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**Integrated Services Digital Network (ISDN);
Three-Party (3PTY) supplementary service;
Digital Subscriber Signalling System No. one (DSS1) protocol;
Part 5: Test Suite Structure and Test Purposes (TSS&TP)
specification for the network**

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Contents

Foreword	5
1 Scope	7
2 Normative references	7
3 Definitions	8
3.1 Definitions related to conformance testing	8
3.2 Definitions related to ETS 300 188-1	8
4 Abbreviations	9
5 Test Suite Structure (TSS)	10
6 Test Purposes (TP)	10
6.1 Introduction	10
6.1.1 TP naming convention	10
6.1.2 Source of TP definition	10
6.1.3 TP structure	10
6.1.4 Test strategy	11
6.2 Network TPs for 3PTY	11
6.2.1 Served user procedures	11
6.2.2 Remote user procedures	17
7 Compliance	17
8 Requirements for a comprehensive testing service	18
History	19

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is part 5 of a multi-part standard covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) Three-Party (3PTY) 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: "TSS&TP specification for the network";

Part 6: "ATS and partial PIXIT proforma specification for the network".

Transposition dates	
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1 Scope

This fifth part of ETS 300 188 specifies the Test Suite Structure and Test Purposes (TSS&TP) for the Network 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 Three-Party (3PTY) supplementary service for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, ETS 300 188-1 [1].

A further part of this ETS specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma based on this ETS. Other parts specify the TSS&TP and the ATS and partial PIXIT proforma for the User side of the T reference point or coincident S and T reference point of implementations conforming to ETS 300 188-1 [1].

2 Normative references

This ETS incorporates by dated and 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 ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 188-1 (1993): "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [2] ETS 300 188-2 (1995): "Integrated Services Digital Network (ISDN); Three-Party (3PTY) 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 - OSI Conformance Testing Methodology and Framework; Part 1: General Concepts".
- [4] ISO/IEC 9646-2: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 2: Abstract Test Suite specification".
- [5] ISO/IEC 9646-3: "Information Technology - OSI Conformance Testing Methodology and Framework; Part 3: The Tree and Tabular Combined Notation".
- [6] ETS 300 196-1 (1993): "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] ETS 300 102-1: "Integrated Services Digital Network (ISDN); User-network interface layer 3; Specifications for basic call control".
- [9] ITU-T Recommendation I.112 (1993): "Vocabulary and terms for ISDNs".
- [10] CCITT Recommendation E.164 (1991): "Numbering plan for the ISDN era".
- [11] ITU-T Recommendation I.210 (1993): "Principles of the telecommunication services supported by an ISDN and the means to describe them".

3 Definitions

For the purposes of this ETS, the following definitions apply:

3.1 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].

active test: A test case where the IUT is required to send a particular message, but not in reaction to a received message. This would usually involve the use of PIXIT information to see how this message can be generated and quite often is specified in an ATS using an implicit send event.

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

implicit send event: Refer to ISO/IEC 9646-3 [5].

lower tester: Refer to ISO/IEC 9646-1 [3].

passive test: A test case where the IUT is required to respond to a protocol event (e.g. received message) with another protocol event (sends message) and normally does not require any special operator intervention such as is associated with the implicit send event.

point of control and observation: 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].

system under test: Refer to ISO/IEC 9646-1 [3].

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

3.2 Definitions related to ETS 300 188-1

3PTY Active state: An occurrence of the 3PTY supplementary service exists.

3PTY Await Hold state: A Hold function should be initiated by the user prior to ending of the 3PTY supplementary service.

3PTY Await Hold And Retrieve state: A Hold function and a Retrieve function should be initiated by the user prior to ending of the 3PTY supplementary service.

3PTY Await Retrieve state: A Retrieve function should be initiated by the user prior to ending of the 3PTY supplementary service.

3PTY Idle state: An occurrence of the 3PTY supplementary service has not been requested.

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

call reference: See ETS 300 102-1 [8], subclause 4.3.

component: See ETS 300 196-1 [6], subclause 11.2.2.1.

Idle auxiliary state: See ETS 300 196-1 [6], subclause 7.1.2.

