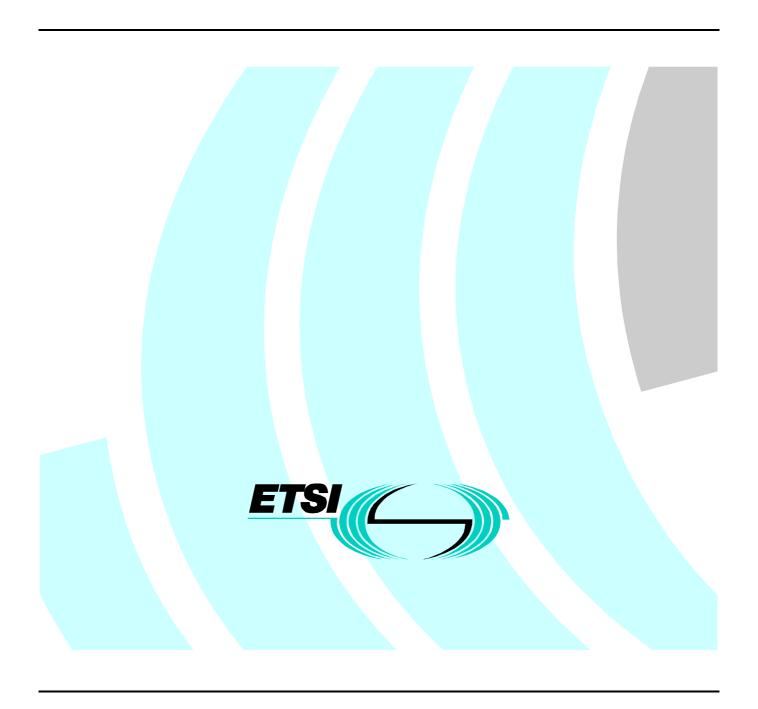# Final draft ETSI EN 301 453-1 V1.1.2 (2000-09)

European Standard (Telecommunications series)

Private Integrated Services Network (PISN);
Inter-exchange signalling protocol;
Diversion supplementary services
[ISO/IEC 13873 (1995) modified];
Part 1: Test Suite Structure and Test Purposes (TSS&TP)
specification

ETSI

Reference

DEN/SPAN-05189-2

Keywords

PISN, QSIG, supplementary service, testing, TSS&TP

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Sous-Préfecture de Grasse (06) N° 7803/88

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN), and is now submitted for the Vote phase of the ETSI standards Two-step Approval Procedure.

The present document covers the Private Integrated Service Network (PISN) Inter-exchange signalling protocol - Advice of charge 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; Diversion supplementary services [ISO/IEC 13873 (1995) modified], 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".

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

1   Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) for the Advice of charge supplementary services of the Interexchange 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 ETS 300 257 [1].

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [2], ISO/IEC 9646-2 [3] and ISO/IEC 9646-3 [7]) is used as basis for the test methodology.

The Test Suite Structure and Test Purposes specified in the present document 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 [4] and ETR 172 [5].

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.

[1]   ETSI ETS 300 257 (1995): "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Diversion supplementary services [ISO/IEC 13873 (1995) modified]".

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

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

[4]   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".

[5]   ETSI ETR 172: "Business TeleCommunications (BTC); Virtual Private Networking (VPN); Services and networking aspects; Standardization requirements and work items".

[6]   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".

[7]   ISO/IEC 9646-3 (1998): "Information technology; Open Systems Interconnection; Conformance testing methodology and framework; Part 3: The Tree and Tabular Combined Notation (TTCN)".

[8]   ETSI ETS 300 406: "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 [2].

Implementation Under Test (IUT): refer to ISO/IEC 9646-1 [2].

Protocol Implementation Conformance Statement (PICS): refer to ISO/IEC 9646-1 [2].

PICS proforma: refer to ISO/IEC 9646-1 [2].

Test Purpose (TP): refer to ISO/IEC 9646-1 [2].

3.2   Abbreviations

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

APDU	Application Protocol Data Unit
ATS	Abstract Test Suite
CDIV	Call DIVersion
CTM	Cordless Terminal Mobility
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PINX	Private Integrated Services Network eXchange
PISN	Private Integrated Services Network
sc	call independent signalling connection
SS	Supplementary Service
SS-CDI	Call Deflection Immediate supplementary service
SS-DIV	Call Diversion supplementary services
SS-CFB	Call Forwarding Busy supplementary service
SS-CFNR	Call Forwarding No reply supplementary service
TP	Test Purpose
TSS	Test Suite Structure

4   Test Suite Structure (TSS)

Signalling procedures at the Q Reference Point   Group

Signalling procedures at the Originating PINX   Orig01

Signalling procedures at the Served User PINX

Activation	Served01
Deactivation	Served2
Interrogation	Served03
Invocation	Served04

Signalling procedures at the Rerouteing PINX   Rerout01

Signalling procedures at the Diverted-to PINX

Invocation	Divert01
Verification of the diverted-to user	Divert02

Signalling procedures at the Activating PINX   Act01

Signalling procedures at the Deactivating PINX   Deact01

Signalling procedures at the Interrogating PINX   Inter01

Signalling Procedures for Protocol Interactions between SS-DIV and other supplementary services and ANFs

Procedures between SS-CFU/ SS-CFB and SS-CCBS at the Originating PINX	Int01
Procedures between SS-CFU/ SS-CFB/ SS-CFNR and SS-CCNR at the Originating PINX	Int02
Procedures between SS-CFNR and SS-CT	Int03

5   Test Purpose (TP)

5.1   Introduction

For each 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:	"CDIV"
<group>	=	group	up to 8 digit field representing group reference according to TSS
<service>	=	service	CFU, CFB, CFNR
<nnn>	=	sequential number	(001-999)

5.1.2 Source of TP definition

The TPs are based on ETS 300 257 [1].

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-DIV

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> or <ANF-CTMO 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> information element 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,...
Selection	Selection criteria reference	Support of SS-CFU. 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.		

<service> = SS-CFU, SS-CFB, SS-CFNR

NOTE 1: As a large amount of the protocol for CFB, CFNR and CFU in independent of which of the three services is supported, the TPs have mostly been written in a general way. This ensures consistent TPs and should help in the development of consistent test cases and in their maintenance. Each TP containing "<service>"is in fact three TPs - one for each of the three services.

<service_UB> = SS-CFU, SS-CFB

NOTE 2: As a large amount of the protocol for CFB and CFU in independent of which of the three services is supported, the TPs have mostly been written in a general way. This ensures consistent TPs and should help in the development of consistent test cases and in their maintenance. Each TP containing "<service>" is in fact two TPs - one for CFU and one for CFB.

