SLOVENSKI STANDARD
SIST I-ETS 300 489-2 E1:2003

01-december-2003

Terminalska oprema (TE) ï Preskuđanje skladnosti prenosa datotek prek digitalnega omreģja z integriranimi storitvami (ISDN) ï 2. del: Profilsko specifiļ na specifikacija preskuđanja (PSTS) za profil FTAM (ETS 300 338)

Terminal Equipment (TE); Conformance testing for file transfer over the Integrated Services Digital Network (ISDN); Part 2: Profile Specific Test Specification (PSTS) for the FTAM profile (ETS 300 388)

Ta slovenski standard je istoveten z: **I-ETS 300 489-2 Edition 1**

ICS:

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
35.180	Terminalska in druga periferna oprema IT	IT Terminal and other peripheral equipment

SIST I-ETS 300 489-2 E1:2003 **en**

INTERIM
EUROPEAN
TELECOMMUNICATION
STANDARD

I-ETS 300 489-2

October 1996

Source: ETSI TC-TE

Reference: DI/TE-01061-2

ICS: 33.080

Key words: FT, ISDN, protocol, testing

Terminal Equipment (TE); Conformance testing for file transfer over the Integrated Services Digital Network (ISDN); Part 2: Profile Specific Test Specification (PSTS) for the FTAM profile (ETS 300 388)

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

Contents

Foreword 7

1 Scope 9

2 Normative references 9

3 Definitions, abbreviations and conventions 10
3.1 Definitions 10
3.2 Abbreviations 10
3.3 Conventions 11

4 General 11

5 Abstract Test Method (ATM) 11

6 Test requirements 11
6.1 General requirements 11
6.2 Low layer requirements 12
6.3 Additional requirements 12

7 Profile Specific Test Specification 12
7.1 Relevant Test Cases from basic FTAM ISO/IEC 8571 AFT11 Initiator 12
7.1.1 Capability Test Cases 13
7.1.2 Valid behaviour Test Cases 14
7.1.3 Inopportune behaviour Test Cases 17
7.1.4 Invalid behaviour Test Cases 18
7.2 Relevant Test Cases from basic FTAM ISO/IEC 8571 AFT11 responder 19
7.2.1 Capability Test Cases 20
7.2.2 Valid behaviour Test Cases 21
7.2.3 Invalid behaviour Test Cases 24
7.3 Relevant Test Cases from full FTAM ISO/IEC 8571 AFT11 restart and recovery 25
7.3.1 Capability Test Cases initiator 25
7.3.2 Valid behaviour Test Cases initiator 26
7.3.3 Invalid behaviour Test Cases initiator 27
7.3.4 Capability Test Cases responder 27
7.3.5 Valid behaviour Test Cases responder 28
7.3.6 Inopportune behaviour Test Cases responder 29
7.3.7 Invalid behaviour Test Cases responder 29
7.4 Relevant Test Cases from full FTAM ISO/IEC 8571 AFT3 Management 29
7.4.1 Capability Test Cases initiator 29
7.4.2 Valid behaviour Test Cases initiator 30
7.4.3 Invalid behaviour Test Cases initiator 30
7.4.4 Capability Test Cases responder 31
7.4.5 Valid behaviour Test Cases responder 31
7.4.6 Invalid behaviour Test Cases responder 32
7.4.7 Inopportune behaviour Test Cases responder 32
7.5 Relevant Test Cases from ACSE 32
7.5.1 Valid behaviour Test Cases 32
7.5.2 Invalid behaviour Test Cases 33
7.6 Relevant Test Cases from the presentation layer 33
7.6.1 Interoperability Test Cases- initiator 33
7.6.2 Capability Test Cases - initiator 33
7.6.3 Valid behaviour Test Cases - initiator 34
7.6.4 Invalid behaviour Test Cases - initiator 34
7.6.5 Interoperability Test Cases - responder 34
7.6.6 Capability Test Cases - responder 35
7.6.7 Valid behaviour Test Cases- responder 35