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

invoke component: See ETS 300 196-1 [6], subclause 11.2.2.1.

ISDN number: A number conforming to the numbering and structure specified in CCITT Recommendation E.164 [10].

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

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

network (T): The DSS1 protocol entity at the Network side of the user-network interface where a T reference point applies (Network connected to Private ISDN).

return error component: See ETS 300 196-1 [6], subclause 11.2.2.1.

return result component: See ETS 300 196-1 [6], subclause 11.2.2.1.

served user: The served user is the user who invokes the 3PTY supplementary service.

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

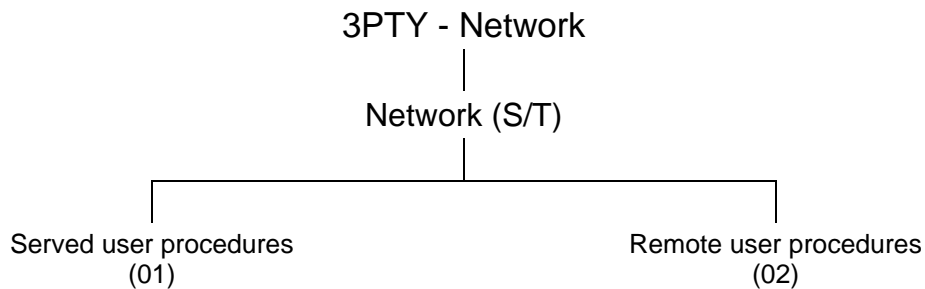
supplementary service: See ITU-T Recommendation I.210 [11], subclause 2.4.

4 Abbreviations

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

(Held)	Call Held auxiliary state
(Idle)	Idle auxiliary state
3PTY	Three-Party
ATM	Abstract Test Method
ATS	Abstract Test Suite
CEI	Connection Endpoint Identifier
CR1	Call Reference for a call in the Active call state and Idle auxiliary state
CR2	Call Reference for a call in the Active call state and Call Held auxiliary state
DSS1	Digital Subscriber Signalling System No. one
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
N00	Idle call state
N04	Call Delivered call state
N10	Active call state
N12	Disconnect Indication call state
N19	Release Request call state
TP	Test Purpose
TSS	Test Suite Structure

5 Test Suite Structure (TSS)



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

Figure 1: Test suite structure

6 Test Purposes (TP)

6.1 Introduction

For each test requirement a TP is defined.

6.1.1 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. "3PTY"	
<iut>	=	type of IUT:	U User N Network
<group>	=	group	2 digit field representing group reference according to TSS
<nnn>	=	sequential number	(001-999)

6.1.2 Source of TP definition

The test purposes are based on ETS 300 188-1 [1], clauses 9, 10 and 14.

6.1.3 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.

3PTY_N01_003 **subclause 9.2.1.2, 1st & 2nd paragraph** **inopportune** **mandatory**

Ensure that the IUT, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR1 containing a Facility information element with a Begin3PTY invoke component,

 responds with a FACILITY or INFORMATION message containing a Facility information element with a Begin3PTY return error component coded as "invalidCallState" and remains in the same state for CR1.

3PTY_N01_004 **subclause 9.2.1.2, 1st & 2nd paragraph** **inopportune** **mandatory**

Ensure that the IUT, with CR1 in call state N04 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR1 containing a Facility information element with a Begin3PTY invoke component,

 responds with a FACILITY, PROGRESS, CONNECT or INFORMATION message containing a Facility information element with a Begin3PTY return error component coded as "invalidCallState" and continues normal call handling for CR1.

NOTE 1: This is the case where "no Active-Idle connection exists for CEI value".

3PTY_N01_005 **subclause 9.2.1.2, 1st & 2nd paragraph** **inopportune** **optional**

Ensure that the IUT, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held) and a third in call state N10 (Idle), on receipt of a FACILITY message for CR1 containing a Facility information element with a Begin3PTY invoke component,

 responds with a FACILITY or INFORMATION message containing a Facility information element with a Begin3PTY return error component coded as "invalidCallState" and remains in the same state for CR1.