5.1.4 Test strategy

As the base standard ETS 300 257 [1] 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 [8]). 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 option shall be covered by a PICS item.

5.2   TPs for SS-CDIV

All PICS items referred to in this subclause are as specified in ETS 300 257 [1] 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 the present document and causes that the corresponding Test Purposes are not included in the present document;

- 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.

The following wording convention was defined to make the test purposes more readable:

- when a message is to be sent or received on a call independent signalling connection, the message name shall be followed by a '(sc)', e.g. CONNECT (sc) means that the CONNECT message is conveyed on a call independent signalling connection;

- all the test purposes are valid for both user and network side of the VPN b interface. In order to simplify the text and to make the test purposes more readable, only the User side Call states (Ux) are indicated in the test purposes. For the network side of the VPNb interface, the mapping table below indicates which network call state (Ny) corresponds to the user call state used in the test purpose. Equivalent call state means there that the same message flow applies from the IUT point of view (e.g.: IUT sends a SETUP message gives the call state U01 or N06).

User side call state	equivalent network side call state
U00	N00
U03	N09
U04	N07
U06	N01
U07	N04
U09	N03
U10	N10

Example:

Ensure that the IUT in the call state U01 …

is equivalent to the following network side test purpose:

Ensure that the IUT in the call state N06 …

5.2.1   Signalling procedures at the Originating PINX

Selection: IUT supports procedures at the Originating PINX (PICS A6).

NOTE: Rerouteing is executed by the Served User PINX.

5.2.1.1   SS-CFU or SS-CFB

Selection: IUT supports SS-CFU/ SS-CFB (PICS A1 and PICS A2)

CDIV_Orig01_<service_UB>_001   subclause 6.5.1
Ensure that the IUT in the call state U03 and the CDO-Idle state, on receipt of a FACILITY message containing a divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB>,
      accepts the provided information and remains in the call state U03 and enters the CDO-Divert state.

CDIV_Orig01_<service_UB>_002   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Idle state, on receipt of a FACILITY message containing a divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB>,
    accepts the provided information and remains in the call state U04 and enters the CDO-Divert state.
CDIV_Orig01_<service_UB>_003   **subclause 6.5.1**
Ensure that the IUT in the call state U03 and the CDO-Idle state, on receipt of a CONNECT message containing a divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB>,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.
CDIV_Orig01_<service_UB>_004   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Idle state, on receipt of a CONNECT message containing a divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB>,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.
CDIV_Orig01_<service_UB>_005   **subclause 6.5.1**
Ensure that the IUT in the call state U03 and the CDO-Idle state, on receipt of a CONNECT message containing a divertingLeginformation1 invoke with a diversionReason set to <service_UB> and a divertingLeginformation3 invoke APDU,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and remains in the CDO-Idle state.
CDIV_Orig01_<service_UB>_006   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Idle state, on receipt of a CONNECT message containing a divertingLeginformation1 invoke with a diversionReason set to <service_UB> and a divertingLeginformation3 invoke APDU,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and remains in the CDO-Idle state.
CDIV_Orig01_<service_UB>_007   **subclause 6.5.1**
Ensure that the IUT in the call state U03 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt again of a FACILITY containing the divertingLeginformation1 invoke APDU,
    accepts the provided information and remains in the call state U03 and the CDO-Divert state.
CDIV_Orig01_<service_UB>_008   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt again of a FACILITY containing the divertingLeginformation1 invoke APDU,
    accepts the provided information and remains in the call state U04 and the CDO-Divert state.
CDIV_Orig01_<service_UB>_009   **subclause 6.5.1**
Ensure that the IUT in the call state U03 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB>,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.
CDIV_Orig01_<service_UB>_010   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB>,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.
CDIV_Orig01_<service_UB>_011   **subclause 6.5.1**
Ensure that the IUT in the call state U03 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation1 and divertingLeginformation3 invoke APDU,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.
CDIV_Orig01_<service_UB>_012   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation1 and divertingLeginformation3 invoke APDU,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.

CDIV_Orig01_<service_UB>_013   subclause 6.5.1
Ensure that the IUT in the call state U03 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt of an ALERTING message containing the divertingLeginformation3 invoke APDU,
accepts the provided information and enters the call state U04 and remains in the CDO-Divert state.

CDIV_Orig01_<service_UB>_014   subclause 6.5.1
Ensure that the IUT in the call state U03 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt of a FACILITY message containing the divertingLeginformation3 invoke APDU,
accepts the provided information and remains in the call state U03 and the CDO-Divert state.

CDIV_Orig01_<service_UB>_015   subclause 6.5.1
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt of a FACILITY message containing the divertingLeginformation3 invoke APDU,
accepts the provided information and remains in the call state U04 and the CDO-Divert state.

CDIV_Orig01_<service_UB>_016   subclause 6.5.1
Ensure that the IUT in the call state U03 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation3 invoke APDU,
accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.

CDIV_Orig01_<service_UB>_017   subclause 6.5.1
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to <service_UB> in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation3 invoke APDU,
accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.

5.2.1.2   SS-CFNR

Selection: IUT supports SS-CFNR (PICS A3)

CDIV_Orig01_CFNR_001   subclause 6.5.1
Ensure that the IUT in the call state U04 and the CDO-Idle state, on receipt of a FACILITY message containing a divertingLeginformation1 invoke APDU with a diversionReason set to CFNR,
accepts the provided information and remains in the call state U04 and enters the CDO-Divert state.

CDIV_Orig01_CFNR_002   subclause 6.5.1
Ensure that the IUT in the call state U04 and the CDO-Idle state, on receipt of a CONNECT message containing a divertingLeginformation1 invoke APDU with a diversionReason set to CFNR,
accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.

CDIV_Orig01_CFNR_003   subclause 6.5.1
Ensure that the IUT in the call state U04 and the CDO-Idle state, on receipt of a CONNECT message containing a divertingLeginformation1 invoke with a diversionReason set to CFNR and a divertingLeginformation3 invoke APDU,
accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and remains in the CDO-Idle state.

CDIV_Orig01_CFNR_004   subclause 6.5.1
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to CFNR in a FACILITY message, on receipt again of a FACILITY containing the divertingLegInformation1 invoke APDU,
accepts the provided information and remains in the call state U04 and the CDO-Divert state.

CDIV_Orig01_CFNR_005   subclause 6.5.1
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to CFNR in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation1 invoke APDU with a diversionReason set to CFNR,
accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.

CDIV_Orig01_CFNR_006   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to CFNR in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation1 and divertingLeginformation3 invoke APDU,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.

