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NUgYVbc`ca fYÿ^Y`n`]bhY[f]fUb]a]`gkcf]hj Ua]`fD-GBL`E`G][bU]nUW]g_]`dfcfc_c``a YX
 WYbhfUua]`E`8cdc`b]bUgkcf]hj. `dfYXUU_]WU]nU]j gkcdbc`fc _c`JDB`V`gkcf]hj Y`E`
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Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Call transfer supplementary service for the VPN b service entry point; Part 1: Test Suite Structure and Test Purposes (TSS&TP) specification

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**Private Integrated Services Network (PISN);
Inter-exchange signalling protocol;
Call transfer supplementary service
for the VPN "b" service entry point;
Part 1: Test Suite Structure and Test Purposes (TSS&TP)
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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 is part 1 of a multi-part deliverable covering the Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Call transfer supplementary service for the VPN "b" service entry point, as identified below:

Part 1: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 2: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma".

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1 Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) for the Call Transfer supplementary service 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 300 261 [3].

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [4], ISO/IEC 9646-2 [5] and ISO/IEC 9646-3 [6]) 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 [9] and ETR 172 [15].

2 References

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

- 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.

- <https://standards.iteh.ai/catalog/standards/sist/09dffc-d-85c3-4667-9eaa-171925-3701490-1-v1.1.2-2005>
- [standards.iteh.ai](https://standards.iteh.ai/catalog/standards/sist/09dffc-d-85c3-4667-9eaa-171925-3701490-1-v1.1.2-2005)
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- [1] ETSI EN 300 172 (V1.4): "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Circuit-mode basic services [ISO/IEC 11572 (1996) modified]".
- [2] ETSI ETS 300 239: "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Generic functional protocol for the support of supplementary services [ISO/IEC 11582 (1995), modified]".
- [3] ETSI EN 300 261: "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Call transfer supplementary service [ISO/IEC 13869 (1995) modified]".
- [4] ISO/IEC 9646-1 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 1: General concepts".
- [5] ISO/IEC 9646-2 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 2: Abstract test suite specification".
- [6] ISO/IEC 9646-3: "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [7] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".
- [8] ITU-T Recommendation I.210 (1993): "Principles of telecommunication services supported by an ISDN and the means to describe them".
- [9] ETSI EN 301 060-1 (V1.2.2): "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".
- [10] ETSI ETS 300 260: "Private Integrated Services Network (PISN); Specification, functional models and information flows; Call transfer supplementary service".

- [11] ETSI EN 300 171: "Private Integrated Services Network (PISN); Specification, functional models and information flows; Control aspects of circuit-mode basic services [ISO/IEC 11574 (1994) modified]".
- [12] ETSI ETS 300 238: "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Name identification supplementary services [ISO/IEC 13868 (1995) modified]".
- [13] ISO/IEC 11579-1: "Information technology; Telecommunications and information exchange between systems; Private integrated services network; Part 1: Reference configuration for PISN Exchanges (PINX)".
- [14] 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".
- [15] ETSI ETR 172: "Business TeleCommunications (BTC); Virtual Private Networking (VPN); Services and networking aspects; Standardization requirements and work items".
- [16] ETS 300 406 (1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

3 Definitions and abbreviations

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 [4]

Implementation Under Test (IUT): refer to ISO/IEC 9646-1 [4]

Protocol Implementation Conformance Statement (PICS): refer to ISO/IEC 9646-1 [4]

PICS proforma: refer to ISO/IEC 9646-1 [4]

Test Purpose (TP): refer to ISO/IEC 9646-1 [4]

alerting: see EN 300 261 [3]

answered: see EN 300 261 [3]

Application Protocol Data Unit (APDU): see ETS 300 239 [2]

basic service: see ITU-T Recommendation I.210 [8]

gateway PINX: see EN 300 172 [1]

interpretation APDU: see ETS 300 239 [2]

originating PINX: see ETS 300 239 [2]

primary call: see ETS 300 260 [10]

private: see ISO/IEC 11579-1 [13]

Private Integrated Services Network (PISN): see ISO/IEC 11579-1 [13]

Private Integrated Services Network Exchange (PINX): see ISO/IEC 11579-1 [13]

public ISDN: see ISO/IEC 11579-1 [13]

secondary call: see EN 300 261 [3]

signalling: see ITU-T Recommendation I.112 [7]

supplementary service: see ITU-T Recommendation I.210 [8]

supplementary services control entity: see ETS 300 239 [2]

telecommunication network: see ISO/IEC 11579-1 [13]

terminal: see ISO/IEC 11579-1 [13]

terminating PINX: see ETS 300 239 [2]

transfer by join: see EN 300 261 [3]

transfer by rerouteing: see EN 300 261 [3]

transit PINX: see ETS 300 239 [2]

user: see EN 300 171 [11]

user A: see EN 300 261 [3]

user B: see EN 300 261 [3]

user C: see EN 300 261 [3]

3.2 Abbreviations

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

APDU	Application Protocol Data Unit
ATS	Abstract Test Suite
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
PINX	Private Integrated Services Network eXchange
PISN	Private Integrated Services Network
SS-CT	Call Transfer Supplementary Service
TP	Test Purpose
TSS	Test Suite Structure
VPN	Virtual Private Network

4 Test Suite Structure (TSS)

Signalling procedures at the VPN b interface	Group
Actions for transfer by join at the Transferring PINX	Trans01
Actions for transfer by rerouting at the Transferring PINX	Trans02
Actions for transfer by join at the Primary PINX	Primr01
Actions for transfer by rerouting at the Primary PINX	Primr02
Actions for transfer by join at the Secondary PINX	Secnd01
Actions for transfer by rerouting at the Secondary PINX	Secnd02
Subsequent actions at the Primary and the Secondary PINX	Subsq01
Protocol interactions between SS-CT and other supplementary services and ANFs	Inter01

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: "CT"
<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 EN 300 261 [3].

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 CT

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 <CT state> <trigger> <i>see below for message structure</i> or <goal>	state 3 or CT-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	Support of SS-CT by join. PICS:A1
NOTE 1: In order to use the same structure as for the test group selection, the selection criteria is indicated at the bottom of the test purpose.		
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 EN 300 261 [3] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the corresponding PICS proforma. 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 [16]).

All the test purposes are mandatory unless they have a selection criteria. Optional test purposes (with selection criteria), are applicable according to the configuration options of the IUT. The configuration options shall be covered by a PICS item.

5.2 TPs for SS-CT

All PICS items referred to in this subclause are as specified in ETS 300 261 [3] unless indicated otherwise by another numbered reference.

Unless specified:

- Only the requirements from the point of view of the VPN "b" service entry point are considered. This implies that the interactions with other networks are out of scope of this specification and causes that the corresponding Test Purposes are not included in this specification.
- The messages indicated are valid and contain at least the mandatory information elements and possibly optional information elements.