Selection: IUT must be able to support 3 calls.

NOTE 2: This is the case where "more than one Active-Idle connection exists for CEI value".

3PTY_N01_006 **subclause 9.2.1.2, 1st & 2nd paragraph** **inopportune** **mandatory**

Ensure that the IUT in 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR2 containing a Facility information element with a Begin3PTY invoke component, and a three-way bridge is not available for use,

 responds with a FACILITY or INFORMATION message containing a Facility information element with a Begin3PTY return error component coded as "resourceUnavailable" and remains in the same states.

3PTY_N01_007 **subclause 9.2.1.2, 1st & 2nd paragraph** **inopportune** **mandatory**

Ensure that the IUT in 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR2 containing a Facility information element with a Begin3PTY invoke component and a three-way bridge already exists for one or both of the connections (relating to the same served user),

 responds with a FACILITY or INFORMATION message containing a Facility information element with a Begin3PTY return error component coded as "supplementaryServiceInteractionNotAllowed" and remains in the same state for CR2.

3PTY_N01_008 **subclause 9.2.1.2, 1st & 2nd paragraph** **inopportune** **mandatory**

Ensure that the IUT in 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR2 containing a Facility information element with a Begin3PTY invoke component and the provision of the service is precluded by a procedure within ETS 300 195,

 responds with a FACILITY or INFORMATION message containing a Facility information element with a Begin3PTY return error component coded as "supplementaryServiceInteractionNotAllowed" and remains in the same state for CR2.

3PTY_N01_009 **subclause 9.2.1.2, 4th paragraph** **invalid** **mandatory**

Ensure that the IUT in 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a CONNECT ACKNOWLEDGE message for CR2 containing a Facility information element with a Begin3PTY invoke component,

 responds with a FACILITY or INFORMATION message containing a Facility information element with a Begin3PTY return error component coded as "invalidCallState" and remains in the same state for CR2.

3PTY_N01_010 **subclause 9.2.1.2, 4th paragraph** **invalid** **mandatory**
Ensure that the IUT in 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a HOLD message for CR1 containing a Facility information element with a Begin3PTY invoke component,
 responds with a HOLD ACKNOWLEDGE message containing a Facility information element with a Begin3PTY return error component coded as "invalidCallState" and enters the Call Held auxiliary state for CR1.

3PTY_N01_011 **subclause 9.2.1.2, 6th paragraph** **inopportune** **mandatory**
Ensure that the IUT in 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR2 containing a Facility information element with a Begin3PTY reject component,
 takes no action and remains in the same state.

3PTY_N01_012 **subclause 9.2.1.2, 7th paragraph** **inopportune** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a RETRIEVE message for CR2,
 responds with a RETRIEVE REJECT message with cause #29 "Facility rejected" and remains in the same state.

3PTY_N01_013 **subclause 9.2.2.1 a)** **valid** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a DISCONNECT message for CR1,
 sends a RELEASE message and enters N19 for CR1 and enters the 3PTY Await Retrieve state.

3PTY_N01_014 **subclause 9.2.2.1 a)** **valid** **mandatory**
Ensure that the IUT in 3PTY Await Retrieve state, with CR1 in call state N00 and CR2 in call state N10 (Held), after clearing was initiated by the receipt of a DISCONNECT message for CR1, on receipt of a RETRIEVE message for CR2,
 sends a RETRIEVE ACKNOWLEDGE message and enters N10(Idle) for CR2 and enters the 3PTY Idle state.

3PTY_N01_015 **subclause 9.2.2.1 b)** **valid** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a DISCONNECT message for CR2,
 sends a RELEASE message and enters N19 for CR2 and enters the 3PTY Idle state.

3PTY_N01_016 **subclause 9.2.3.1, 2nd paragraph** **valid** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of DISCONNECT messages for both calls but the first one is for CR1,
 sends a RELEASE message and enters state N19 for CR1.

NOTE 3: First DISCONNECT message is for the Active-Idle call.

3PTY_N01_017 **subclause 9.2.3.1, 2nd paragraph** **valid** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of DISCONNECT messages for both calls but the first one is for CR2,
 sends a RELEASE message and enters state N19 for CR2.