CDIV_Orig01_CFNR_007   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to CFNR in a FACILITY message, on receipt of a FACILITY message containing the divertingLeginformation3 invoke APDU,
    accepts the provided information and remains in the call state U04 and the CDO-Divert state.

CDIV_Orig01_CFNR_008   **subclause 6.5.1**
Ensure that the IUT in the call state U04 and the CDO-Divert state, having received the divertingLeginformation1 invoke APDU with a diversionReason set to CFNR in a FACILITY message, on receipt of a CONNECT message containing the divertingLeginformation3 invoke APDU,
    accepts the provided information sends back a CONNECT ACK message and enters the call state U10 and the CDO-Idle state.

5.2.2   Signalling procedures at the Served User PINX

5.2.2.1   Activation

Selection: IUT supports procedures at the Served User PINX activation (PICS B4)

CDIV_Served01_<service>_001   **subclause 6.5.3.1.1**
Ensure that the IUT in the call state U00 (sc), on receipt of a SETUP (sc) message containing an activateDiversionQ invoke APDU with the procedure set to <service>,
    sends a CONNECT (sc) message containing an activateDiversionQ return result APDU to the activating PINX.
Selection: IUT does not support the procedures at the Served-User PINX verification of diverted-to number (PICS: NOT B7)

CDIV_Served01_<service>_002   **subclause 6.5.3.2.1**
Ensure that the IUT in the call state U00 (sc), on receipt of a SETUP (sc) message containing an activateDiversionQ invoke APDU with the procedure set to <service> and an invalid divertedToAddress,
    sends a CONNECT (sc) message containing an activateDiversionQ return error APDU to the activating PINX.
Selection: IUT does not support the procedures at the Served-User PINX verification of diverted-to number (PICS: NOT B7)

CDIV_Served01_<service>_003   **subclauses 6.5.3.1.1 and 6.5.3.1.4**
Ensure that the IUT in the call state U00 (sc), on receipt of a SETUP (sc) message (sc) containing an activateDiversionQ invoke APDU with the procedure set to <service>,
    sends a SETUP (sc) message containing a checkRestriction invoke APDU to the Diverted-to PINX(sc).
Selection: IUT supports the procedures at the Served-User PINX verification of diverted-to number (PICS: B7)

CDIV_Served01_<service>_004   **subclauses 6.5.3.1.1 and 6.5.3.1.4**
Ensure that the IUT in the call state U06 (sc), having received a SETUP (sc) message containing an activateDiversionQ invoke APDU with the procedure set to <service>, and having sent a SETUP (sc) message containing a checkRestriction invoke APDU to the Diverted-to PINX, on receipt of a CONNECT (sc) message containing a checkRestriction return result APDU
    sends a CONNECT (sc) message containing an activateDiversionQ return result APDU to the activating PINX, clears the (sc) towards the diverted-to PINX.
Selection: IUT supports the procedures at the Served-User PINX verification of diverted-to number (PICS: B7)

CDIV_Served01_<service>_005   **subclauses 6.5.3.1.1 and 6.5.3.2.4**
Ensure that the IUT in the call state U06 (sc), having received a SETUP (sc) message containing an activateDiversionQ invoke APDU with the procedure set to <service> and an invalid divertedToAddress, and having sent a SETUP (sc) message containing a checkRestriction invoke APDU to the Diverted-to PINX, on receipt of a CONNECT (sc) message containing a checkRestriction return error APDU
    sends a CONNECT (sc) message containing an activateDiversionQ return error APDU to the activating PINX, clears the (sc) towards the diverted-to PINX.

Selection: IUT supports the procedures at the Served-User PINX verification of diverted-to number
(PICS: B7)

CDIV_Served01_<service>_006 **subclauses 6.5.3.1.1 and 6.5.3.2.4**

Ensure that the IUT in the call state U06 (sc), having received a SETUP (sc) message containing an activateDiversionQ
invoke APDU with the procedure set to <service>, and having sent a SETUP (sc) message containing a
checkRestriction invoke APDU to the Diverted-to PINX, on expiry of timer T5

    sends a CONNECT (sc) message containing an activateDiversionQ return error or return result APDU to the
    activating PINX,

    clears the (sc) towards the diverted-to PINX.

Selection: IUT supports the procedures at the Served-User PINX verification of diverted-to number
(PICS: B7)

CDIV_Served01_<service>_007 **subclauses 6.5.3.1.1 and 6.5.3.2.4**

Ensure that the IUT in the call state U06 (sc), having received a SETUP (sc) message containing an activateDiversionQ
invoke APDU with the procedure set to <service>, and having sent a SETUP (sc) message containing a
checkRestriction invoke APDU to the Diverted-to PINX, on receipt of a CONNECT (sc) message containing a
checkRestriction reject component

    sends a CONNECT (sc) message containing an activateDiversionQ return error or return result APDU to the
    activating PINX,

    clears the (sc) towards the diverted-to PINX.

Selection: IUT supports the procedures at the Served-User PINX verification of diverted-to number
(PICS: B7)

5.2.2.2 Deactivation

    Selection: IUT supports procedures at the Served User PINX deactivation (PICS B5)

CDIV_Served02_<service>_001 **subclause 6.5.3.1.2**

Ensure that the IUT in the call state U00 (sc) when <service> is activated, on receipt of a SETUP (sc) message
containing a deactivateDiversionQ invoke APDU with the procedure set to <service>,

    sends a deactivateDiversionQ return result APDU to the activating PINX.

CDIV_Served02_<service>_002 **subclause 6.5.3.2.2**

Ensure that the IUT in the call state U00 (sc) when <service> is activated, on receipt of a SETUP (sc) message
containing a deactivateDiversionQ invoke APDU with the procedure set to <service> and an invalid basicService value,

    sends a deactivateDiversionQ return error APDU to the activating PINX.

CDIV_Served02_<service>_003 **subclause 6.5.3.2.2**

Ensure that the IUT in the call state U00 (sc) when <service> is activated, on receipt of a SETUP (sc) message
containing a deactivateDiversionQ invoke APDU with the procedure set to <service> and an invalid servedUserNr
value,

    sends a deactivateDiversionQ return error APDU with the value invalidServedUserNr.

CDIV_Served02_<service>_004 **subclause 6.5.3.2.2**

Ensure that the IUT in the call state U00 (sc) when <service> is activated, on receipt of a SETUP (sc) message
containing a deactivateDiversionQ invoke APDU with the procedure set to <service> and an invalid deactivatingUserNr
value,

    sends a deactivateDiversionQ return error APDU to the activating PINX.

