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Foreword

This final final draft European Telecommunication Standard (ETS) has been produced by the standardizing Information and Communication Systems Association (ECMA) on behalf of its members and those of the European Telecommunications Standards Institute (ETSI), and is now submitted for the Voting phase of the ETSI standards approval procedure.

This ETS comprises two parts with the generic title "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Generic functional protocol for the support of supplementary services". The title of each part is listed below:

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

Part 2: "Abstract Test Suite specification (ATS)".

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

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1 Scope

This European Telecommunication Standard (ETS) contains the Test Suite Structure (TSS) and Test Purposes (TPs) specification for the Generic Functional Protocol (GFP) for the support of supplementary services of the Inter-exchange signalling protocol for Private Integrated Services Networks (PISN).

The objective of this TSS and TPs specification is to provide conformance tests which give a greater probability of inter-operability. The TSS and TPs specification covers the procedures described in ETS 300 239 [1], but omitting those procedures that are better tested by testing the individual supplementary services that use those procedures.

This ETS excludes the following:

- Connectionless APDU Transport Mechanism, (i.e. no TPs have been derived from ETS 300 239 [1], subclause 7.2);

- Dialogue Service Element (DSE), (i.e. no TPs have been derived from ETS 300 239 [1], subclause 8.4);

- Remote Operation Service Element (ROSE) except for actions on receiving invalid or unrecognized APDUs;

- Manufacturer Specific Information;

- Testing of originating and incoming gateway PINXs for Call Related procedures and Call Independent Signalling Connections (CISC);

- Source PINX requirements for APDUs and Notifications (i.e. no TPs have been derived from ETS 300 239 [1], subclauses 7.1.2.1, 7.3.2.1, 7.3.3.4, 7.4.3.1).

  NOTE 1: Originating, incoming gateway and Source PINX and valid behaviour of ROSE are excluded because they are impractical to test without the use of a particular supplementary service. However, although it is outside the scope of this ETS, some TPs within this ETS may be applicable to originating or incoming gateway PINX in addition to roles covered by the scope.

  NOTE 2: Although there are no test purposes testing source PINX requirements, some test purposes test the behaviour where the IUT acts as a source PINX, for example where a PINX is acting as a source PINX to send a Reject APDU.

  NOTE 3: This ETS does not contain any test purposes specifically for outgoing gateway PINXs, however the test purposes for terminating PINXs are generally also applicable to outgoing gateway PINXs.

The ISO standard for the methodology of conformance testing (ISO/IEC 9646 [5]) is used as basis for the test methodology.

This TSS and TP specification standard is applicable for the support of supplementary services at the Q-reference point between Private Integrated Services Network Exchanges (PINXs) connected together within a PISN. The Q reference point is defined in ISO/IEC 11579-1 [6].

2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited in the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments or revisions to 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 300 239 (1995): "Private Integrated Services Network (PISN); Inter-exchange signalling protocol; Generic functional protocol for the support of supplementary services". [ISO/IEC 11582 modified]

[2] ETS 300 172 (1995): "Private Integrated Services Network (PISN) ; Inter-exchange signalling protocol; Circuit-mode basic services" [ISO/IEC 11572 modified]

[3] ETS 300 406 (1995): "Methods for testing and specification (MTS); Protocol and profile conformance testing specifications; Standardization Methodology".

[4] ETS 300 415 (1996): "Private Integrated Services Network (PISN); Terms and definitions".

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

[6] ETS 300 475-1 (1995): "Private Integrated Services Network (PISN); Reference configuration - Part 1: Reference configuration for PISN eXchanges (PINXs)".

[7] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".

[8] CCITT Recommendation X.219 (1988): "Remote operations: Model, Notation and Service definition".

[9] CCITT Recommendation X.229 (1988): "Remote Operations: Protocol specification".

[10] ISO 7498: "Information Processing Systems - Open Systems Interconnection - Basic Reference model".

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

[12] ISO/IEC 9646-2: "Information technology; Open Systems Interconnection; Conformance testing methodology and framework - Part 2: Abstract Test Suite Specification".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the terminology defined in ETS 300 415 [4] and in CCITT Recommendation I.112 [7] applies. If there is any conflict the definitions in ETS 300 415 [4] shall take precedence. The following definitions also apply:

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

Combined test purpose: A test purpose produced by combining two or more individual test purposes.

Implementation Under Test (IUT): See ISO/IEC 9646-1 [5].

Individual test purpose: A test purpose focusing on a single conformance requirement, produced before any combining of test purposes.

Final test purpose : A test purpose which is intended to be mapped to a single test case (except if it is untestable).

NOTE: In this ETS final test purposes are either combined TPs or uncombined (i.e. individual) TPs.

originating PINX: See ETS 300 239 [1].

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

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

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

Protocol Implementation eXtra Information For Testing (PIXIT): See ISO/IEC 9646-1 [5].