NOTE 4: The first DISCONNECT message is for the Active-Held call.

3PTY_N01_018 **subclause 9.2.4.1 a)** **valid** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR2 containing a Facility information element with an End3PTY invoke component,
 responds with a FACILITY message for CR2 containing a Facility information element with an End3PTY return result component and enters the 3PTY Await Hold And Retrieve state.

NOTE 5: Private communication with the Active-Held remote user.

3PTY_N01_019 **subclause 9.2.4.1 a)** **valid** **mandatory**
Ensure that the IUT in the 3PTY Await Hold And Retrieve state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a HOLD message for CR1, responds with a HOLD ACKNOWLEDGE message for CR1 and enters N10 (Held) state for CR1 and enters the 3PTY Await Retrieve state.

NOTE 6: Private communication with the Active-Held remote user.

3PTY_N01_020 **subclause 9.2.4.1 a)** **valid** **mandatory**
Ensure that the IUT in 3PTY Await Retrieve state, with CR1 in call state N10 (Held) and CR2 in call state N10 (Held), on receipt of a RETRIEVE message for CR2, responds with a RETRIEVE ACKNOWLEDGE message for CR2 and enters N10 (Idle) state for CR2 and enters the 3PTY Idle state.

NOTE 7: Private communication with the Active-Held remote user.

3PTY_N01_021 **subclause 9.2.4.1 a) & Fig 2.5 & 2.6** **valid** **mandatory**
Ensure that the IUT in the 3PTY Await Retrieve state, with CR1 in call state N00, after clearing of CR1 while in the 3PTY Await Hold And Retrieve state, and CR2 in call state N10 (Held), on receipt of a DISCONNECT message for CR2, sends a RELEASE message and enters N19 for CR2 and enters the 3PTY Idle state.

NOTE 8: Private communication with the Active-Held remote user.

3PTY_N01_022 **subclause 9.2.4.1 a) & Fig 2.5 & 2.6** **valid** **mandatory**
Ensure that the IUT in the 3PTY Await Retrieve state, with CR1 in call state N10 (Held) and CR2 in call state N10 (Held), on receipt of a DISCONNECT message for CR2, sends a RELEASE message and enters N19 for CR2 and enters the 3PTY Idle state.

NOTE 9: The 3PTY Await Retrieve state may be entered when establishing a private communication with a remote user whose call is in the Held auxiliary state. Normally this procedure involves the holding of the Idle call and retrieving of the Held call. The 3PTY Await Retrieve state is entered once the Idle call is put on hold and before the Held call is retrieved.

3PTY_N01_023 **subclause 9.2.4.1 a) & Fig 2.6** **valid** **mandatory**
Ensure that the IUT in the 3PTY Await Hold And Retrieve state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a DISCONNECT message for CR1, sends a RELEASE message and enters N19 for CR1 and enters the 3PTY Await Retrieve state.

NOTE 10: The 3PTY Await Hold And Retrieve state is only entered when there is an attempt to establish a private communication with a remote user whose call is in the Held auxiliary state.

3PTY_N01_024 **subclause 9.2.4.1 a) & Fig 2.6** **valid** **mandatory**
Ensure that the IUT in the 3PTY Await Hold And Retrieve state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a DISCONNECT message for CR2, sends a RELEASE message and enters N19 for CR2 and enters the 3PTY Idle state.

NOTE 11: The 3PTY Await Hold And Retrieve state is only entered when there is an attempt to establish a private communication with a remote user whose call is in the Held auxiliary state.

3PTY_N01_025 **subclause 9.2.4.1 a) & Fig 2.7** **valid** **mandatory**

Ensure that the IUT in the 3PTY Await Hold state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Idle), the call associated with CR2 having been retrieved from the call Held state, on receipt of a DISCONNECT message for CR1,

sends a RELEASE message and enters N19 for CR1, and enters the 3PTY Idle state.

NOTE 12: The 3PTY Await Hold state is only entered when there is an attempt to establish a private communication with a remote user whose call is in the Held auxiliary state. Normally this procedure involves the holding of the Idle call and retrieving of the Held call. The 3PTY Await Hold state is entered once the Held call is retrieved and before the Idle call is put on hold.