5.2.2.3 Interrogation

    Selection: IUT supports procedures at the Served User PINX interrogation (PICS B6)

CDIV_Served03_<service>_001 **subclause 6.5.3.1.3**

Ensure that the IUT in the call state U00 (sc), when <service> is activated, on receipt of a SETUP (sc) message
containing an interrogateDiversionQ invoke APDU with the <service> procedure,

    sends a interrogateDiversionQ return result APDU to the activating PINX,

    remains in the call state U00 (sc).

CDIV_Served03_<service>_002 **subclause 6.5.3.2.3**

Ensure that the IUT in the call state U00 (sc), when <service> is not activated, on receipt of a SETUP (sc) message
containing an interrogateDiversionQ invoke APDU,

    sends a interrogateDiversionQ return error APDU to the activating PINX,

    remains in the call state U00 (sc).

5.2.2.4   Invocation

Selection: IUT supports the procedures at the Served User PINX invocation (PICS B8) and IUT does not support the procedures at the Rerouteing PINX (NOT PICS B3)

5.2.2.4.1   SS-CFU or SS-CFB

Selection: IUT supports SS-CFU/ SS-CFB (PICS A1 and PICS A2)

CDIV_Served04_<service_UB>_001   subclause 6.5.3.1.5
Ensure that the IUT in the call state U09, when <service_UB> is activated and when the call diversion is detected,
     sends a callRerouteing invoke APDU in a FACILITY message with the following mandatory parameter
     correctly encoded:
          the rerouteingReason shall contain the value <service_UB>;
          the calledAddress shall contain the diverted-to number;
          the diversionCounter shall be set to 1;
          the pSS1InfoElement shall contain the Bearer capability information element as received in the SETUP
          message.
     and remains in the call state U09.

CDIV_Served04_<service_UB>_002   subclause 6.5.3.1.5
Ensure that the IUT in the call state U09, when <service_UB> is activated and when the call diversion is detected,
     sends a callRerouteing invoke APDU in a FACILITY message with the following optional parameter correctly
     encoded:
          the pSS1InfoElement shall contain the High Layer Compatibility, Low layer Compatibility and
          progress indicator as received in the SETUP message;
          the callingNumber and the callingPartySubaddress shall contain the value as received in the SETUP
          message.
     and remains in the call state U09.

CDIV_Served04_<service_UB>_003   subclause 6.5.3.1.5
Ensure that the IUT in the call state U09, when <service_UB> is activated and having received a SETUP message
containing the divertingLegInformation2 invoke APDU,
     sends a callRerouteing invoke APDU in a FACILITY message with the following parameter correctly encoded:
          the originalRerouteingReason and originalCalledNr shall contain the value received in the
          divertingLegInformation2 invoke APDU;
          the lastRerouteingNr shall contain the number of the diverting user.
     and remains in the call state U09.

5.2.2.4.2   SS-CFNR

Selection: IUT supports SS-CFNR (PICS A3)

CDIV_Served04_CFNR_001   subclause 6.5.3.1.5
Ensure that the IUT in the call state U07, when CFNR is activated,
     sends a callRerouteing invoke APDU in a FACILITY message with the following mandatory parameter
     correctly encoded:
          the rerouteingReason shall contain the value CFNR;
          the calledAddress shall contain the diverted-to number;
          the diversionCounter shall be set to 1;
          the pSS1InfoElement shall contain the Bearer capability information element as received in the SETUP
          message.
     and remains in the call state U07.

CDIV_Served04_CFNR_002   subclause 6.5.3.1.5
Ensure that the IUT in the call state U07, when CFNR is activated and when the call diversion is detected,
     sends a callRerouteing invoke APDU in a FACILITY message with the following optional parameter correctly
     encoded:
          the pSS1InfoElement shall contain the High Layer Compatibility, Low layer Compatibility and
          progress indicator as received in the SETUP message;
          the callingNumber and the callingPartySubaddress shall contain the value as received in the SETUP
          message.
     and remains in the call state U07.

CDIV_Served04_CFNR_003   **subclause 6.5.3.1.5**

Ensure that the IUT in the call state U07, when CFNR is activated and having received a SETUP message containing the divertingLegInformation2 invoke APDU,

> sends a callRerouteing invoke APDU in a FACILITY message with the following parameter correctly encoded:
>> the originalRerouteingReason and originalCalledNr shall contain the value received in the divertingLegInformation2 invoke APDU;
>> the lastRerouteingNr shall contain the number of the diverting user.
> and remains in the call state U07.

CDIV_Served04_CFNR_004   **subclause 6.5.3.2.5**

Ensure that the IUT in the call state U07, when CFNR is activated and having received a SETUP message containing the divertingLegInformation2 invoke APDU with the diversionCounter set to the maximum value (15),

> maintains the call and does not send the callRerouteing invoke APDU
> and remains in the call state U07.

CDIV_Served04_CFNR_005   **subclause 6.5.3.2.5**

Ensure that the IUT in the call state U07 and the CDS-Inv-Idle state, when CFNR is activated and having sent the callRerouteing invoke APDU and having received the callRerouteing return result, on receipt of the cfnrDivertedLegFail invoke APDU,

> remains in the call state U07 and the CDS-Inv-Idle state.

5.2.3   Signalling procedures at the Rerouteing PINX

> **Selection:**   IUT supports procedures at the Rerouteing PINX (PICS A3)

5.2.3.1   SS-CFU or SS-CFB (Originating)

> **Selection:**   IUT supports procedures at the Originating PINX (PICS B1) and IUT supports SS-CFU/ SS-CFB (PICS A1 and PICS A2).

CDIV_Rerout01_<service_UB>_001   subclause 6.5.4.1

Ensure that the IUT in the call state U03 and the CDR-Idle state, on receipt of a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX,

> sends a callRerouteing return result APDU in a FACILITY message or in a DISCONNECT message to the Served user PINX and releases the call;
> sends a SETUP message with the divertingLegInformation2 invoke APDU to the Diverted-to user PINX.

CDIV_Rerout01_<service_UB>_002   subclause 6.5.4.1

Ensure that the IUT in the call state U03 and the CDR-Idle state, on receipt of a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX,

> sends the SETUP message with the divertingLegInformation2 invoke APDU to the Diverted-to user PINX, with the following basic call information elements encoded as follows:
>> the calledPartyNumber shall contain the information received in the calledAddress of the callRerouteing invoke APDU;
>> the callingPartyNumber shall contain the information received in the callingAddress of the callRerouteing invoke APDU;
>> the Bearer capability shall contain the bearer capability embedded in the pSS1Element of the callRerouteing invoke APDU.
> sends a callRerouteing return result APDU in a FACILITY message or in a DISCONNECT message to the Served user PINX and releases the call.

