803	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T_WRITE Request containing explicit confirmation parameter encoded as explicit confirmation requested and explicit confirmation not requested alternately, and a T_WRITE-END Request, responds with a sequence of T_WRITE Response Positive with appropriate parameters when relevant. The IUT shall receive the file completely and correctly, and return to state access regime established (Ref. ETS 300 075 [1], subclause 4.1.5.1.4).
TCS3V804	Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a file containing attributes encoded in a different order than the one defined in the ETS, receives the file completely and correctly (Ref. ETS 300 075 [1], subclause 7.3.2).

### 6.2.3.3 S/BV/Parameter Combinations

**Test group objective:** Checking the valid behaviour concerning parameter combinations. Where no tests have been identified for a functional unit its name has been omitted.

<b>Subgroups:</b>	AS Association; DI Directory; SA Save; LO Load; RE Rename; DE Delete; FT File Transfer.
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#### 6.2.3.3.1 S/BV/PC/Association

**Test group objective:** Checking the valid behaviour of the IUT on association establishment, with service class non-defined.

##### Test Purposes (S/BV/PC/AS):

TCS3C101 Ensure that the IUT in state idle, on receiving from the tester a T\_ASSOCIATE Request containing service class parameter encoded as non-defined, sends a T\_ASSOCIATE Response Positive containing service class parameter encoded as Symmetrical Service and enters state association established.

#### 6.2.3.3.2 S/BV/PC/Directory

**Test group objective:** Checking the valid behaviour of the IUT on Directory request when the primitive is not handled.

##### Test Purposes (S/BV/PC/DI):

TCS3C301 Ensure that the IUT, in state access regime established and T\_DIRECTORY primitive not handled, on receiving from the tester a T\_DIRECTORY Request with appropriate parameters, sends a T\_P\_EXCEPTION containing reason parameter encoded as "primitive not handled" and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.15.1).

#### 6.2.3.3.3 S/BV/PC/Save

**Test group objective:** Checking the valid behaviour of the IUT on save request when the primitive is not handled.

##### Test Purposes (S/BV/PC/SA):

TCS3C401 Ensure that the IUT, in state access regime established and T\_SAVE primitive not handled, on receiving from the tester a T\_SAVE Request with appropriate parameters, sends a T\_P\_EXCEPTION\_REPORT containing reason parameter encoded as "primitive not handled" and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.15.1).

#### 6.2.3.3.4 S/BV/PC/Load

**Test group objective:** Checking the valid behaviour of the IUT on load request when the primitive is not handled.

##### Test Purposes (S/BV/PC/LO):

TCS3C501 Ensure that the IUT, in state access regime established and T\_LOAD primitive not handled, on receiving from the tester a T\_LOAD Request with appropriate parameters, sends a T\_P\_EXCEPTION\_REPORT containing reason parameter encoded as "primitive not handled" and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.15.1).

#### 6.2.3.3.5 S/BV/PC/Rename

**Test group objective:** Checking the valid behaviour of the IUT on rename request when the primitive is not handled.

**Test Purposes (S/BV/PC/RE):**

- TCS3C601 Ensure that the IUT, in state access regime established, on receiving from the tester a T\_RENAME Request with appropriate parameters, sends a T\_P\_EXCEPTION\_REPORT containing reason parameter encoded as "primitive not handled" and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.15.1).
- TCS3C602 Ensure that the IUT, in state access regime established and T\_RENAME primitive not handled, on receiving from the tester a T\_RENAME Request containing designation encoded in small letters and new name encoded with the same name, but in capital letters, sends a T\_RENAME Response Positive and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.15.1).

#### 6.2.3.3.6 S/BV/PC/Delete

**Test group objective:** Checking the valid behaviour of the IUT on delete request when the primitive is not handled.

**Test Purposes (S/BV/PC/DE):**

- TCS3C701 Ensure that the IUT, in state access regime established and T\_DELETE primitive not handled, on receiving from the tester a T\_DELETE Request with appropriate parameters, sends a T\_P\_EXCEPTION\_REPORT containing reason parameter encoded as "primitive not handled" and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.15.1).