Super Test Purpose (STP): A general test purpose from which one or more test purposes may be derived. These derived test purposes may be more detailed than the Super Test Purpose.

terminating PINX: See ETS 300 239 [1].

transit PINX: See ETS 300 239 [1].

uncombined test purpose: An individual test purpose which is not combined into any Combined Test Purpose.

NOTE 2: These terms are not defined in ISO/IEC 9646 but correspond to items referred to in ISO/IEC 9646-2 [12] subclause 10.3. The "more specific test objectives" referred to in subclause 10.3.1 are here referred to as Super Test Purposes. The terms Individual Test Purpose and Combined Test Purpose have the same meanings here as in subclause 10.3.3.

3.2 Abbreviations

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

APDU	Application Protocol Data Unit
ATS	Abstract Test Suite
BI	Basic Interconnection test
BV	ValiBehaviour tests
CA	CApability test
CF	Co-ordination Function
CISC	Call Independent Signalling Connection
CLTA	ConnectionLess Transport of APDUs
COTA	Connection Oriented Transport of APDUs
COTN	Connection Oriented Transport of Notifications
CR	Call Related procedures
DSE	Dialogue Service Element
GFT	Generic Functional Transport
GFTC	Generic Functional Transport Control
IE	Information Element
IO	InOpportune behaviour tests
ISO	International Organization for Standardization
IUT	Implementation Under Test
IV	InValid behaviour tests
MI	Mixed
MSI	Manufacturer Specific Information
MTS	Methods for testing and specification
NFE	Network Facility Extension
NFE	Network Facility Extension
PC	Protocol Control
PICS	Protocol Implementation Conformance Statement
PINX	Private Integrated Services Network eXchange
PISN	Private Integrated Services Network
PIXIT	Protocol Implementation eXtra Information For Testing
QSIG	Q interface Signalling protocol
ROSE	Remote Operations Service Element
SCM	Signalling Carriage Mechanism
STP	Super Test Purpose

TI	TImers
TP	Test Purpose
TSS	Test Suite Structure

4 Test Suite Structure (TSS)

Two separate Test Suite Structures (TSSs) have been designed, one to cover the individual TPs, and another one to cover the combined TPs (CTPs) and uncombined TPs.

4.1 TSS for individual TPs

Following the rules described in ETS 300 406 [3], subclause 7.4.1.1, the test suite for the individual TPs is structured as a tree with the following levels:

1st level: the name representing the base specification (ETS 300 239 [1]);
Generic Functional Protocol (GFP).

2nd level: the entities of the base specification;
- Protocol Control (PC);
- Generic Functional Transport Control (GFTC);
- Co-ordination Function (CF);
- ROSE (RO).

3rd level: the type of signalling connection;
- Call Related procedures (CR);
- Call Independent procedures (CISC);
- Procedures.

4th level: the type of transport mechanism;
- Connection Oriented Transport of APDUs (COTA);
- Connection Oriented Transport of Notifications (COTN);
- ConnectionLess Transport of APDUs (CLTA);
- Transport of APDUs (TA).

5th level: the nature of the test;
- Basic Interconnection test (BI);
- CApability test (CA);
- ValiBehaviour tests (BV);
- InValid behaviour tests (IV);
- InOpportune behaviour tests (IO);
- TImers (TI).

NOTE 1: All Basic Interconnection and Capability test purposes are also Valid Behaviour test purposes. Basic interconnection test purposes are also Capability test purposes.

NOTE 2: As the scope of this ETS does not cover the whole of ETS 300 239 [1] certain groups in the TSS contain no test purposes.

Figure 1 shows the GFP Test Suite Structure overview. Not all the branches have been expanded to the final details.