7.6.8 Invalid behaviour Test Cases - responder 36
7.7 Relevant Test Cases from the session layer 36
7.7.1 Capability Test Cases - initiator 36
7.7.2 Valid behaviour Test Cases - initiator 37
7.7.3 Inopportune behaviour tests - Initiator 38
7.7.4 Capability Test Cases - responder 40
7.7.5 Valid behaviour Test Cases- responder 40
7.7.6 Invalid behaviour Test Cases - responder 41

8 Profile specific conformance tests 42
8.1 Test Suite Structure and Test Purposes (TSS&TP) 42
8.1.1 Test Suite Structure (TSS) 42
8.1.2 Additional Test Purposes 42
8.1.3 Test Cases to Test Purposes selection and mapping 42

Annex A (normative): Abstract Test Suite (ATS) 43

A.1 The TTCN Graphical form (TTCN.GR) 43

A.2 The TTCN Machine Processable form (TTCN.MP) 43

Annex B (normative): Profile specific PIXIT proforma for ETS 300 388 44

B.1 Identification summary 44
B.1.1 Protocol PIXIT 44
B.1.2 Profile specific test suite summary 44
B.1.3 Test laboratory 45
B.1.4 Client 46
B.1.5 SUT 47
B.1.6 Ancillary protocols 47

B.2 Profile information for ETS 300 388 48
B.2.1 Profile specific information 48
B.2.2 IUT information 48
B.2.2.1 Addresses 48
B.2.2.2 Procedural information 48
B.2.3 Virtual file store information tester side 48
B.2.3.1 FILE #1 49
B.2.3.2 FILE #2 51
B.2.3.3 FILE #3 52

Annex C (normative): Protocol Conformance Test Report proforma (PCTR) 54

C.1 Identification summary 54
C.1.1 Profile Conformance Test Report 54
C.1.2 IUT 54
C.1.3 Testing environment 54
C.1.4 Limits and reservations 54
C.1.5 Comments 55

C.2 IUT conformance status 55

C.3 Static conformance summary 55

C.4 Dynamic conformance summary 55

C.5 Static conformance review report 55

C.6 Test campaign report 55

C.7 Observations 55

Annex D (normative): System Conformance Test Report proforma (SCTR) 56

D.1 Identification summary 56
D.1.1 System conformance test report 56
D.1.2 Test laboratory 56
D.1.3 Client 56
D.1.4 SUT 56
D.1.5 Profile 57
D.1.6 Nature of conformance testing 57
D.1.7 Limits and reservations 57
D.1.8 Record of agreement 57
D.1.9 Comments 58

D.2 System report summary 59
D.2.1 Profile testing summary for ETS 300 388 59
D.2.2 Profile testing summary for ETS 300 080 60
D.2.3 Protocol layer testing summary for basic FTAM ISO/IEC 8571 AFT 11 Initiator 61
D.2.4 Protocol layer testing summary for basic FTAM ISO/IEC 8571 AFT 11 Responder 62
D.2.5 Protocol layer testing summary for Full FTAM ISO/IEC 8571 AFT 11 Initiator 63
D.2.6 Protocol layer testing summary for Full FTAM ISO/IEC 8571 AFT 11 Responder 64
D.2.7 Protocol layer testing summary for full FTAM ISO/IEC 8571 AFT 11 restart and recovery 65
D.2.8 Protocol layer testing summary for full FTAM ISO/IEC 8571 AFT 3 management 66
D.2.9 Protocol layer testing summary for ACSE 67
D.2.10 Protocol layer testing summary for presentation 68
D.2.11 Protocol layer testing summary for session 69

Annex E (normative): System Conformance Statement proforma (SCS) 70

E.1 Identification summary 70
E.1.1 SCS identification 70
E.1.2 IUT identification 70
E.1.3 Client identification 70
E.1.4 Supplier identification 70
E.1.5 Manufacturer identification *(if different from client)* 71
E.1.6 Protocols identification 71
E.1.7 Profile identification 71

E.2 Miscellaneous system information 72
E.2.1 Configuration 72
E.2.2 Other information 72

Annex F (informative): FTAM profile conformance Test Cases count 73

History 74

Blank page

Foreword

Part 2 of this Interim European Telecommunication Standard (I-ETS) has been produced by the Terminal Equipment Technical (TE) 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 comprises of two parts as follows:

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

Part 1: Profile Test Specification Summary (PTS-Summary) for the FTAM profile (ETS 300 388);

Part 2: Profile Specific Test Specification (PSTS) for the FTAM profile (ETS 300 388)".