#### 6.2.3.3.7 S/BV/PC/File Transfer

**Test group objective:** Checking the valid behaviour of the IUT on file transfer with an exceeding anticipation window size.

**Test Purposes (S/BV/PC/FT):**

- TCS3C801 Ensure that the IUT in state transfer regime established -IUT as a receiver-, on receiving from the tester a sequence of T\_WRITE Request which makes the tester to go beyond the anticipation window size of the IUT, sends a T\_P\_EXCEPTION Request and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

#### 6.2.3.4 S/BV/Inopportune Event

**Test group objective:** Checking the valid behaviour of the IUT facing inopportune events. Where no tests have been identified for a functional unit its name has been omitted.

**Subgroups:** AS Association;  
AC Access;  
SA Save;  
LO Load.

#### 6.2.3.4.1 S/BV/IE/Association

**Test group objective:** Checking the valid behaviour of the IUT in association regime, when receiving an abort PDU.

**Test Purposes (S/BV/IE/AS):**

TCS3E101 Ensure that the IUT in state association regime established, on receiving from the tester a T\_P\_ABORT Request, terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.3).

#### 6.2.3.4.2 S/BV/IE/Access

**Test group objective:** Checking the valid behaviour of the IUT in access regime, when receiving an abort PDU.

**Test Purposes (S/BV/IE/AC):**

TCS3E201 Ensure that the IUT in state access regime established, on receiving from the tester a T\_P\_ABORT Request, terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.3).

#### 6.2.3.4.3 S/BV/IE/Save

**Test group objective:** Checking the valid behaviour of the IUT on receiving a save request and a consecutive abort PDU.

**Test Purposes (S/BV/IE/SA):**

TCS3E401 Ensure that the IUT in state access regime established, on receiving from the tester a T\_SAVE Request with appropriate parameters and a consecutive T\_P\_ABORT Request, terminates association (Ref. ETS 300 075 [1], subclause 6.2.3).

#### 6.2.3.4.4 S/BV/IE/Load

**Test group objective:** Checking the valid behaviour of the IUT on receiving a load request and a consecutive abort PDU.

**Test Purposes (S/BV/IE/LO):**

TCS3E501 Ensure that the IUT in state access regime established, on receiving from the tester a T\_LOAD Request with appropriate parameters and a consecutive T\_P\_ABORT Request, terminates association (Ref. ETS 300 075 [1], subclause 6.2.3).

#### 6.2.4 S/Invalid Behaviour Tests (BI)

**Test group objective:** Checking the IUT's reaction to semantically invalid events.

**Subgroups:** PV Parameter Variations;  
PC Parameter Combinations.

#### 6.2.4.1 S/BI/Parameter Variations

**Test group objective:** Checking the IUT's behaviour to semantically invalid events concerning parameter variations.

**Subgroups:**

AS	Association;
AC	Access;
DI	Directory;
SA	Save;
LO	Load;
RE	Rename;
DE	Delete;
FT	File Transfer;
TD	Typed Data.

##### 6.2.4.1.1 S/BI/PV/Association

**Test group objective:** Checking the IUT's reaction to semantically invalid PDUs, while establishing and releasing the association regime, containing:

- an erroneous parameter length in establishment;
- an unknown name in establishment;
- an erroneous parameter length in release;
- an erroneous parameter value in release;
- two identical parameters in the same PDU.

##### Test Purposes (S/BI/PV/AS):

TCS5V101	Ensure that the IUT in state idle, on receiving from the tester a T_ASSOCIATE Request containing erroneous parameter length, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCS5V102	Ensure that the IUT in state idle, on receiving from the tester a T_ASSOCIATE Request containing application name encoded with an unknown name, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCS5V103	Ensure that the IUT in state association regime established, on receiving from the tester a T_RELEASE Request containing user data parameter, encoded with an erroneous parameter length, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCS5V104	Ensure that the IUT in state association regime established, in order to release association regime, sends a T_RELEASE Request; then on receiving from the tester a T_RELEASE Response Positive containing result parameter encoded with an erroneous value, the IUT terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
TCS5V105	Ensure that the IUT in state idle, on receiving from the tester a T_ASSOCIATE Request containing two identical parameters (two different application names), terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

##### 6.2.4.1.2 S/BI/PV/Access

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU, while establishing and releasing the access regime, containing:

- an erroneous parameter length;
- a missing parameter;
- two identical parameters in the same PDU.