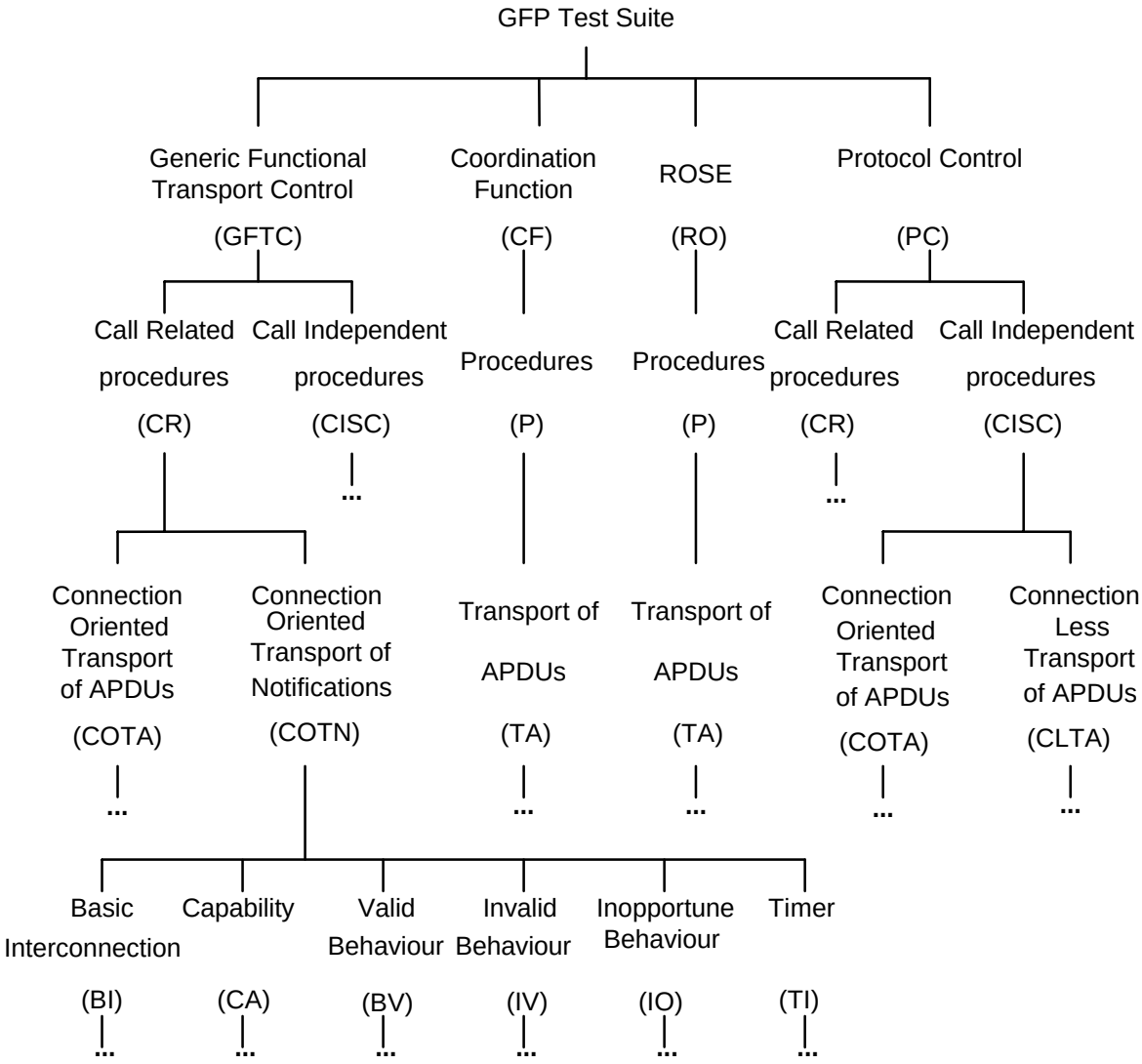

Figure 1: GFP TSS overview for individual TPs

Figure 2 shows the details of the GFP TSS.

