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8 [[]HJbc`ca fYy`n]bHY[f]fUb]a]g]cf]h] Ua]f]G8 BL`E`Dfclt_c`X][]HJbY`bUfc b]y`Y
g][bU]nUWY`yH`r%f8 GG%L`E`8 cdc`b]bUg]cf]h]j . bYXj ci a bUdfYXU`U`]WJf07 HL`E` " "
XY. `N[fUXVUdfYg_i yU`bY[U`b]nU]b`bUa Yb`dfYg_i yUb`U`fHGG/ HDL`E`GdYWZ`UWY`U
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Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Explicit Call Transfer (ECT) supplementary service; 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;
Explicit Call Transfer (ECT) supplementary service;
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 Services and Protocols for Advanced Networks (SPAN).

The present document is part 3 of a multi-part deliverable covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) Explicit Call Transfer (ECT) supplementary service, as described 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) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user";
- Part 5: "Test Suite Structure and Test Purposes (TSS&TP) specification for the network";
- Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

National transposition dates

Date of adoption of this EN:	17 May 2002
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1 Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) for the User side of the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 [7]) of implementations conforming to the stage three standard for the Explicit Call Transfer (ECT) supplementary service for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, EN 300 369-1 [1].

A further part of the present document specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma based on the present document. Other parts specify the TSS&TP and the ATS and partial PIXIT proforma for the Network side of the T reference point or coincident S and T reference point of implementations conforming to EN 300 369-1 [1].

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 and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

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6467/00a074/SIST-EN-300-369-3-V1-3-1-2005
- [1] ETSI EN 300 369-1 (V1.2.4): "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
 - [2] ETSI EN 300 369-2 (V1.2.4): "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".
 - [3] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
 - [4] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite Specification".
 - [5] ETSI EN 300 141-2 (V1.2.4): "Integrated Services Digital Network (ISDN); Call Hold (HOLD) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".
 - [6] ETSI EN 300 196-1 (V1.2.2): "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".
 - [7] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".
 - [8] ETSI EN 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".
 - [9] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".
 - [10] ITU-T Recommendation I.210 (1993): "Principles of telecommunication services supported by an ISDN and the means to describe them".

- [11] ETSI ETS 300 369-4: "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user".

3 Definitions and abbreviations

3.1 Definitions

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

3.1.1 Definitions related to conformance testing

abstract test case: Refer to ISO/IEC 9646-1 [3].

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].

Protocol Implementation eXtra Information for Testing (PIXIT): Refer to ISO/IEC 9646-1 [3].

PIXIT proforma: Refer to ISO/IEC 9646-1 [3].

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

3.1.2 Definitions related to EN 300 369-1

Call Held auxiliary state: See EN 300 196-1 [6], clause 7.1.2.

Call Reference (CR): See EN 300 403-1 [8], clause 4.3.

component: See EN 300 196-1 [6], clause 11.2.2.1.

idle auxiliary state: See EN 300 196-1 [6], clause 7.1.2.

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [9], definition 308.

invoke component: See EN 300 196-1 [6], clause 11.2.2.1.

return error component: See EN 300 196-1 [6], clause 11.2.2.1.

return result component: See EN 300 196-1 [6], clause 11.2.2.1.

served user: user who invokes the ECT supplementary service

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

supplementary service: See ITU-T Recommendation I.210 [10], clause 2.4.

user: DSS1 protocol entity at the User side of the user-network interface where a T reference point or coincident S and T reference point applies

user (S/T): DSS1 protocol entity at the User side of the user-network interface where a coincident S and T reference point applies