**Test Purposes (S/BI/PV/AC):**

- TCS5V201 Ensure that the IUT in state association regime established, on receiving from the tester a T\_ACCESS Request containing size parameter encoded with erroneous parameter length, terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCS5V202 Ensure that the IUT in state association regime established, on receiving from the tester a T\_ACCESS Request where function parameter is missing, terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCS5V203 Ensure that the IUT in state access regime established, on receiving from the tester a T\_END\_ACCESS Request with reason parameters encoded with an erroneous parameter length, sends a T\_P\_EXCEPTION\_REPORT and returns to state access regime established, slave role or terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCS5V204 Ensure that the IUT in state idle, on receiving from the tester a T\_ACCESS Request containing two identical parameters (two different size/recovey/window parameters), terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.2.4.1.3 S/BI/PV/Directory**

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU where a parameter is missing, while receiving a file directory request.

**Test Purposes (S/BI/PV/DI):**

- TCS5V301 Ensure that the IUT in state access regime established, on receiving from the tester a T\_DIRECTORY Request where designation parameter is missing, sends a T\_P\_EXCEPTION\_REPORT or terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.2.4.1.4 S/BI/PV/Save**

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU where a parameter is missing, while receiving a file save request.

**Test Purposes (S/BI/PV/SA):**

- TCS5V401 Ensure that the IUT in state access regime established, on receiving from the tester a T\_SAVE Request where designation parameter is missing, sends a T\_P\_EXCEPTION\_REPORT or terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.2.4.1.5 S/BI/PV/Load**

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU where a parameter is missing, while receiving a file load request.

**Test Purposes (S/BI/PV/LO):**

- TCS5V501 Ensure that the IUT in state access regime established, on receiving from the tester a T\_LOAD Request where designation parameter is missing, sends a T\_P\_EXCEPTION\_REPORT or terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.2.4.1.6 S/BI/PV/Rename

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU containing an erroneous parameter length, while receiving a file rename request.

**Test Purposes (S/BI/PV/RE):**

TCS5V601 Ensure that the IUT in state access regime established, on receiving from the tester a T\_RENAME Request containing user data parameter encoded with an erroneous value on parameter length, sends a T\_P\_EXCEPTION\_REPORT or terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.2.4.1.7 S/BI/PV/Delete

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU containing an erroneous parameter length, while receiving a file delete request.

**Test Purposes (S/BI/PV/DE):**

TCS5V701 Ensure that the IUT in state access regime established, on receiving from the tester a T\_DELETE Request containing user data parameter encoded with an erroneous value on parameter length, sends a T\_P\_EXCEPTION\_REPORT or terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.2.4.1.8 S/BI/PV/File Transfer

**Test group objective:** Checking the IUT's reaction to the following invalid PDUs, on file transfer:

- block sequencing error;
- data field missing;
- block number missing;
- block position missing;
- restart of file transfer at an inappropriate point;
- resume of file transfer at an invalid recovery point;
- erroneous value on response;
- incorrect recovery number (load);
- incorrect recovery number (save);
- write with erroneous block number in a recovery;
- file containing TLV erroneous header.