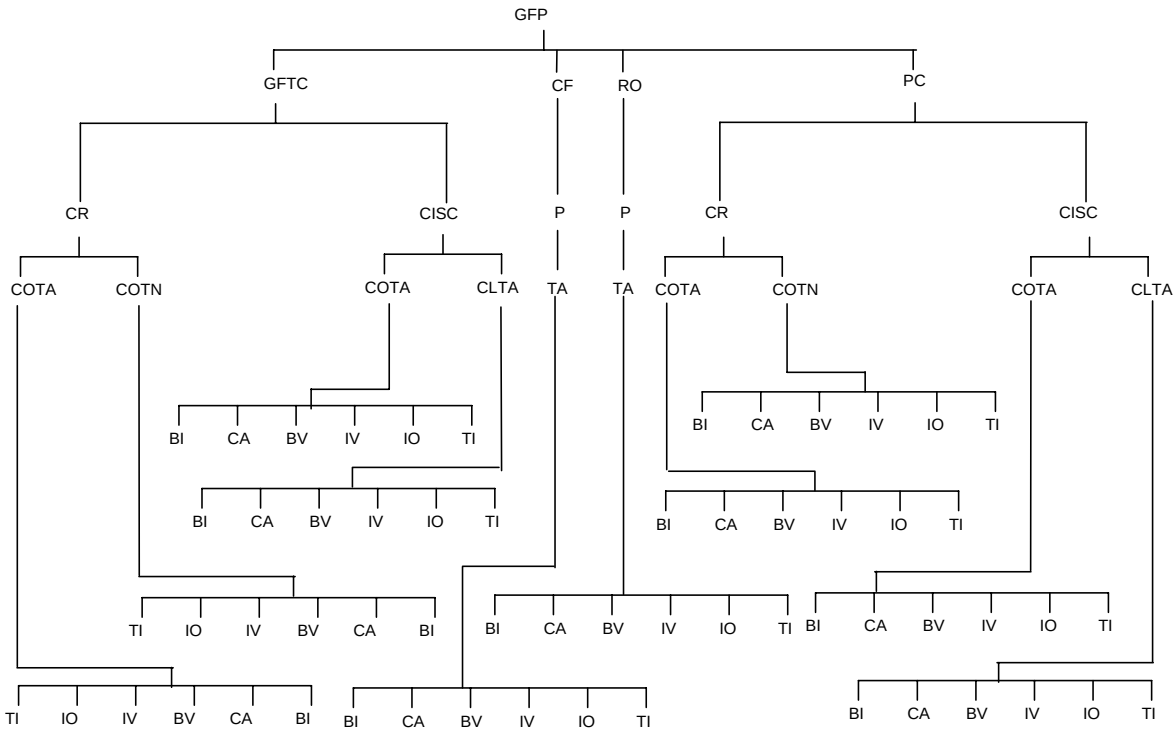

Figure 2: Detailed GFP TSS for individual TPs

4.2 TSS for combined TPs

Following the rules described in ETS 300 406 [3], subclause 7.4.1.1, the test suite for the combined TPs (CTPs) and TPs which remain uncombined is structured as a tree with the following levels:

1st level: the name representing the base specification (ETS 300 239 [1]);
Generic Functional Protocol (GFP).

2nd level: the type of signalling connection;
- Call Related procedures (CR);
- Call Independent procedures (referred by CISC).

3rd level: the type of transport mechanism;
- Connection Oriented Transport of APDUs (COTA);
- Connection Oriented Transport of Notifications (COTN);
- ConnectionLess Transport of APDUs (CLTA).

4th level: the nature of the test;
- Basic Interconnection test (BI);
- CApability test (CA);
- Valid behaviour tests (BV);
- InValid behaviour tests (IV);
- InOpportune behaviour tests (IO);
- TImers (TI);
- Mixed (MI) (This group contains CTPs combining Valid and Invalid behaviour).

NOTE: All Basic Interconnection and Capability test purposes are also Valid Behaviour test purposes.

Figure 3 shows the GFP Test Suite Structure overview. Not all the branches have been expanded to the final details.

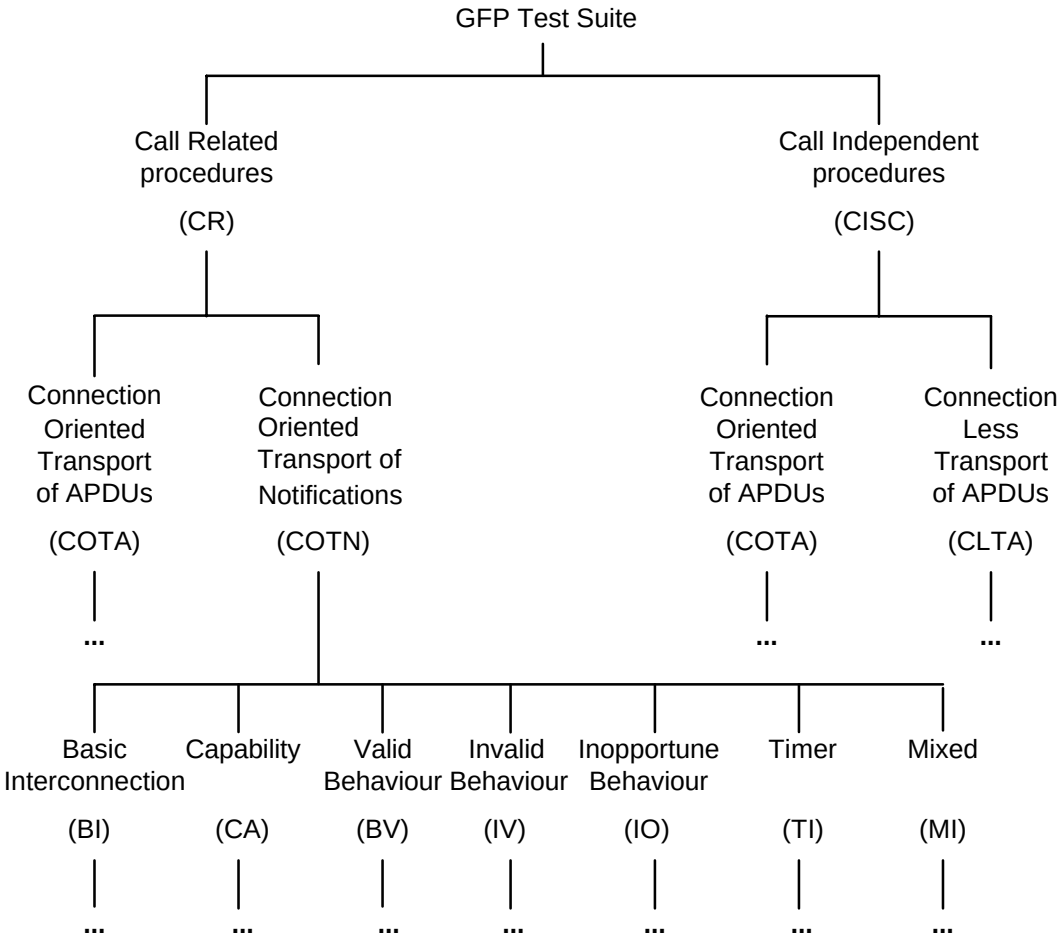

Figure 3: GFP TSS overview for combined TPs

Figure 4 shows the details of the GFP TSS.

