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NUgYVbc`ca fYy`Y`n`]bhY[f]fUb]a]gkcf]hj Ua]`fD-GBL`E`G][bU]nUW`g_]`dfcfc`c``a YX
WYbhfU`Ua]`E`8`cdc`b]`bUgkcf]hj. `Uj hYbh`_UW`UVfYnj fj] bY[U`hYfa]bU`U`E`%`XY.
N[fUXVUdfYg_i yU`bY[U`b]nU]b`bUa Yb`dfYg_i yUb`U`fHGG/ HDL`E`GdYWZ`_UW`U`nU
j gkcf]hc`_c`JDB`V`gkcf]hj Y

Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Cordless terminal authentication supplementary services; Part 1: Test Suite Structure and Test Purposes (TSS&TP) specification for the VPN b service entry point

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**Private Integrated Services Network (PISN);
Inter-exchange signalling protocol;
Cordless terminal authentication
supplementary services;
Part 1: Test Suite Structure and Test Purposes (TSS&TP)
specification for the VPN "b" service entry point**

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document covers the Private Integrated Service Network (PISN) Inter-exchange signalling protocol -Call Completion supplementary service - Test Suite Structure and Test Purposes (TSS&TP) specification.

The present document is part 1 of a multi-part deliverable covering the Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Cordless terminal authentication supplementary services, as identified below:

- Part 1:** "Test Suite Structure and Test Purposes (TSS&TP) specification for the VPN "b" service entry point";
- Part 2:** "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the VPN "b" service entry point".

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1 Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) for the Cordless Terminal Authentication supplementary services of the Inter-exchange signalling protocol for Private Integrated Services Networks (PISN).

The objective of this TSS and TPs specification is to provide conformance tests, which give a greater probability of inter-operability. The TSS and TPs specification covers the procedures described in EN 300 366 [13].

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [3], ISO/IEC 9646-2 [4] and ISO/IEC 9646-3 [14]) is used as basis for the test methodology.

The Test Suite Structure and Test Purposes specified in this standard are only intended for VPN scenarios at the "b" service entry point.

The VPN "b" service entry point is defined in EN 301 060-1 [7] and ETR 172 [8].

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
 - For a specific reference, subsequent revisions do not apply.
 - For a non-specific reference, the latest version applies.
 - A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] ETSI ETS 300 239 (1995): "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Generic functional protocol for the support of supplementary services [ISO/IEC 11582 (1995), modified]".
- [2] ETSI ETS 300 406 (1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [3] ISO/IEC 9646-1 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 1: General concepts".
- [4] ISO/IEC 9646-2 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 2: Abstract test suite specification".
- [5] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".
- [6] ITU-T Recommendation I.210 (1993): "Principles of the telecommunication services supported by an ISDN and the means to describe them".
- [7] ETSI EN 301 060-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Basic call control; Enhancement at the "b" service entry point for Virtual Private Network (VPN) applications; Part 1: Protocol specification".
- [8] ETSI ETR 172: "Business TeleCommunications (BTC); Virtual Private Networking (VPN); Services and networking aspects; Standardization requirements and work items".

- [9] ETSI ETS 300 692: "Private Integrated Services Network (PISN); Cordless Terminal Mobility (CTM); Location handling services; Functional capabilities and information flows".
- [10] ETSI EN 300 171: "Private Telecommunication Network (PTN); Specification, functional models and information flows; Control aspects of circuit mode basic services".
- [11] ETSI I-ETS 300 809: "Private Integrated Services Network (PISN); Cordless Terminal Mobility (CTM); Inter-exchange signalling protocol; Cordless terminal authentication supplementary services".
- [12] ETSI I-ETS 300 808: "Private Integrated Services Network (PISN); Cordless Terminal Mobility (CTM); Inter-exchange signalling protocol; Cordless terminal outgoing call additional network feature".
- [13] ETSI EN 300 366: "Universal Personal Telecommunication (UPT); UPT phase 2; Functional specification of the interface of a UPT Integrated Circuit Card (ICC) and Card Accepting Devices (CADs); UPT card accepting Dual Tone Multiple Frequency (DTMF) device; Conformance test specification".
- [14] ISO/IEC 9646-3: "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [15] ISO/IEC 11571: "Information technology - Telecommunications and information exchange between systems - Private Integrated Services Networks - Addressing".
- [16] ISO/IEC 11579-1: "Information technology - Telecommunications and information exchange between systems - Private integrated services network - Part 1: Reference configuration for PISN Exchanges (PINX)".
- [17] ETSI EN 300 415: Do not exist as an EN but as an ETS "Private Integrated Services Network (PISN); Terms and definitions".