**Test Purposes (S/BI/PV/FT):**

TCS5V801 Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester two consecutive T\_WRITE Request containing first/last parameter encoded as first, sends a T\_P\_EXCEPTION and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

TCS5V802 Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T\_WRITE Request where data field is missing, sends a T\_P\_EXCEPTION and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

TCS5V803 Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T\_WRITE Request where block number is missing, sends a T\_P\_EXCEPTION and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

TCS5V804	Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T_WRITE Request where first/last parameter is missing, sends a T_P_EXCEPTION and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCS5V805	Ensure that the IUT, in state transfer regime established -IUT as a receiver-, in order to restart the file transfer, sends a T_P_EXCEPTION containing reason parameter encoded as READ RESTART; then on receiving from the tester a T_WRITE Request containing block number parameter encoded with an invalid value, the IUT shall send a T_P_EXCEPTION and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCS5V806	Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file sends a T_WRITE Request, containing explicit confirmation parameter encoded as confirmation requested; then on receiving from the tester a T_WRITE Response Positive encoded with an erroneous value, the IUT shall send a T_P_EXCEPTION Request and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCS5V807	Ensure that the IUT -IUT as a sender- shall not perform the recovery after a mass transfer abandon from the tester, on receiving a T_LOAD Request containing a correct designation but a recovery number greater than expected. Check that the IUT sends a T_P_Exception and returns to access regime established or terminates association (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).
TCS5V808	Ensure that the IUT -IUT as a receiver- shall not perform the recovery after a mass transfer abandon from the tester, on receiving a T_SAVE Request containing a correct designation but a recovery number greater than expected. Check that the IUT sends a T_P_Exception and returns to access regime established or terminates association (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).
TCS5V809	Ensure that the IUT -IUT as a receiver- shall not perform the recovery after a mass transfer abandon from the tester, on receiving a T_WRITE Request containing an erroneous block number, i.e. not corresponding to the recovery point. Check that the IUT sends a T_P_Exception and returns to access regime established or terminates association (Ref. ETS 300 075 [1], subclause 4.1.2.4.2).
TCS5V810	Ensure that the IUT -IUT as a receiver-, on receiving from the tester a file containing an erroneous TLV file header, sends a negative acknowledgement or a T_P_Exception or a T_Transfer_Reject or terminates association (Ref. ETS 300 075 [1], subclause 4.1.5.1.4).

#### 6.2.4.1.9 S/BI/PV/Typed Data

**Test group objective:** Checking the IUT's reaction to semantically invalid PDU where a parameter is missing, while receiving a message.

#### Test Purposes (S/BI/PV/TD):

TCS5V901	Ensure that the IUT, in state access regime established, on receiving from the tester a T_TYPED_DATA Request where user data parameter is missing, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
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#### 6.2.4.2 S/BI/Parameter Combinations

**Test group objective:** Checking the IUT's behaviour to semantically invalid events concerning parameter combinations. Where no tests have been identified for a functional unit its name has been omitted.

**Subgroups:** FT File Transfer.

#### 6.2.4.2.1 S/BI/PC/File Transfer

**Test group objective:** Checking the IUT's reaction, while transferring a file, to the following events:

- reception of an exceeding data block size;
- confirmation parameter value contrary to the value negotiated.

**Test Purposes (S/BI/PC/FT):**

TCS5C801	Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T_WRITE Request containing data parameter encoded with a size greater than the IUT supported size, sends a T_P_EXCEPTION_REPORT and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).
TCS5C802	Ensure that the IUT, in state transfer regime established -IUT as a receiver and explicit confirmation requested-, on receiving from the tester a T_WRITE Request containing explicit confirmation parameter encoded as explicit confirmation not requested, sends a T_P_EXCEPTION_REPORT and remains in state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

#### 6.2.5 S/Inopportune Behaviour Tests (BO)

**Test group objective:** Checking the IUT's reaction to inopportune events.

**Subgroups:** IE Inopportune Event.

#### 6.2.5.1 S/BO/Inopportune Event

**Test group objective:** Checking the reaction of the IUT subgrouped by functional units.

**Subgroups:** AS Association;  
AC Access;  
SA Save;  
FT File Transfer.

#### 6.2.5.1.1 S/BO/IE/Association

**Test group objective:** Checking the IUT's reaction, while establishing and releasing association regime, to the following inopportune events:

- protocol conflict;
- unknown PDU;
- negative acknowledgement when not existing.