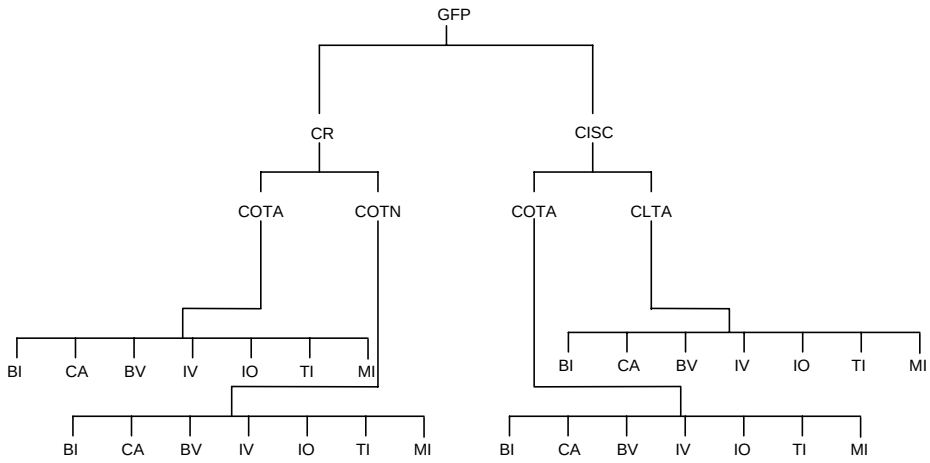

Figure 4: Detailed GFP TSS for combined TPs

5 Test Purposes (TP)

5.1 Introduction to Test Purposes

5.1.1 Test purposes production method

The TPs production method consists of reviewing the standard and specifying everything that should be tested, i.e. all the characteristics that could be determined from the standard, which an implementation is required to conform to, but excluding those that are more effectively tested by testing the individual supplementary services which used them.

This first phase led either to the production of "Super" Test Purposes (STPs), which are general TPs, reflecting more the functional aspects and the structure of the standard rather than the TSS itself (see clause 4), or directly to the production of individual TPs.

The second phase consisted of deriving from each STP several individual TPs. The criteria for deriving these individual TPs took into account the TSS, in order to ensure good coverage for testing. The objective was to derive individual TPs and distribute them over the complete TSS, taking into account all the testing aspects (valid behaviour, inopportune behaviour, timer, parameter variations, state event transition, etc.), while retaining all the requirements of the standard. In this way, one or more individual TPs may be derived from an STP.

Although an STP may generate a number of individual TPs, not all those possible are retained, as they may deal with a requirement which has already been covered by a previous individual TP. This ensures more efficient testing with good coverage, avoiding repeatedly testing the same aspect of the standard, probably leading to the same verdict each time.

Some individual TPs have been combined together in order to have a more complete test, generally where it is not possible to test particular test purposes in isolation. These are called Combined Test Purposes (CTPs). The final set of Test Purposes will be composed of both CTPs and uncombined individual TPs, and it is this final set of TPs which corresponds to test cases in the ATS.

5.1.2 STP identifier

The identifier for a super test purpose consists of the letters SP and a four digit number in the range 1 001 to 1 067, (e.g. SP1009).

5.1.3 Individual TP identifier

The identifier for an individual test purpose consists of the letters TP and a four digit number in the range 2 001 to 2 254, (e.g. TP2058). The identifier for an uncombined TP in the final set of test purposes is the corresponding individual TP identifier.

5.1.4 CTP identifier

The identifier for an combined test purpose consists of the letters CP and a four digit number in the range 3 001 to 3 073, (e.g. CP3025).

5.2 Test purpose writing rules

Writing rules have been defined in order to have consistency between all the TPs. However, in some cases, it is not possible to use them without losing the real objective of the test. Consequently, a small number of TPs may deviate from these rules in a minor way.

5.2.1 Protocol Control

Table 1 gives the writing rules for test purposes with a goal, for protocol control requirements.

Table 1: TP writing rules with a goal for protocol control requirements

STRUCTURE	VALUES
Ensure that the IUT	
in state <state> for a	0,1, 2, 3, etc.
<connection type>,	call, CISC, etc.
<goal>	In order to initiate/release a CISC, in order to indicate that the CISC is established, in order to send a Facility IE related to that call, when requested by GFT-Control to send a Facility IE related to that call, etc.
<conditions>	When a SCM connection does not already exist, when a/no XXX message is to be sent, etc.
<action>	Passes that IE to GFT-Control, establishes a SCM connection, sends, saves, does, etc.
if the action is sending	
a <message type> message containing	FACILITY, NOTIFY, etc.
a) a <information element> IE including	Facility, Notification Indicator, etc.
a <component name> with a	NFE, APDU, etc.
b) <field name>	sourceEntity, destinationEntityAddress, etc.
[encoded as <coding of the field>	endPINX, anyTypeOfPINX, etc.
or not included]	
and back to a) or b)	
[and remains in the same state	
or and enters state <state>]	0, 1, 2, etc.
NOTE: In this table normal text in the left hand column is included in the test purpose, text between < and > is replaced by a value (examples given in the right column). Text in bold is not included in the test purpose, [and] are used to delimit options, and **a)** and **b)** are labels.	