CDIV_Rerout01_<service_UB>_003   subclause 6.5.4.1

Ensure that the IUT in the call state U03 and the CDR-Idle state, on receipt of a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX,

> sends the SETUP message with the divertingLegInformation2 invoke APDU to the Diverted-to user PINX, with the following argument encoded as follows:
>> the diversionCounter shall contain the information received in the diversionCounter of the callRerouteing invoke APDU;
>> the diversionReason shall contain the value <service_UB> as received in the callRerouteing invoke APDU.
> sends a callRerouteing return result APDU in a FACILITY message or in a DISCONNECT message to the Served user PINX and releases the call

CDIV_Rerout01_<service_UB>_004   subclause 6.5.4.1
Ensure that the IUT in the call state U03 and the CDR-Idle state, on receipt of a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX,

      sends the SETUP message with the divertingLegInformation2 invoke APDU to the Diverted-to user PINX, with the following optional argument encoded as follows:

            the originalDiversionReason shall contain the information received in the originalDiversionReason of the callRerouteing invoke APDU;

            the divertingNr shall contain the information received in the lastRerouteingNr of the callRerouteing invoke APDU;

            the originalCalledNr shall contain the information received in the originalCalledNr of the callRerouteing invoke APDU.

            sends a callRerouteing return result APDU in a FACILITY message or in a DISCONNECT message to the Served user PINX and releases the call

CDIV_Rerout01_<service_UB>_005   subclause 6.5.4.1
Ensure that the IUT in the call state U03, having received a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX, and having sent a callRerouteing return result APDU in a FACILITY message or in a DISCONNECT message to the Served user PINX and released the call, and having sent the SETUP message with the divertingLegInformation2 invoke APDU,

      establishes completely the call with the diverted-to PINX;

      enters the call state 10.

5.2.3.2   SS-CFU or SS-CFB (Served User)

    Selection: IUT supports procedures at the Served User PINX invocation (PICS B8), and IUT supports SS-CFU/ SS-CFB (PICS A1 and PICS A2)

CDIV_Rerout01_<service_UB>_006   subclause 6.5.4.1
Ensure that the IUT in the call state U09, when <service_UB> is activated, on detection of call forwarding,

      sends a divertingLegInformation1 invoke APDU in a FACILITY message to the Originating PINX, with the elements diversionReason, subscriptionOption and nominatedNr as received in the argument of the callRerouteing invoke APDU in the elements rerouteingReason, subscription option and calledAddress respectively;

      sends a divertingLegInformation2 invoke APDU in a SETUP message to the Diverted-to user PINX with the following basic call information elements encoded as follows:

            the calledPartyNumber shall contain the information received in the calledAddress of the callRerouteing invoke APDU;

            the callingPartyNumber shall contain the information received in the callingAddress of the callRerouteing invoke APDU;

            the Bearer capability shall contain the bearer capability embedded in the pSS1Element of the callRerouteing invoke APDU.

CDIV_Rerout01_<service_UB>_007   subclause 6.5.4.1
Ensure that the IUT in the call state U09, when <service_UB> is activated, on detection of call forwarding,

      sends a divertingLegInformation1 invoke APDU in a FACILITY message to the Originating PINX.

      sends a divertingLegInformation2 invoke APDU in a SETUP message to the Diverted-to user PINX with the following argument encoded as follows:

            the diversionCounter shall contain the information received in the diversionCounter of the callRerouteing invoke APDU;

            the diversionReason shall contain the value <service_UB> as received in the callRerouteing invoke APDU.

CDIV_Rerout01_<service_UB>_008   subclause 6.5.4.1
Ensure that the IUT in the call state U09, when <service_UB> is activated, on detection of call forwarding,

      sends a divertingLegInformation1 invoke APDU in a FACILITY message to the Originating PINX.

      sends a divertingLegInformation2 invoke APDU in a SETUP message to the Diverted-to user PINX with the following optional argument encoded as follows:

            the originalDiversionReason shall contain the information received in the originalDiversionReason of the callRerouteing invoke APDU;

            the divertingNr shall contain the information received in the lastRerouteingNr of the callRerouteing invoke APDU;

            the originalCalledNr shall contain the information received in the originalCalledNr of the callRerouteing invoke APDU.

CDIV_Rerout01_<service_UB>_009   subclause 6.5.4.1

Ensure that the IUT in the call state U09, when <service_UB> is activated, on detection of call forwarding, having sent a divertingLegInformation1 invoke APDU in a FACILITY message to the Originating PINX and having sent the SETUP message with the divertingLegInformation2 invoke APDU,

> establishes completely the call with the diverted-to PINX;

> enters the call state 10.

5.2.3.3   SS-CFNR (Originating)

> **Selection:**   IUT supports procedures at the Originating PINX (PICS B1) and IUT supports SS-CFNR (PICS A3).

CDIV_Rerout01_CFNR_001   subclause 6.5.4.1

Ensure that the IUT in the call state U04 and the CDR-Idle state, on receipt of a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX,

> sends a callRerouteing return result APDU in a FACILITY message;

> sends a SETUP message with the divertingLegInformation2 invoke APDU to the Diverted-to user PINX.

CDIV_Rerout01_CFNR_002   subclause 6.5.4.1

Ensure that the IUT in the call state U04 and the CDR-Idle state, on receipt of a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX,

> sends the SETUP message with the divertingLegInformation2 invoke APDU to the Diverted-to user PINX, with the following basic call information elements encoded as follows:

>> the calledPartyNumber shall contain the information received in the calledAddress of the callRerouteing invoke APDU;

>> the callingPartyNumber shall contain the information received in the callingAddress of the callRerouteing invoke APDU;

>> the Bearer capability shall contain the bearer capability embedded in the pSS1Element of the callRerouteing invoke APDU.

> sends a callRerouteing return result APDU in a FACILITY message.

CDIV_Rerout01_CFNR_003   subclause 6.5.4.1

Ensure that the IUT in the call state U04 and the CDR-Idle state, on receipt of a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX,

> sends the SETUP message with the divertingLegInformation2 invoke APDU to the Diverted-to user PINX, with the following argument encoded as follows:

>> the diversionCounter shall contain the information received in the diversionCounter of the callRerouteing invoke APDU;

>> the diversionReason shall contain the value <service_UB> as received in the callRerouteing invoke APDU.

> sends a callRerouteing return result APDU in a FACILITY message.