Proposed announcement date	
Date of adoption of this I-ETS:	4 October 1996
Date of latest announcement of this I-ETS (doa):	31 January 1997

Blank page

1 Scope

Part 2 of this Interim European Telecommunication Standard (I-ETS) provides the Profile Specific Test Specification (PSTS) for ETS 300 388 [1]. It is compatible with the PSTS developed firstly under the CTS projects and finally updated and published by the European Workshop for Open Systems (EWOS). The minor additions to the Test Cases and the Tree and Tabular Combined Notation (TTCN) for these is contained in annex A. The remainder of the Test Cases references EWOS ED 88 [4].

The PSTS follows the recommendations of ISO/IEC 9646-6 [2] and ETS 300 406 [3]. The base standard is ISO/IEC 8571 [9]. The work follows ISO/IEC ISP 10607, part 3 [7] and part 6 [8]. These Sips are referenced in ISO/IEC TR 10000-2 [16] as AFT 11 and AFT 3 respectively.

2 Normative references

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 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 300 388 (1995): "Integrated Services Digital Network (ISDN); File Transfer and Access Management (FTAM) over ISDN based on simple file transfer protocol".

[2] ISO/IEC 9646, parts 1 to 7 (1994): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework".

[3] ETS 300 406 (1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[4] EWOS ED 88 (1994): "EWOS/CTS FTAM Abstract Test Suite, (Binders 0 to 12)".

[5] ISO/IEC ISP 10607-2 (1990): "Information technology - International Standardized Profiles Aft - File Transfer, Access and Management - Part 2: Definition of document types, constraint sets and syntaxes".

[6] ISO/IEC ISP 10607-2(a), Addendum 1 (1991): "Information technology - International Standardized Profiles Aft - File Transfer, Access and Management - Additional definitions".

[7] ISO/IEC ISP 10607-3 (1990): "Information technology - International Standardized Profiles Aft - File Transfer, Access and Management - Part 3: AFT11 - Simple File Transfer Service (unstructured)".

[8] ISO/IEC ISP 10607-6 (1991): "Information technology - International Standardized Profiles Aft - File Transfer, Access and Management - Part 6: AFT3 - File Management Service".

[9] ISO/IEC 8571, Parts 1 to 5: "Information processing systems - Open Systems Interconnection - File Transfer, Access and Management -

Part 1: General introduction;

Part 2: Virtual Filestore definition;

Part 3: File Service definition;

Part 4: File Protocol specification;

Part 5: Protocol Implementation Conformance Statement Proforma 3".

[10] ETS 300 080 (1992): "Integrated Services Digital Network (ISDN); ISDN lower layer protocols for telematic terminals".

[11] ISO 8649 (X.217) (1988): "Information processing systems - Open Systems Interconnection - Service definition for the association control service element".

[12] ISO 8650 (X.227) (1988): "Connection-oriented protocol specification for the association control service-element".

[13] ISO/IEC 8822 (X.216): "Information technology - Open Systems Interconnection - Presentation service definition".

[14] ISO/IEC 8823-1 (X.226): "Information technology - Open Systems Interconnection - Connection oriented presentation protocol: Protocol specification".

[15] ISO 8327 (X.225): "Information processing systems - Open Systems Interconnection - Basic connection oriented session protocol specification".

[16] ISO/IEC TR 10000-2 (1994): "Information technology - Framework and taxonomy of International Standardized Profiles - Part 2: Principles and Taxonomy for OSI Profiles".