**Test Purposes (S/BO/IE/AS):**

- TCS4E101 Ensure that the IUT in state association regime established, on receiving from the tester a T\_ASSOCIATE Request with appropriate parameters, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCS4E102 Ensure that the IUT in state association regime established, on receiving from the tester an unknown PDU, terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCS4E103 Ensure that the IUT in state association regime established, in order to release association regime, sends a T\_RELEASE Request; then on receiving from the tester a T\_Response\_Negative, the IUT terminates association regime (Ref. ETS 300 075 [1], subclause 6.2.2.3).

**6.2.5.1.2 S/BO/IE/Access**

**Test group objective:** Checking the IUT's reaction, while establishing and terminating access regime, to the following events:

- inopportune exception PDU;
- unexpected PDU;
- unknown PDU.

**Test Purposes (S/BO/IE/AC):**

- TCS4E201 Ensure that the IUT in state access regime established, on receiving from the tester a T\_P\_EXCEPTION\_REPORT, remains in state access regime established (Ref. ETS 300 075 [1], subclause 6.2.15.3).
- TCS4E202 Ensure that the IUT in state access regime established, on receiving from the tester a T\_RELEASE Request, sends a T\_P\_EXCEPTION\_REPORT or terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCS4E203 Ensure that the IUT in state access regime established, on receiving from the tester an unknown PDU, terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).

**6.2.5.1.3 S/BO/IE/Save**

**Test group objective:** Checking the IUT's reaction, while receiving a file save request, to the following events:

- unexpected PDU;
- unknown PDU.

**Test Purposes (S/BO/IE/SA):**

- TCS4E401 Ensure that the IUT in state access regime established, on receiving from the tester a T\_SAVE Request and a consecutive T\_DELETE Request, sends a T\_P\_EXCEPTION\_REPORT or terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).
- TCS4E402 Ensure that the IUT in state access regime established, on receiving from the tester a T\_SAVE Request and a consecutive unknown PDU, terminates association (Ref. ETS 300 075 [1], subclause 6.3.3).

#### 6.2.5.1.4 S/BO/IE/Load

**Test group objective:** Checking the IUT's reaction to an unexpected PDU, while receiving a file load request.

**Test Purposes (S/BO/IE/LO):**

TCS4E501 Ensure that the IUT in state access regime established, on receiving from the tester a T\_LOAD Request and a consecutive T\_WRITE Request, sends a T\_P\_EXCEPTION\_REPORT or terminates association (Ref. ETS 300 075 [1], subclause 6.3.2).

#### 6.2.5.1.5 S/BO/IE/File Transfer

**Test group objective:** Checking the IUT's reaction, on file transfer, to the following events:

- protocol conflict;
- incorrect response negative.

**Test Purposes (S/BO/IE/FT):**

TCS4E801 Ensure that the IUT, in state transfer regime established -IUT as a receiver-, on receiving from the tester a T\_ACCESS Request, sends a T\_P\_EXCEPTION\_REPORT and returns to state access regime established or terminates association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

TCS4E802 Ensure that the IUT in state transfer regime established -IUT as a sender-, in order to transfer a file sends a T\_WRITE Request, containing explicit confirmation parameter encoded as confirmation requested; then on receiving from the tester a T\_Response\_Negative not corresponding to T\_WRITE Response Negative, the IUT shall send a T\_P\_EXCEPTION and return to state access regime established or terminate association regime (Ref. ETS 300 075 [1], subclause 6.3.2).

## **Annex A (informative): Test Identifier acronyms**

For the purposes of this part of the I-ETS, the following Test Identifier acronyms have been used:

AC	Access
AS	Association
BI	Invalid Behaviour Tests
BO	Inopportune Behaviour Tests
BV	Valid Behaviour Tests
CA	Capability Tests
DE	Delete
DI	Directory
FI	Filestore integrity
FT	File Transfer
IE	Inopportune Event
IT	Basic Interconnection Tests
LO	Load
PC	Parameters Combinations
PI	Protocol Interactions
PV	Parameters Variations
RE	Rename
SA	Save
TD	Typed-Data

## History

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