Table 2 gives the writing rules for TPs with a trigger, for protocol control requirements.

Table 2: TP writing rules with a trigger for protocol control requirements

STRUCTURE	VALUES
Ensure that the IUT	
in state <state> for a	0,1, 2, 3, etc.
<connection type>	call, CISC, etc.
<trigger>	on receiving, on expiry of Txxx, etc.
<conditions>	after SCM failure, after having sent, etc.
if the trigger is receiving	
a <message type> message related to	FACILITY, NOTIFY, etc.
<call type>,containing	the establishment of a CISC, that call, etc.
a) a <information element> IE including	Facility, Notification Indicator, etc.
a <component name> with a	NFE, APDU, etc.
b) <field name>	sourceEntity, destinationEntityAddress, etc.
[encoded as <coding of the field>	endPINX, anyTypeOfPINX, etc.
or included]	
and back to a) or b)	
<action>	passes that IE to GFT-Control, establishes a SCM connection, behaves as though only the first had been received, does not take any action, sends, saves, ignores, etc.
if the action is sending	
a <message type> message containing	FACILITY, NOTIFY, etc.
c) a <information element> IE including	Facility, Notification Indicator, etc.
a <component name> with a	NFE, APDU, etc.
d) <field name>	sourceEntity, destinationEntityAddress, etc.
[encoded as <coding of the field>	endPINX, anyTypeOfPINX, etc.
or included]	
and back to c) or d)	
[and remains in the same state	
or and enters state <state>].	0, 1, 2, etc.

5.2.2 GFTC

Table 3 gives the writing rules for test purposes with a goal, for generic functional transport control requirements.

Table 3: TP writing rules with a goal for generic functional transport control requirements

STRUCTURE	VALUES
Ensure that the IUT	
in the <state> state for a	incoming_connection_active, etc.
<connection type>,	call, CISC (call independent signalling connection), etc.
<goal>	in order to transmit APDUs, in order to release a CISC, etc.
<action>	sends, saves, does, etc.
if the action is sending	
a <message type> message containing	FACILITY, NOTIFY, etc.
a) a <information element> IE including	Facility, Notification Indicator, etc.
a <component name> with a	NFE, APDU, etc.
b) <field name>	sourceEntity, destinationEntityAddress, etc.
[encoded as <coding of the field>	endPINX, anyTypeOfPINX, etc.
or not included]	
and back to a) or b)	
[and remains in the same state	
or and enters state <state>].	0, 1, 2, etc.
NOTE: In this table normal text in the left hand column is included in the test purpose, text between < and > is replaced by a value (examples given in the right column). Text in bold is not included in the test purpose, [and] are used to delimit options, and **a)** and **b)** are labels.	

Table 4 gives the writing rules for TPs with a trigger, for GFTC requirements.

Table 4: TP writing rules with a trigger for GFTC requirements

STRUCTURE	VALUES
Ensure that the IUT	
[as a <role> PINX or in the <state> state]	End, Transit, etc. or Transit_connection_idle, Transit_connection_active, etc.
for a <connection type>	call, CISC (call independent signalling connection), etc.
<trigger>	on receiving, on expiry of Txxx, etc.
if the trigger is receiving	
a <message type> message related to	FACILITY, NOTIFY, etc.
<call type>,containing	the establishment of a CISC, that call, etc.
a) a <information element> IE including	Facility, Notification Indicator, etc.
a <component name> with a	NFE, APDU, etc.
b) <field name>	sourceEntity, destinationEntityAddress, etc.
[encoded as <coding of the field>	endPINX, anyTypeOfPINX, etc.
or included]	
and back to a) or b)	
<action>	passes that IE to the Co-ordination Function, discards the Facility IE, becomes the Destination PINX for that IE, does not take any action, sends, saves, ignores, etc.
if the action is sending	
a <message type> message containing	FACILITY, NOTIFY, etc.
c) a <information element> IE including	Facility, Notification Indicator, etc.
a <component name> with a	NFE, APDU, etc.
d) <field name>	sourceEntity, destinationEntityAddress, etc.
[encoded as <coding of the field>	endPINX, anyTypeOfPINX, etc.
or included]	
and back to c) or d)	
[and remains in the same state	
or and enters state <state>].	0, 1, 2, etc.

5.3 TPs

NOTE 1: Test cases are derived from the Combined and Uncombined TPs specified in clause 6.

NOTE 2: Where a TP specifies that the IUT enters or remains in a specified state, this is verified as specified in subclause 5.3.5.