[17] ISO/IEC 10170-1 (1993): "Information technology - Open Systems Interconnection - Conformance test suite for the FTAM Protocol - Part 1: Test suite structure and test purposes".

3 Definitions, abbreviations and conventions

3.1 Definitions

For the purposes of this part of the I-ETS, the definitions given in ISO/IEC 9646, parts 1 to 7 [2], ISO/IEC 8571 [9], ETS 300 388 [1] and ISO/IEC ISP 10607, parts 2, 2a, 3 and 6 ([5], [6], [7] and [8]) apply.

3.2 Abbreviations

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

ACSE	Association Control Service Element
AFT	Application File Transfer profile
ATC	Abstract Test Case
ASN.1	Abstract Syntax Notation One
ATM	Abstract Test Method
ATS	Abstract Test Suite
e	extended subset
EWOS	European Workshop for Open Systems
FTAM	File Transfer Access and Management
ICS	Implementation Conformance Statement
ISDN	Integrated Services Digital Network
ISP	International Standardized Profile
ISPICS	ISP Implementation Conformance Statement
IUT	Implementation Under Test
PIXIT	Implementation eXtra Information for Testing
MTS	Methods for Testing and Specification
PCO	Point of Control and Observation
PCTR	Protocol Conformance Test Report
PDU	Protocol Data Unit
Profile ICS	Profile Implementation Conformance Statement
PSTS	Profile Specific Test Specification
s	selected subset
SCS	System Conformance Statement
SUT	System Under Test

TE	Terminal Equipment
TSAP	Transport Service Access Point
TTCN	Tree and Tabular Combined Notation

Along with the abbreviations of ISO/IEC 10170-1 [17].

3.3 Conventions

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

The names of Abstract Test Cases (ATC) are generally derived directly from the relevant Test Purpose where there is a one to one mapping. There is, in addition, a prefix to indicate the Abstract Test Suite (ATS) name and whether the tests are for the Initiator or Responder case.

EXAMPLE 1: A111_I_CA_KE_1.

However, especially in cases where several parameters on a single Protocol Data Unit (PDU) are being tested by a series of Test Purposes, these can all be combined or "summarized" by a single ATC. The name of that ATC reflects this by the use of "SUM" as the final part of the name.

EXAMPLE 2: A111_R_BV_PV_RD_OP_CC_SUM_1.

4 General

This I-ETS describes all the aspects of testing, directly or by reference to EWOS ED 88 [4].

5 Abstract Test Method (ATM)

The FTAM conformance tests use the remote single layer Abstract Test Method (ATM), whilst the testing for Session and Presentation uses the remote embedded single layer ATM.

6 Test requirements

6.1 General requirements

For this conformance test specification, any requirements to carry out the tests are specified.

To realize this conformance test specification it shall be necessary that all the lower layers are operating correctly. For this reason, the lower layers shall be checked before by any relevant conformance test specifications.

This test specification does not deal with the details of the human interface. Only PDUs and Parameters are observed and are controlled at the Point of Control and Observation (PCO).

The relevant conformance test specifications are identified in figure 1.