CDIV_Rerout01_CFNR_004   subclause 6.5.4.1

Ensure that the IUT in the call state U04 and the CDR-Idle state, on receipt of a FACILITY message containing a callRerouteing invoke APDU from the Served User PINX,

> sends the SETUP message with the divertingLegInformation2 invoke APDU to the Diverted-to user PINX, with the following optional argument encoded as follows:

>> the originalDiversionReason shall contain the information received in the originalDiversionReason of the callRerouteing invoke APDU;

>> the divertingNr shall contain the information received in the lastRerouteingNr of the callRerouteing invoke APDU;

>> the originalCalledNr shall contain the information received in the originalCalledNr of the callRerouteing invoke APDU.

> sends a callRerouteing return result APDU in a FACILITY message

CDIV_Rerout01_CFNR_005   subclause 6.5.4.1

Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of an ALERTING message from the Diverted-to PINX,

> initiates call clearing towards the Served User PINX;

> continues call establishement with the Diverted-to PINX.

CDIV_Rerout01_CFNR_006   subclause 6.5.4.1

Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of a CONNECT message from the Diverted-to PINX,

> initiates call clearing towards the Served User PINX;

> continues call establishment with the Diverted-to PINX.

CDIV_Rerout01_CFNR_007   **subclause 6.5.4.1**
Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of a CONNECT message from the
Served User PINX,
     initiates call clearing towards the Diverted-to PINX.
CDIV_Rerout01_CFNR_008   **subclause 6.5.4.1**
Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of a DISCONNECT message from the
Diverted-to PINX,
     completes call clearing towards the Diverted-to PINX;
     sends a cfnrDivertedLegFailed invoke APDU in a FACILITY message to the Served User PINX;
     does not clear the original call.
CDIV_Rerout01_CFNR_009   **subclause 6.5.4.1**
Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of a RELEASE message from the
Diverted-to PINX,
     completes call clearing towards the Diverted-to PINX;
     sends a cfnrDivertedLegFailed invoke APDU in a FACILITY message to the Served User PINX;
     does not clear the original call.
CDIV_Rerout01_CFNR_010   **subclause 6.5.4.1**
Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of a RELEASE COMPLETE message
from the Diverted-to PINX,
     enters state U00 towards the Diverted-to PINX;
     sends a cfnrDivertedLegFailed invoke APDU in a FACILITY message to the Served User PINX;
     does not clear the original call.
CDIV_Rerout01_CFNR_011   **subclause 6.5.4.1**
Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of a DISCONNECT message from the
Served User PINX,
     completes call clearing towards the Served User PINX;
     initiates call clearing towards the Diverted-to PINX.
CDIV_Rerout01_CFNR_012   **subclause 6.5.4.1**
Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of a RELEASE message from the
Served User PINX,
     completes call clearing towards the Served User PINX;
     initiates call clearing towards the Diverted-to PINX.
CDIV_Rerout01_CFNR_013   **subclause 6.5.4.1**
Ensure that the IUT in the call state U04 and the CDR-Invoked state, on receipt of a RELEASE COMPLETE message
from the Served User PINX,
     completes call clearing towards the Served User PINX;
     initiates call clearing towards the Diverted-to PINX.

5.2.3.4   SS-CFNR (Served User)

  Selection: IUT supports procedures at the Served User PINX invocation (PICS B8), and IUT supports SS-
                     CFNR (PICS A3)

CDIV_Rerout01_CFNR_014   **subclause 6.5.4.1**
Ensure that the IUT in the call state U07, when CFNR is activated, on detection of call forwarding,
     sends a divertingLegInformation1 invoke APDU in a FACILITY message to the Originating PINX, with the
     elements diversionReason, subscriptionOption and nominatedNr as received in the argument of the
     callRerouteing invoke APDU in the elements rerouteingReson, subscription option and calledAddress
     respectively;
     sends a divertingLegInformation2 invoke APDU in a SETUP message to the Diverted-to user PINX with the
     following basic call information elements encoded as follows:
          the calledPartyNumber shall contain the information received in the calledAddress of the callRerouteing
          invoke APDU;
          the callingPartyNumber shall contain the information received in the callingAddress of the
          callRerouteing invoke APDU;
          the bearer capability shall contain the bearer capability embedded in the pSS1Element of the
          callRerouteing invoke APDU.
CDIV_Rerout01_CFNR_015   **subclause 6.5.4.1**
Ensure that the IUT in the call state U07, when CFNR is activated, on detection of call forwarding,
     sends a divertingLegInformation1 invoke APDU in a FACILITY message to the Originating PINX.
     sends a divertingLegInformation2 invoke APDU in a SETUP message to the Diverted-to user PINX with the
     following argument encoded as follows:

the diversionCounter shall contain the information received in the diversionCounter of the callRerouteing invoke APDU;

the diversionReason shall contain the value CFNR as received in the callRerouteing invoke APDU.

CDIV_Rerout01_CFNR_016   subclause 6.5.4.1

Ensure that the IUT in the call state U07, when CFNR is activated, on detection of call forwarding,

sends a divertingLegInformation1 invoke APDU in a FACILITY message to the Originating PINX.

sends a divertingLegInformation2 invoke APDU in a SETUP message to the Diverted-to user PINX with the following optional argument encoded as follows:

the originalDiversionReason shall contain the information received in the originalDiversionReason of the callRerouteing invoke APDU;

the divertingNr shall contain the information received in the lastRerouteingNr of the callRerouteing invoke APDU;

the originalCalledNr shall contain the information received in the originalCalledNr of the callRerouteing invoke APDU.

CDIV_Rerout01_CFNR_017   subclause 6.5.4.1

Ensure that the IUT in the call state U07 and the CDR-Invoked state, on receipt of an ALERTING message from the Diverted-to PINX,

sends a divertingLegInformation1 invoke APDU in a FACILITY message to the Originated PINX.

CDIV_Rerout01_CFNR_018   subclause 6.5.4.1

Ensure that the IUT in the call state U07 and the CDR-Invoked state, having received the ALERTING message, on receipt of a CONNECT message from the Diverted-to PINX,

sends a divertingLegInformation3 invoke APDU in a CONNECT message to the Originated PINX.

CDIV_Rerout01_CFNR_019   subclause 6.5.4.2

Ensure that the IUT in the call state U07 and the CDR-Invoked state, on receipt of a DISCONNECT message from the Diverted-to PINX,

completes call clearing towards the Diverted-to PINX;

does not clear the original call.

CDIV_Rerout01_CFNR_020   subclause 6.5.4.2

Ensure that the IUT in the call state U07 and the CDR-Invoked state, on receipt of a RELEASE message from the Diverted-to PINX,

completes call clearing towards the Diverted-to PINX;

does not clear the original call.