NOTE 3 : A test case associated with a TP will be selected taking into account the particular features of the standard which have been implemented. These selection expressions are supplied in the relevant ATS specification.

NOTE 4: Unless otherwise specified the IUT is in a state where it is valid for it to receive any message specified in a test case and all messages sent to the IUT are to be correctly coded.

NOTE 5: In each test purpose the term "IUT" refers to the particular entity within the SUT that is the focus of that test purpose (e.g. in the TPs from the PC group of the TSS, the IUT is the PC entity, whereas in the TPs from the GFTC group of the TSS, the IUT is the GFTC entity).

5.3.1 Call Related procedures for the transport of APDUs

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.

5.3.1.1 PC requirements

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.1.

5.3.1.1.1 PC - Sending Facility IE

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.1.1.

PC/CR/COTA/BV/TP2209
- Ensure that the IUT, when requested by GFT-Control to send a Facility IE related to a call, either includes the Facility IE in one of the relevant messages which is to be sent, i.e. ALERTING, CONNECT, SETUP, PROGRESS, DISCONNECT, RELEASE or RELEASE COMPLETE, or sends a FACILITY message including the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

SP1002
- Ensure that the IUT in a state other than 1 for a call, when requested by GFT-Control to send a Facility IE related to that call, when no ALERTING, CONNECT, SETUP, DISCONNECT, PROGRESS, RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

PC/CR/COTA/BI/TP2007
- Ensure that the IUT in state 10 for a call, when requested by GFT-Control to send a Facility IE related to that call, when no DISCONNECT, RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

PC/CR/COTA/IO/TP2008
- Ensure that the IUT in state 1 for a call, when requested by GFT-Control to send a Facility IE related to that call, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

PC/CR/COTA/IO/TP2210
- Ensure that the IUT in state 6 for a call, when requested by GFT-Control to send a Facility IE related to that call, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

PC/CR/COTA/IO/TP2211
- Ensure that the IUT in state 19 for a call, when requested by GFT-Control to send a Facility IE related to that call, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

PC/CR/COTA/IO/TP2009
- Ensure that the IUT in state 11 for a call, when requested by GFT-Control to send a Facility IE with network significance related to that call, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

PC/CR/COTA/IO/TP2010
- Ensure that the IUT in state 19 for a call, when requested by GFT-Control to send a Facility IE with network significance related to that call, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

5.3.1.1.2 PC - Receiving Facility IE

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.1.2.

SP1003
- Ensure that the IUT, on receiving an ALERTING, CONNECT, SETUP, DISCONNECT, PROGRESS, RELEASE or RELEASE COMPLETE message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP2011
- Ensure that the IUT, on receiving an ALERTING message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP2012
- Ensure that the IUT, on receiving a CONNECT message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP2013
- Ensure that the IUT, on receiving a SETUP message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP2014
- Ensure that the IUT, on receiving a DISCONNECT message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP2015
- Ensure that the IUT, on receiving a PROGRESS message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP2016
- Ensure that the IUT, on receiving a RELEASE message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP2017
- Ensure that the IUT, on receiving a RELEASE COMPLETE message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BI/TP2018
- Ensure that the IUT on receiving a FACILITY message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

5.3.1.1.3 PC - Protocol error handling

The TPs in this subclause refer to ETS 300 239 [1], clause 11 and ETS 300 172 [2], subclause 9.2.

SP1004
- Ensure that the IUT, on receiving a FACILITY message, related to a call, and containing a Facility IE encoded with a content error, sends a STATUS message containing a Cause IE with a Cause value encoded as 100. (reference ETS 300 239 [1], subclause 10.7 and 11.3.3 and ETS 300 172 [2], subclause 9.2.6.2).

  PC/CR/COTA/IV/TP2019
  - Ensure that the IUT, on receiving a FACILITY message, related to a call, and containing a Facility IE with a reserved value for the protocol profile field, sends a STATUS message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclause 10.7 and 11.3.3 and ETS 300 172 [2], subclause 9.2.6.2).

SP1005
- Ensure that the IUT, on receiving an ALERTING, CONNECT, SETUP, DISCONNECT, PROGRESS, RELEASE or RELEASE COMPLETE message, related to a call, and containing a Facility IE encoded with a content error, ignores the Facility IE and optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100 and enters the appropriate state according to the Basic Call message received (reference ETS 300 239 [1], subclause 11.3.3 and ETS 300 172 [2], subclause 9.2.7.2).

  PC/CR/COTA/IV/TP2021
  - Ensure that the IUT in state 3 for a call, on receiving an ALERTING message containing a Facility IE with a reserved value for the protocol profile field, ignores the Facility IE and optionally sends a STATUS message containing a Cause IE with a Cause value encoded as

100 and enters state 4 (reference ETS 300 239 [1], subclause 11.3.3 and ETS 300 172 [2], subclause 9.2.7.2).