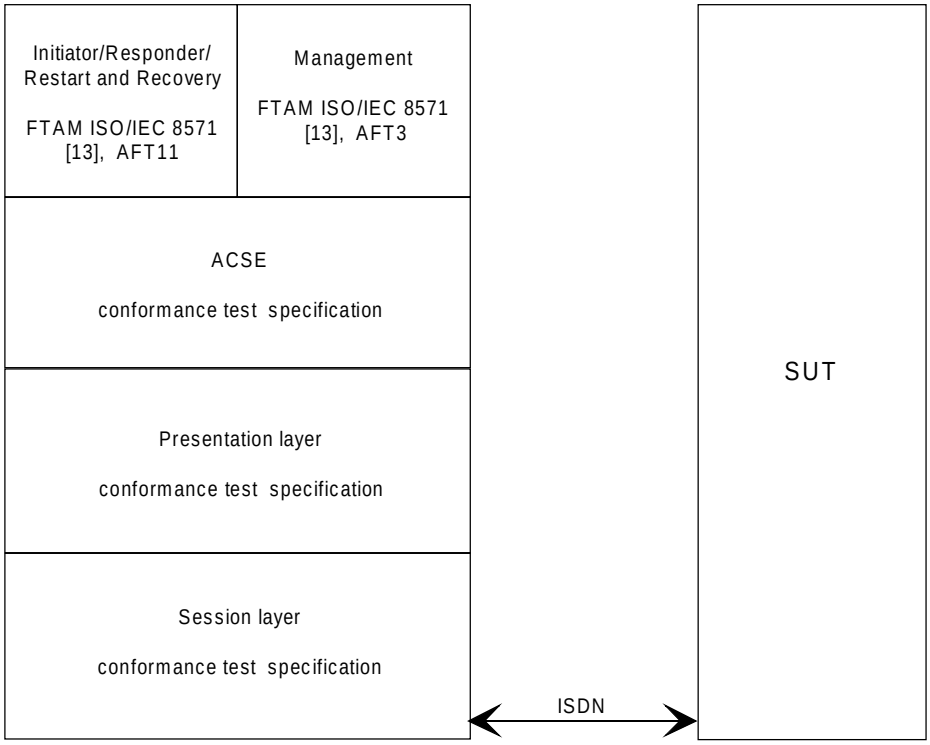

Figure 1: Relevant conformance tests specifications

6.2 Low layer requirements

Clause 10 of ETS 300 388 [1] shall apply without any additional rules.

6.3 Additional requirements

Two additional documents exist in the EWOS specifications. The first is called Initiator actions and defines the requirements on an Initiator Implementation Under Test (IUT) in order to drive the tests. The second is the Naming conventions used, where these go beyond ISO/IEC 10170-1 [17]. The relevant ones are described in subclause 3.2.

In order to ensure that directories can be read two new Test Cases have been developed. These are based on existing Test Purposes for capability tests but use NBS-9 document type.

7 Profile Specific Test Specification

An implementation claiming basic conformance shall be capable of performing all the AFT 11 Initiator and Responder Test Cases listed below. An implementation claiming full conformance shall be capable of performing all the Test Cases listed below.

However, since this profile is designed for small terminals, in order to reduce testing time, a recommended subset of the FTAM specific tests has been selected. These are indicated by "s" (selected subset) for the basic tests and "e" (extended subset) for full tests. It is believed that these subsets will give adequate coverage as at least one test has been selected in each test group. Those not selected are in general only minor variants of parameters.

7.1 Relevant Test Cases from basic FTAM ISO/IEC 8571 AFT11 Initiator

The list of Test Cases used for the FTAM profile conformance test specification are described in ISO/IEC 8571 [9], basic FTAM AFT 11 Initiator (EWOS ED 88 [4] - Binder 1).

This I-ETS describes all references used for testing the FTAM Simple File Transfer profile (ETS 300 388 [1]).

7.1.1 Capability Test Cases

Table 1: Basic FTAM ISO/IEC 8571, AFT11 initiator capability Test Cases

Test Case identifier	Notes
AFT11_I_CA_KE_1	s
AFT11_I_CA_SUM_0	s
AFT11_I_CA_KE_3	s
AFT11_I_SUM_1	s
AFT11_I_CA_KE_5	s
AFT11_I_CA_KE_6	s
AFT11_I_CA_RD_1	s
AFT11_I_CA_RD_2	s
AFT11_I_SUM_6	s
AFT11_I_SUM_8	s
AFT11_I_CA_WR_1	s
AFT11_I_CA_WR_2	s
AFT11_I_SUM_10	s
AFT11_I_SUM_11	s
AFT11_I_CA_WR_6	s
AFT11_I_CA_WR_7	s
AFT11_I_SUM_50	s
AFT11_I_CA_LM_2	s
AFT11_I_SUM_20	s