CDIV_Rerout01_CFNR_021   subclause 6.5.4.2

Ensure that the IUT in the call state U07 and the CDR-Invoked state, on receipt of a RELEASE COMPLETE message from the Diverted-to PINX,

enters state U00 towards the Diverted-to PINX;

does not clear the original call.

CDIV_Rerout01_CFNR_022   subclause 6.5.4.2

Ensure that the IUT in the call state U07 and the CDR-Invoked state, on receipt of a DISCONNECT message from the Originating PINX,

completes call clearing towards the Originating PINX;

initiates call clearing towards the Diverted-to PINX.

CDIV_Rerout01_CFNR_023   subclause 6.5.4.2

Ensure that the IUT in the call state U07 and the CDR-Invoked state, on receipt of a RELEASE message from the Originating PINX,

completes call clearing towards the Originating PINX;

initiates call clearing towards the Diverted-to PINX.

CDIV_Rerout01_CFNR_024   subclause 6.5.4.2

Ensure that the IUT in the call state U07 and the CDR-Invoked state, on receipt of a RELEASE COMPLETE message from the Originating PINX,

enters state U00 towards the Originating PINX;

initiates call clearing towards the Diverted-to PINX.

5.2.4   Signalling procedures at the Diverted-to PINX

5.2.4.1   Invocation

Selection: IUT supports procedures at the Diverted-to PINX invocation (PICS B9)

CDIV_Divert01_<service>_001   **subclause 6.5.5.1.1**
Ensure that the IUT in the call state U00, on receipt of a SETUP message containing a divertingLegInformation2 invoke
APDU with the diversionReason set to <service>,
         sends an CALL PROCEEDING or ALERTING message
         respectively enters the call state U09 or U07.
CDIV_Divert01_<service>_002   **subclause 6.5.5.1.1**
Ensure that the IUT in the call state U00 and when presentation restriction applies, on receipt of a SETUP message
containing a divertingLegInformation2 invoke APDU with the diversionReason set to <service>,
         sends a divertingLeginformation3 invoke APDU in a FACILITY, ALERTING or CONNECT message.
CDIV_Divert01_<service>_003   **subclause 6.5.5.1.1**
Ensure that the IUT in the call state U00 and when presentation restriction applies, on receipt of a SETUP message
containing a divertingLegInformation2 invoke APDU with the diversionReason set to <service>,
         sends a divertingLeginformation3 invoke APDU with a FACILITY, ALERTING or CONNECT message.
     Selection: IUT supports sending of redirectionName element in divertingLeginformation3
                  APDU (PICS C1)

5.2.4.2   Verification of the diverted-to user's number

Selection: IUT supports procedures at the Diverted-to PINX verification of the diverted-to number (PICS
                  B10)

CDIV_Divert02_001   **subclause 6.5.5.1.2**
Ensure that the IUT in the call state U00 (sc), on receipt of a SETUP (sc) message containing a checkRestriction invoke
APDU,
         sends a checkRestriction return result APDU.

CDIV_Divert02_002   **subclause 6.5.5.2.2**
Ensure that the IUT in the call state U00 (sc), on receipt of a SETUP (sc) message containing a checkRestriction invoke
APDU with an invalid basic service,
         sends a checkRestriction return error APDU.

CDIV_Divert02_003   **subclause 6.5.5.2.2**
Ensure that the IUT in the call state U00 (sc), on receipt of a SETUP (sc) message containing a checkRestriction invoke
APDU with an invalid diverted-to number,
         sends a checkRestriction return error APDU with the error value invalidDivertedToNr.

CDIV_Divert02_004   **subclause 6.5.5.2.2**
Ensure that the IUT in the call state U00 (sc), on receipt of a SETUP (sc) message containing a checkRestriction invoke
APDU with an invalid Served User number,
         sends a checkRestriction return error APDU with the error value invalidServedUserNr.

5.2.5   Signalling procedures at the Activating PINX

Selection: IUT supports procedures at the Activating PINX (PICS B11)

CDIV_Act01_<service>_001   **subclause 6.5.6.1**
Ensure that the IUT in the call state U00 (sc), to activate <service>,
         sends an activateDiversionQ invoke APDU in a SETUP (sc) message.
CDIV_Act01_<service>_002   **subclause 6.5.6.1**
Ensure that the IUT in the CDA-Wait state, having sent an activateDiversionQ invoke APDU in a SETUP (sc) message,
on receipt of an activateDiversionQ return result APDU,
         accepts the provided information and optionally clears the call.

CDIV_Act01_<service>_003   **subclause 6.5.6.2**
Ensure that the IUT in the CDA-Wait state, having sent an activateDiversionQ invoke APDU in a SETUP (sc) message,
on receipt of an activateDiversionQ return error APDU,
        accepts the provided information and optionally clear the call.
CDIV_Act01_<service>_004   **subclause 6.5.6.2**
Ensure that the IUT in the CDA-Wait state, having sent an activateDiversionQ invoke APDU in a SETUP (sc) message,
on receipt of a reject APDU,
        accepts the provided information and optionally clear the call.
CDIV_Act01_<service>_005   **subclause 6.5.6.2**
Ensure that the IUT in the CDA-Wait state, having sent an activateDiversionQ invoke APDU in a SETUP (sc) message,
at expiry of timer T2,
        does not take any action or clears the call.

5.2.6   Signalling procedures at the Deactivating PINX

    Selection: IUT supports procedures at the Deactivating PINX (PICS B12)

CDIV_Deact01_<service>_001   **subclause 6.5.7.1**
Ensure that the IUT in the call state U00 (sc), to deactivate <service>,
         sends an deactivateDiversionQ invoke APDU in a SETUP (sc) message.
CDIV_Deact01_<service>_002   **subclause 6.5.7.1**
Ensure that the IUT in the CDA-Wait state, having sent an deactivateDiversionQ invoke APDU in a SETUP (sc)
message, on receipt of an deactivateDiversionQ return result APDU,
        accepts the provided information and optionally clears the call.
CDIV_Deact01_<service>_003   **subclause 6.5.7.2**
Ensure that the IUT in the CDA-Wait state, having sent a deactivateDiversionQ invoke APDU in a SETUP (sc)
message, on receipt of a deactivateDiversionQ return error APDU,
        accepts the provided information and optionally clears the call.
CDIV_Deact01_<service>_004   **subclause 6.5.7.2**
Ensure that the IUT in the CDA-Wait state, having sent a deactivateDiversionQ invoke APDU in a SETUP (sc)
message, on receipt of a reject APDU,
        accepts the provided information and optionally clears the call.
CDIV_Deact01_<service>_005   **subclause 6.5.7.2**
Ensure that the IUT in the CDA-Wait state, having sent an deactivateDiversionQ invoke APDU in a SETUP (sc)
message, at expiry of timer T2,
        does not take any action or clears the call.