3PTY_N01_026 **subclause 9.2.4.1 b)** **valid** **mandatory**

Ensure that the IUT in 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR1 containing a Facility information element with an End3PTY invoke component,

responds with a FACILITY message for CR1 containing a Facility information element with an End3PTY return result component and enters the 3PTY Idle state.

NOTE 13: Private communication with the Active-Idle remote user.

3PTY_N01_027 **subclause 9.2.4.2, 1st paragraph** **inopportune** **mandatory**

Ensure that the IUT in 3PTY Idle state (i.e. no three-way conversation exists), with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR2 containing a Facility information element with an End3PTY invoke component,

responds with a FACILITY or INFORMATION message for CR2 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_028 **subclause 9.2.4.2, 1st paragraph** **inopportune** **mandatory**

Ensure that the IUT in 3PTY Await Hold And Retrieve state (i.e. no three-way conversation exists), with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR2 containing a Facility information element with an End3PTY invoke component,

responds with a FACILITY or INFORMATION message for CR2 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_029 **subclause 9.2.4.2, 1st paragraph** **inopportune** **mandatory**

Ensure that the IUT in 3PTY Await Retrieve state (i.e. no three-way conversation exists), with CR1 in call state N10 (Held) or N00 and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR2 containing a Facility information element with an End3PTY invoke component,

responds with a FACILITY or INFORMATION message for CR2 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_030 **subclause 9.2.4.2, 1st paragraph** **inopportune** **mandatory**

Ensure that the IUT in 3PTY Await Hold state (i.e. no three-way conversation exists), with CR1 in call state N10 (Idle) and CR2 in call state N10 (Idle), on receipt of a FACILITY message for CR2 containing a Facility information element with an End3PTY invoke component,

responds with a FACILITY or INFORMATION message for CR2 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_031 **subclause 9.2.4.2, 1st paragraph** **inopportune** **mandatory**

Ensure that the IUT in the 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of a FACILITY message for CR1 containing a Facility information element with an End3PTY invoke component but no three-way conversation exists,

responds with a FACILITY or INFORMATION message for CR1 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_032 **subclause 9.2.4.2, 2nd paragraph** **inopportune** **mandatory**
Ensure that the IUT in the 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of an INFORMATION message for CR2 containing a Facility information element with an End3PTY invoke component but no three-way conversation exists,
 responds with a FACILITY or INFORMATION message for CR2 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_033 **subclause 9.2.4.2, 2nd paragraph** **inopportune** **mandatory**
Ensure that the IUT in the 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of an INFORMATION message for CR1 containing a Facility information element with an End3PTY invoke component but no three-way conversation exists,
 responds with a FACILITY or INFORMATION message for CR1 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_034 **subclause 9.2.4.2, 3rd paragraph** **inopportune** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of an INFORMATION message for CR1 containing a Facility information element with an End3PTY invoke component and a three-way conversation exists,
 responds with a FACILITY or INFORMATION message for CR1 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_035 **subclause 9.2.4.2, 3rd paragraph** **inopportune** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), on receipt of an INFORMATION message for CR2 containing a Facility information element with an End3PTY invoke component and a three-way conversation exists,
 responds with a FACILITY or INFORMATION message for CR2 containing a Facility information element with an End3PTY return error component coded as "invalidCallState" and remains in the same state.

3PTY_N01_036 **subclause 9.2.4.2, 7th paragraph** **valid** **mandatory**
Ensure that the IUT in the 3PTY Await Hold And Retrieve state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), after sending a FACILITY message for CR2 containing a Facility information element with an End3PTY return result component, on receipt of a FACILITY message for CR2 containing a Facility information element with an End3PTY reject component,
 takes no action and remains in the same state.

3PTY_N01_037 **subclause 9.2.4.2, 7th paragraph** **valid** **mandatory**
Ensure that the IUT in the 3PTY Idle state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), after sending a FACILITY message for CR1 containing a Facility information element with an End3PTY return result component, on receipt of a FACILITY message for CR1 containing a Facility information element with an End3PTY reject component,
 takes no action and remains in the same state.