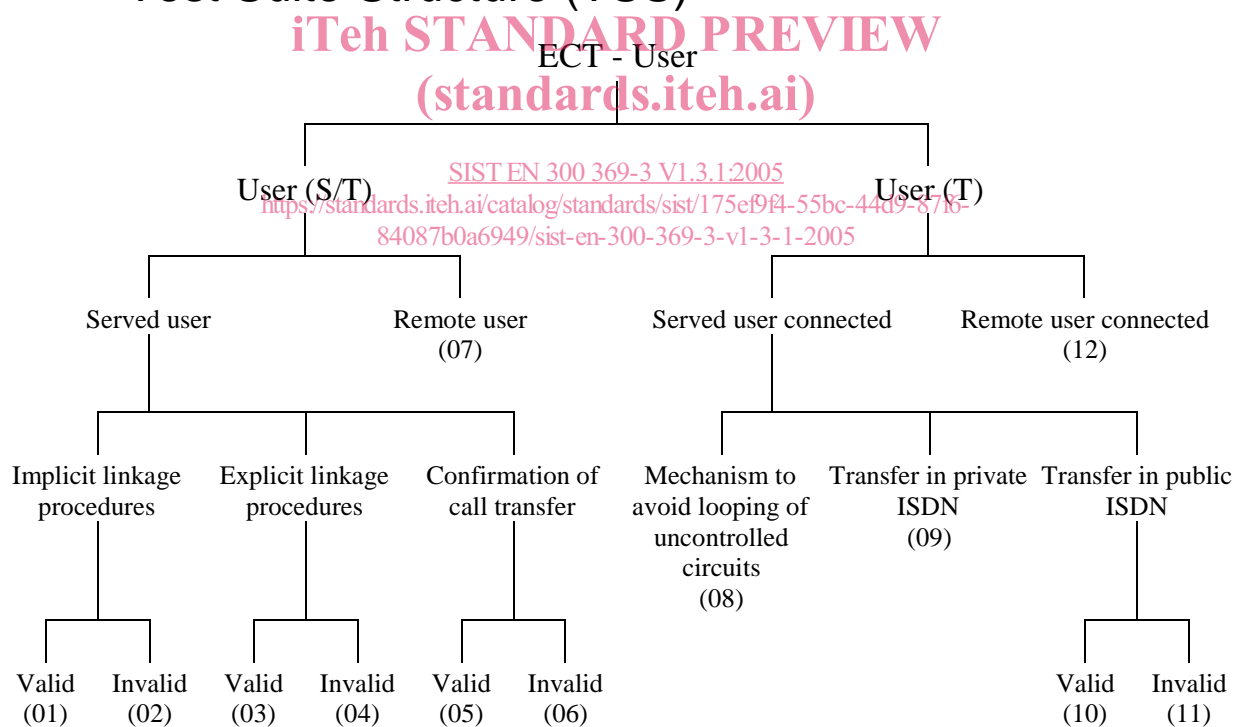
user (T): DSS1 protocol entity at the User side of the user-network interface where a T reference point applies (User is the Private ISDN)

3.2 Abbreviations

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

(Held)	Call Held auxiliary state
(Idle)	Idle auxiliary state
ATM	Abstract Test Method
ATS	Abstract Test Suite
CR	Call Reference
CR1	CR one
CR2	CR two
CR3	CR three
DSS1	Digital Subscriber Signalling System No. one
ECT	Explicit Call Transfer
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
TP	Test Purpose
TSS	Test Suite Structure
U04	Call Delivered call state
U10	Active call state

4 Test Suite Structure (TSS)



NOTE: Numbers in brackets represent group numbers and are used in TP identifiers.

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: <ss>_<iut><group>_<nnn>			
<ss>	=	supplementary service:	e.g. "ECT"
<iut>	=	type of IUT:	U User N Network
<group>	=	group	2 digit field representing group reference according to TSS
<nnn>	=	sequential number	(001-999)

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5.1.2 Source of TP definition

The TPs are based on EN 300 369-1 [1]. [SIST EN 300 369-3 V1.3.1:2005
https://standards.iteh.ai/catalog/standards/sist/175ef9f4-55bc-44d9-87f6-84087b0a6949/sist-en-300-369-3-v1-3-1-2005](https://standards.iteh.ai/catalog/standards/sist/175ef9f4-55bc-44d9-87f6-84087b0a6949/sist-en-300-369-3-v1-3-1-2005)

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

TP part	Text	Example
Header	<Identifier> <i>tab</i> <clause number in base EN> <i>tab</i> <type of test> <i>tab</i> <condition> <i>CR</i> .	see table 1 clause 0.0.0 valid, invalid, inopportune mandatory, optional, conditional
Stimulus	Ensure that the IUT in the <supplementary service state> and with CR1 in <basic call state> (<auxiliary state>) and with CR2 in <basic call state> (<auxiliary state>) and with CR3 in <basic call state> (<auxiliary state>) <trigger> <i>see below for message structure</i> <i>or</i> <goal>	ECT Implicit Request state U10 (Idle), U10 (Held), 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 enters <supplementary service state> <i>and/or</i> and remains in the same call state(s) <i>or</i> and enters call state <state> with CR<number(s)>	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 <i>or</i> including <coding of the field> and <i>back to a or b</i> .	SETUP, FACILITY, CONNECT, ... Bearer capability, Facility, ...
NOTE:	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.	