5.2.7   Signalling procedures at the Interrogating PINX

    Selection: IUT supports procedures at the Interrogating PINX (PICS B13)

CDIV_Inter01_<service>_001   **subclause 6.5.8.1**
Ensure that the IUT in the call state U00 (sc), to interrogate <service>,
        sends an interrogateDiversionQ invoke APDU in a SETUP (sc) message.
CDIV_Inter01_<service>_002   **subclause 6.5.8.1**
Ensure that the IUT in the CDA-Wait state, having sent an interrogateDiversionQ invoke APDU in a SETUP (sc)
message, on receipt of an interrogateDiversionQ return result APDU,
        accepts the provided information and optionally clears the call.
CDIV_Inter01_<service>_003   **subclause 6.5.8.2**
Ensure that the IUT in the CDA-Wait state, having sent an interrogateDiversionQ invoke APDU in a SETUP (sc)
message, on receipt of an interrogateDiversionQ return error APDU,
        accepts the provided information and optionally clears the call.
CDIV_Inter01_<service>_004   **subclause 6.5.8.2**
Ensure that the IUT in the CDA-Wait state, having sent an interrogateDiversionQ invoke APDU in a SETUP (sc)
message, on receipt of a reject APDU,
        accepts the provided information and optionally clears the call.
CDIV_Inter01_<service>_005   **subclause 6.5.8.2**
Ensure that the IUT in the CDA-Wait state, having sent an interrogateDiversionQ invoke APDU in a SETUP (sc)
message, at expiry of timer T2,
        does not take any action or clears the call.

5.2.8 Signalling Procedures for Protocol Interactions between SS-DIV and other supplementary services and ANFs

5.2.8.1 Procedures between SS-CFU/ SS-CFB and SS-CCBS

Selection: IUT supports Originating PINX procedures for invoking SS-CCBS at a SS-CFU/SS-CFB diverted-to User (PICS E2 or PICS G2).

CDIV_Int01_<service>   **subclauses 6.8.1.3.1 and 6.8.1.3.2**

Ensure that the IUT in the call stateU00, receiving a FACILITY message for CR1 containing in the Facility IE a divertingLegInformation1 invoke APDU including in the element "nominatedNr" the party number of the diverted-to User,

sends a SETUP (sc) message reflecting in the called party number IE the "nominatedNr" and containing in the Facility IE a ccbsRequest invoke APDU including in the element "numberB" the "nominatedNr".

5.2.8.2 Procedures between SS-CFU/ SS-CFB/ SS-CFNR and SS-CCNR

Selection: IUT supports Originating PINX procedures for invoking SS-CCNR at a SS-CFU/SS-CFB/SS-CFNR diverted-to User (PICS F2 or PICS H2 or PICS I2).

CDIV_Int02_<service>   **subclauses 6.8.1.4.1 and 6.8.2.4.1**

Ensure that the IUT in the call state U00, receiving a FACILITY message for CR1 containing in the Facility IE a divertingLegInformation1 invoke APDU including in the element "nominatedNr" the party number of the diverted-to User,

sends a SETUP (sc) message reflecting in the called party number IE the "nominatedNr" and containing in the Facility IE a ccnrRequest invoke APDU including in the element "numberB" the "nominatedNr".

5.2.8.3 Procedures between SS-CFNR and SS-CT

CDIV_Int03_CFNR_01   **subclause 6.8.3.5.2**

Ensure that the IUT in the CT-Idle state, while performing call forwarding by rerouteing and on receipt of a valid callTransferInvoke request from User A

does not take any action

remains in the CT-Idle state.

Selection: IUT supports actions at a Transferring PINX for join or rerouteing and SS-CFNR Originating PINX (PICS J5).

CDIV_Int03_CFNR_02   **subclause 6.8.3.5.3**

Ensure that the IUT in the CT-Idle state, and protocol control state is Active, after initiating a call forwarding by Callrerouteing on receiving a FACILITY message containing a callTransferIdentify invoke APDU from the Transferring PINX,

sends a FACILITY message containing a callTransferIdentify return error APDU to the Transferring PINX containing error value supplementaryServiceInteractionNotAllowed,

remains in the CT-Idle state.

Selection: IUT supports actions at a Secondary PINX for rerouteing and SS-CFNR Served User PINX (PICS J6).

CDIV_Int03_CFNR_03   **subclause 6.8.3.5.4**

Ensure that the IUT in the CT-Idle state, and protocol control state is Active, after initiating a call forwarding by forward switching on receiving a FACILITY message containing a callTransferIdentify invoke APDU from the Transferring PINX,

sends a FACILITY message containing a callTransferIdentify return error APDU to the Transferring PINX containing error value supplementaryServiceInteractionNotAllowed,

remains in the CT-Idle state.

Selection: IUT supports actions at a Secondary PINX for rerouteing and SS-CFNR Served User/Rerouteing PINX (PICS J7).

CDIV_Int03_CFNR_04   **subclause 6.8.3.5.5**

Ensure that the IUT in the CT-Idle state, and protocol control state is Active, after initiating a call forwarding by forward switching on receiving a FACILITY message containing a callTransferComplete invoke APDU from the Transferring PINX,

does not take any action,

remains in the CT-Idle state.

Selection: IUT supports actions at a Secondary PINX for join and SS-CFNR Served User/Rerouteing PINX (PICS J8).

6   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 5;

    b) use a TSS which is an appropriate subset of the whole of the TSS specified in clause 4;

    c) use the same naming conventions for the test groups and test cases;

    d) maintain the relationship specified in clause 5 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 [3].

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 5 shall be included in a compliant ATS.

7   Requirements for a comprehensive testing service

As a minimum the Remote test method, as specified in ISO/IEC 9646-2 [3], shall be used by any organization claiming to provide a comprehensive testing service for network equipment claiming conformance to I-ETS 300 808 [6].

Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

- ETSI EN 300 172: "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Circuit-mode basic services [ISO/IEC 11572 (1996) modified]".

- 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]".

- ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".

- ITU-T Recommendation I.210 (1993): "Principles of the telecommunication services supported by an ISDN and the means to describe them".

History

Document history			
V1.1.1	January 2000	Public Enquiry	PE 200018: 2000-01-05 to 2000-05-05
V1.1.2	September 2000	Vote	V 20001103: 2000-09-04 to 2000-11-03