3PTY_N01_038 **subclause 9.2.4.2, 7th paragraph** **valid** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), after sending a FACILITY or INFORMATION message for CR2 containing a Facility information element with an End3PTY return error component, on receipt of a FACILITY message for CR2 containing a Facility information element with an End3PTY reject component,
 takes no action and remains in the same state.

NOTE 14: The choice of 3PTY Active state and the FACILITY message is arbitrary - test could be carried out in any one of a number of 3PTY states and any one of a number of messages could be used. What is most important is that the IUT has just sent an End3PTY return error component.

3PTY_N01_039 **subclause 9.2.4.2, 7th paragraph** **valid** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), after sending a FACILITY or INFORMATION message for CR1 containing a Facility information element with an End3PTY return error component, on receipt of a FACILITY message for CR1 containing a Facility information element with an End3PTY reject component,
takes no action and remains in the same state.

NOTE 15: The choice of 3PTY Active state and the FACILITY message is arbitrary - test could be carried out in any one of a number of 3PTY states and any one of a number of messages could be used. What is most important is that the IUT has just sent an End3PTY return error component.

3PTY_N01_040 **subclause 9.2.5.1 a)** **valid** **mandatory**
Ensure that the IUT in the 3PTY Active state, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), to clear the call associated with CR1,
sends a DISCONNECT message for CR1 and enters state N12 for CR1.

3PTY_N01_041 **subclause 9.2.5.1 a)** **valid** **mandatory**
Ensure that the IUT in the 3PTY Await Retrieve state, with CR1 in call state N00 and CR2 in call state N10 (Held), after clearing was effected by the sending of a DISCONNECT message for CR1, on receipt of a RETRIEVE message for CR2,
responds with a RETRIEVE ACKNOWLEDGE message for CR2 and enters state N10 (Idle) for CR2 and the 3PTY Idle state.

3PTY_N01_042 **subclause 9.2.5.1 b)** **valid** **mandatory**
Ensure that the IUT, with CR1 in call state N10 (Idle) and CR2 in call state N10 (Held), to clear the call associated with CR2,
sends a DISCONNECT message for CR2 and enters state N12 for CR2.

6.2.2 Remote user procedures

3PTY_N02_001 **subclause 9.2.1.1 d)** **valid** **mandatory**
Ensure that the IUT, to notify a remote user of the successful establishment of a three-way conference,
sends a NOTIFY message to the remote user with a Notification indicator information element coded as "Conference established".

3PTY_N02_002 **subclause 9.2.2.1 a)** **valid** **mandatory**
Ensure that the IUT, to notify a remote user, which was previously in call state N10 (Held), that the other remote user, which was previously in call state N10 (Idle), is disconnected,
sends a NOTIFY message containing a Notification Indicator information element coded as "Remote hold".

3PTY_N02_003 **subclause 9.2.2.1 a)** **valid** **mandatory**
Ensure that the IUT, to notify a remote user that the conference is disconnected,
sends a NOTIFY message with a Notification Indicator information element coded as "Conference disconnected".

7 Compliance

An ATS which complies with this TSS&TP specification shall:

- a) consist of a set of test cases corresponding to the set or to a subset of the TPs specified in clause 6;
- b) use a TSS which is an appropriate subset of the whole of the TSS specified in clause 5;
- c) use the same naming conventions for the test groups and test cases;
- d) maintain the relationship specified in clause 6 between the test groups and TPs and the entries in the PICS proforma to be used for test case deselection;
- e) comply with ISO/IEC 9646-2 [4].

In the case of a) or b) above, a subset shall be used only where a particular Abstract Test Method (ATM) makes some TPs untestable. All testable TPs from clause 6 shall be included in a compliant ATS.

8 Requirements for a comprehensive testing service

As a minimum the Remote test method, as specified in ISO/IEC 9646-2 [4], shall be used by any organization claiming to provide a comprehensive testing service for network equipment claiming conformance to ETS 300 188-1 [1].

History

Document history			
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