The convention generally used for the Call references in served user test purposes is:

- CR1 is the Call reference on which the EctExecute or ExplicitEctExecute invoke is sent.
- CR2 is the Call reference for the other call involved in the transfer (i.e. the call reference on which the EctLinkIdRequest is sent in the case of explicit linkage).
- CR3 is the Call reference of a third call.

An exception to this is the situation where both calls to be transferred are in state U10(idle); in this case:

- CR1 and CR2 are the call references of the two calls to be transferred.
- CRa is the call reference that the ExplicitEctExecute invoke is to be sent on (i.e. whichever of CR1 and CR2 the EctLinkIdRequest was not sent on).
- CRb is whichever of CR1 and CR2 the EctLinkIdRequest was sent on.

5.1.4 Test strategy

As the base standard EN 300 369-1 [1] contained no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification, EN 300 369-2 [2]. The criteria applied included the following:

- only the requirements from the point of view of the T or coincident S and T reference point are considered;
- whether or not a test case can be built from the TP is not considered.

5.2 User TPs for ECT

All PICS items referred to in this clause are as specified in EN 300 369-2 [2] unless indicated otherwise. Where there is a reference to the HOLD PICS this refers to EN 300 141-2 [5].

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.

5.2.1 User (S/T)

Selection: IUT supports coincident S and T reference point procedures. PICS: R 3.1.

5.2.1.1 Served user

Selection: IUT can handle two calls.

Selection: IUT supports user requirements at the interface of the served user: PICS R 4.1.

5.2.1.1.1 Implicit linkage procedures

5.2.1.1.1.1 Valid

ECT_U01_001

clause 9.2.1.1

mandatory

Ensure that the IUT in the ECT Idle state, with CR1 in call state U10 (Held) and CR2 in call state U10 (Idle) to request ECT using implicit linkage procedure,

sends a FACILITY message with CR1 containing a Facility information element with an EctExecute invoke component and enters the ECT Implicit Request state and remains in the same call states.

ECT_U01_002

clause 9.2.1.1 optional

Ensure that the IUT in the ECT Idle state, with CR1 in call state U10 (Held) and CR2 in call state U04 (Idle) to request ECT using implicit linkage procedure,

sends a FACILITY message with CR1 containing a Facility information element with an EctExecute invoke component and enters the ECT Implicit Request state and remains in the same call states.

Selection: IUT supports transfer with one answered and one alerting call. PICS: MC 3.

ECT_U01_003

clause 9.2.1.1

optional

Ensure that the IUT in the ECT Idle state, with CR1 in call state U04 (Held) and CR2 in call state U10 (Idle) to request ECT using implicit linkage procedure,

sends a FACILITY message with CR1 containing a Facility information element with an EctExecute invoke component and enters the ECT Implicit Request state and remains in the same call states.

Selection: IUT supports holding a call in the Call Delivered state U4. HOLD PICS MC1.2.

Selection: IUT supports transfer with one answered and one alerting call. PICS: MC 3.

ECT_U01_004

clause 9.2.1.2

mandatory

Ensure that the IUT in the ECT Implicit Request state, with CR1 in call state U10 (Held) and CR2 in call state U10 (Idle) receiving a valid FACILITY message with CR1 containing a Facility information element with an EctExecute return error component,

enters the ECT Idle state and remains in the same call states.

ECT_U01_005

clause 9.2.1.2

optional

Ensure that the IUT in the ECT Implicit Request state, with CR1 in call state U10 (Held) and CR2 in call state U04 (Idle) receiving a valid FACILITY message with CR1 containing a Facility information element with an EctExecute return error component,

enters the ECT Idle state and remains in the same call states.

Selection: IUT supports transfer with one answered and one alerting call. PICS: MC 3.