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Digitalno omreģje z integriranimi storitvami (ISDN) - Protokol digitalne naroļniģke signalizacije ģt. 1 (DSS1) - Generiļ ni funkcijski protokol za podporo dopolnilnih storitev v storitveni-vstopni toļ ki b za navidezno zasebne omreģne (VPN) aplikacije - 3. del: Zgradba preskuģalnega niza in namen preskuģanja (TSS&TP) - Specifikacija za uporabnika

Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Generic functional protocol for the support of supplementary services at the b service entry point for Virtual Private Network (VPN) applications; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user

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Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Generic functional protocol for the support of supplementary services at the "b" service entry point for Virtual Private Network (VPN) applications; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification for the user

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Signalling Protocols and Switching (SPS).

The present document is part 3 of a multi-part European Standard (Telecommunications series) covering the Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Generic functional protocol for the support of supplementary services at the "b" service entry point for Virtual Private Network (VPN) applications, as identified below:

Part 1: "Protocol specification";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Test Suite Structure and Test Purposes (TSS&TP), specification for the user";

Part 4: "Abstract Test Suite (ATS), user";

Part 5: "Test Suite Structure and Test Purposes (TSS&TP), specification for the network";

Part 6: "Abstract Test Suite (ATS), network".

National transposition dates	
Date of adoption of this EN:	30 October 1998
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1 Scope

This third part of EN 301 061 specifies the Test Suite Structure and Test Purposes (TSS&TP) for the user side of the T reference point (as defined in ITU-T Recommendation I.411 [10]) of implementations conforming to the stage three standard for the generic functional protocol for the support of supplementary services for Virtual Private Network (VPN) applications for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, EN 301 061-1 [2].

2 Normative references

References may be made to:

a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or

b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or

c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or

d) publications without mention of a specific version, in which case 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] EN 300 196-1 (V1.2): "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[2] EN 301 061-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Generic functional protocol for the support of supplementary services at the "b" service entry point for Virtual Private Network (VPN) applications; Part 1: Protocol specification".

[3] EN 301 061-2: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Generic functional protocol for the support of supplementary services at the "b" service entry point for Virtual Private Network (VPN) applications; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

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

[5] ISO/IEC 9646-1 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 1: General concepts".

[6] ISO/IEC 9646-2 (1994): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 2: Abstract Test Suite specification".

[7] Void.

[8] ISO/IEC 11582 (1995): "Information technology; Telecommunications and information exchange between systems; Private Integrated Services Network; Generic functional protocol for the support of supplementary services; Inter-exchange signalling procedures and protocol".

[9] ITU-T Recommendation I.112 (1993): "Vocabulary and terms for ISDNs".

[10] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces; reference configurations".

3 Definitions and abbreviations

3.1 Definitions

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

3.1.1 Definitions related to conformance testing

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [5].

Protocol Implementation Conformance Statement (PICS): Refer to ISO/IEC 9646-1 [5].

PICS proforma: Refer to ISO/IEC 9646-1 [5].

Protocol Implementation eXtra Information for Testing (PIXIT): Refer to ISO/IEC 9646-1 [5].

PIXIT proforma: Refer to ISO/IEC 9646-1 [5].

Test Purpose (TP): Refer to ISO/IEC 9646-1 [5].

3.1.2 Definitions related to EN 301 061-1

component: See EN 300 196-1 [1], subclause 11.2.2.1.

invoke component: See EN 300 196-1 [1], subclause 11.2.2.1.

return error component: See EN 300 196-1 [1], subclause 11.2.2.1.

return result component: See EN 300 196-1 [1], subclause 11.2.2.1.

service; telecommunication service: See ITU-T Recommendation I.112 [9], definition 201.

3.2 Abbreviations

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

APDU	Application Protocol Data Unit
ATM	Abstract Test Method
ATS	Abstract Test Suite
GFT	Generic Functional Transport
IE	Information Element
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
NCICS	Networked Call Independent Connection oriented Signalling
PICS	Protocol Implementation Conformance Statement
PINX	Private Integrated services Network eXchange
PIXIT	Protocol Implementation eXtra Information for Testing
ROSE	Remote Operations Service Element
TP	Test Purpose
TSS	Test Suite Structure
VPN	Virtual Private Network
VPN-GFP	Generic Functional Protocol for the support of supplementary services for VPN

4 Test Suite Structure (TSS)

		group
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5.2.4.	ROSE requirement	U16

Figure 1: Test suite structure

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: **<ps>_<iut><group>_<nnn>**

<ps>	=	protocol specification:	"GFP"	
<iut>	=	type of IUT:	U	User
			N	Network
<group>	=	group	2 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 301 061-1 [2].

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 Generic Functional Protocol for the support of supplementary services for VPN (VPN-GFP)

TP part	Text	Example
Header	**<Identifier>** *tab* **<paragraph number in base ETS>** *tab*	see table 1 **subclause 0.0.0**
Stimulus	Ensure that the IUT in the <basic call state> ... <trigger> *see below for message structure* *or* <goal>	 N10 etc. receiving a XXXX message to request a ...
Reaction	<action> <conditions> *if the action is sending* *see below for message structure* <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> IE with *b)* a <field name> encoded as *or* including <coding of the field> and *back to a or b,*	SETUP, FACILITY, CONNECT, ... Bearer capability, Facility, ...
NOTE 1: TP are always applicable. Optional TPs are applicable according to the configuration options of the IUT. If the configuration option is covered by a Protocol Implementation Conformance Statement (PICS) item, a selection criteria is indicated, else the selection of the corresponding test cases will depend on test suite parameters Protocol Implementation eXtra Information for Testing (PIXIT) in the Abstract Test Suite (ATS). NOTE 2: Text in italics will not appear in TPs and text between <> is filled in for each TP and may differ from one TP to the next.		

5.1.4 Test strategy

As the base standard EN 301 061-1 [2] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification EN 301 061-2 [3].

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 [4]).

5.2 User TPs for VPN-GFP

All PICS items referred to in this subclause are as specified in EN 301 061-2 [3] unless indicated otherwise by another numbered reference.

Unless specified, the messages and IEs indicated are valid and contain at least the mandatory parameters and possibly optional parameters.

5.2.1 Common IE approach

Selection: IUT supports the common IE category. PICS: MCu 1.

The following TPs are testing the procedures associated with the transport of components using the messages for the establishment and clearing of calls.

The primitive exchanged between the different entities are not observable. Only the PDU exchanged between peer implementations can be observed.

So to check that the component is properly transmitted to the Generic Functional Transport (GFT) entity, it shall provoke a reaction from Remote Operations Service Element (ROSE) entity that will request the transmission of the corresponding component response. This component will be transmitted in a call related message with the same call reference, which is observable.