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3 Definitions and abbreviations

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3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

Abstract Test Suite (ATS): refer to ISO/IEC 9646-1 [3]

Implementation Under Test (IUT): refer to ISO/IEC 9646-1 [3]

Protocol Implementation Conformance Statement (PICS): refer to ISO/IEC 9646-1 [3]

PICS proforma: refer to ISO/IEC 9646-1 [3]

Test Purpose (TP): refer to ISO/IEC 9646-1 [3]

Virtual Private Network (VPN): refer to EN 301 060-1 [7]

Application Protocol Data Unit (APDU): see ETS 300 239 [1]

Basic Service: see ITU-T Recommendation I.210 [6]

Complete Number: see ISO/IEC 11571 [15]

CTM user: see ETS 300 692 [9]

Home PINX: see ETS 300 692 [9]

Private Integrated Services Network Exchange (PINX): see ISO/IEC 11579-1 [16]

PISN Number: see ISO/IEC 11571 [15]

Signalling: see ITU-T Recommendation I.112 [5]

Supplementary Service: see ITU-T Recommendation I.210 [6]

User: see EN 300 171 [10]

Visitor area: see EN 300 415 [17]

Visitor PINX: see ETS 300 692 [9]

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

APDU	Application Protocol Data Unit
ASN.1	Abstract Syntax Notation number 1
ATS	Abstract Test Suite
BC	Basic Call
CR	Call Reference
CTM	Cordless Terminal Mobility
IE	Information Element
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
PINX	Private Integrated Services Network eXchange
PISN	Private Integrated Services Network
PIXIT	Protocol Implementation eXtra Information for Testing
PSS1	Private Integrated Signalling System Number 1
sc	call independent signalling connection
SS-CTAN	Supplementary service - Authentication of a PISN
SS-CTAT	Supplementary service - Authentication of a CTM user
T1	Timer T1
T2	Timer T2
T3	Timer T3
T4	Timer T4
T5	Timer T5
TP	Test Purpose
TSS	Test Suite Structure
VPN	Virtual Private Network

4 Test Suite Structure (TSS)

Signalling protocol for the support of SS-CTAT

Group

SS-CTAT signalling procedures

Actions at the Home PINX for initiation of SS-CTAT	Home01
Actions at the Home PINX for requesting authentication parameters	Home02
Actions at the Home PINX when fetching authentication parameters	Home03
Actions at the Visitor PINX for execution of SS-CTAT	Visit01
Actions at the Visitor PINX for requesting authentication parameters	Visit02
Actions at the Authentication Server PINX	Auth

Protocol interaction between SS-CTAT and Cordless Terminal Location Registration (SS-CTLR)

Actions at the Previous Visitor PINX	PrevVisit
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Signalling protocol for the support of SS-CTAN

Group

SS-CTAN signalling procedures

Actions at the Visitor PINX	Visit
Actions at the Home PINX	Home
Actions at the Authentication Server PINX	Auth

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5 Test Purposes (TP)

5.1 Introduction

For each test requirement a TP is defined.

5.1.1 TP naming convention

Tps are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see table 1).

Table 1: TP identifier naming convention scheme

Identifier: <ss>_<group>_<nnn>			
<ss>	=	supplementary service:	"CTAT" or "CTAN"
<group>	=	group	up to 8 digit field representing group reference according to TSS
<nnn>	=	sequential number	(001-999)

5.1.2 Source of TP definition

The TPs are based on I-ETS 300 809 [11].

5.1.3 TP structure

Each TP has been written in a manner, which is consistent with all other TPs. The intention of this is to make the TPs more readable and checkable. A particular structure has been used and this is illustrated in table 2. This table should be read in conjunction with any TP, i.e. use a TP as an example to fully understand the table.

Table 2: Structure of a single TP for SS-CTAT

TP part	Text	Example
Header	<Identifier> <i>tab</i> <paragraph number in base ETS> <i>tab</i>	see table 1 subclause 0.0.0
Stimulus	Ensure that the IUT in the <basic call state> or <CTAT/CTAN state> <trigger> <i>see below for message structure</i> or <goal>	state 3 or CTAT/CTAN-Idle, etc. receiving a XXXX message to request a ...
Reaction	<action> <conditions> <i>if the action is sending</i> <i>see below for message structure</i> <next action>, etc. and remains in the same state or and enters state <state>	sends, saves, does, etc. using en bloc sending, ...
Message structure	<message type> message containing a a) <info element> information element with b) a <field name> encoded as or including <coding of the field> and <i>back to a or b</i> ,	SETUP, FACILITY, CONNECT, ... Bearer capability, Facility, ...
Selection	Selection criteria reference	Behaviour as Visitor PINX for SS-CTAT. PICS: A1
NOTE 1:	In order to use the same structure as for test group selection, the selection criteria is indicated at the bottom of the test purpose. SIST EN 301 492-1 V1.1.2:2005	
NOTE 2:	Unless specified the messages are valid and contain at least the mandatory information elements and possibly optional information elements, the information elements are valid and contain at least the mandatory parameters and possibly optional parameters.	

5.1.4 Test strategy

As the base standard I-ETS 300 809 [11] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification I-ETS 300 809 [11].

The TPs are only based on conformance requirements related to the externally observable behaviour of the IUT, and are limited to conceivable situations to which a real implementation is likely to be faced (ETS 300 406 [2]).

5.2 TPs for SS-CTAT and SS-CTAN

All PICS items referred to in this subclause are as specified in I-ETS 300 809 [11] unless indicated otherwise by another numbered reference.

Unless specified:

- The messages indicated are valid and contain at least the mandatory information elements and possibly optional information elements.

The information elements indicated are valid and contain at least the mandatory parameters and possibly optional parameters.