PC/CR/COTA/IV/TP2022

- Ensure that the IUT in state 10 for a call, on receiving a PROGRESS message containing a Facility IE with a reserved value for the protocol profile field, ignores the Facility IE and optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclause 11.3.3 and ETS 300 172 [2], subclause 9.2.7.2).

PC/CR/COTA/IV/TP2023

- Ensure that the IUT, on receiving a FACILITY message, related to a call, and not containing a Facility IE, sends a STATUS message containing a Cause IE with a Cause value encoded as 96 (reference ETS 300 239 [1], subclause 10.7 and ETS 300 172 [2], subclause 9.2.6.1)

5.3.1.2 GFTC requirements

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.2.

5.3.1.2.1 GFTC - Actions at a Receiving PINX

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.2.2.

GFTC/CR/COTA/BI/TP2024

- Ensure that the IUT, on receiving via PC a Facility IE not including an Network Facility Extension (NFE), becomes the Destination PINX for that IE and passes it to the CF (reference ETS 300 239 [1], subclause 7.1.2.2).

5.3.1.2.1.1 GFTC - End PINX actions

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.2.2.1.

SP1006

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" or "anyTypeOfPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CR/COTA/BV/TP2025

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CR/COTA/CA/TP2026

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CR/COTA/BV/TP2027

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

SP1007

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CR/COTA/BV/TP2028

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CR/COTA/BV/TP2029

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element not matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CR/COTA/IV/TP2030

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, discards the Facility IE (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CR/COTA/IV/TP2031

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with coding or structure not as specified in clause 11 of ETS 300 239 [1], discards the entire Facility IE (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CR/COTA/BV/TP2032

- Ensure that the IUT as an End PINX, on receiving via PC two facility IEs from the same message,
  the first Facility IE including an NFE encoded as follows:

destinationEntity: "endPINX"
destinationEntityAddress: (omitted)

  and the second Facility IE including an NFE encoded as follows:

detinationEntity: "anyTypeOfPINX"
destinationEntityAddress: (not matching the address of the IUT)

  becomes the Destination PINX for the first Facility IE and passes it to the Co-ordination Function, and discards the second Facility IE (reference ETS 300 239 [1], subclause 7.1.2.2.1).

5.3.1.2.1.2 GFTC - Transit PINX actions

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.2.2.2.

GFTC/CR/COTA/BV/TP2033

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CR/COTA/BV/TP2034

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and understanding the contents of this IE, either becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function, or passes that Facility IE unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

SP1008

- Ensure that the IUT as a Transit PINX for a call, on receiving a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element, and unable to become an End PINX for that Facility IE, passes it unchanged to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CR/COTA/BV/TP2035

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element matching its own address, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CR/COTA/CA/TP2036
- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endpoint" and with a destinationEntityAddress element not matching its own address, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CR/COTA/BV/TP2037
- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with no destinationEntityAddress element, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CR/COTA/BV/TP2038
- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, and understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CR/COTA/BV/TP2039
- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, and not understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CR/COTA/BV/TP2040
- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and not understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

  NOTE: The coverage of the possible combinations of NFE codings by the above TPs is shown in table 5.

Table 5: Possible combinations of NFE codings

destinationEntity element (note 1)	destinationEntity Address element (note 2)	Capable (note 3)	Action (note 4)	TP (note 5)
end	match	no	P	2035
end	no match	no	P	2036
end	-	no	P	2037
any	match	yes	D	2033
any	no match	yes	P	2038
any	-	yes	D or P	2034
any	match	no	D	2033
any	no match	no	P	2039
any	-	no	P	2040

NOTE 1: The destinationEntity element of the NFE indicates "endPINX" (end) or "anyTypeOfPINX" (any).
NOTE 2: The destinationEntityAddress element of the NFE matches the IUT's address (match) or does not match the IUT's address (not match).
NOTE 3: The IUT is able to become an End PINX for that Facility IE.
NOTE 4: The IUT becomes a Destination PINX for that Facility IE (D), or passes this Facility unchanged to the next PINX (P).
NOTE 5: The TP dealing with the corresponding situation has the number identified in this column (e.g. TP2035, TP2036, TP2037, etc.).

GFTC/CR/COTA/IV/TP2041
- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE which includes an NFE not encoded or structured according to clause 11, discards the entire Facility IE, without passing it on via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

5.3.1.2.2 GFTC - Actions at a Destination PINX

The TP in this subclause references ETS 300 239 [1], subclause 7.1.2.3

SP1058
- Ensure that the IUT, on receiving via PC a Facility IE related to a call, with a Protocol Profile encoded with another value than "Networking Extensions", passes the APDUs to CF together with an indication of the protocol profile reflecting the contents of the Protocol Profile (reference ETS 300 239 [1], subclause 7.1.2.3).

  GFTC/CR/COTA/BV/TP2042
  - Ensure that the IUT, on receiving via PC a Facility IE, related to a call, with a Protocol Profile encoded as "10001", passes the APDUs to CF together with an indication of the protocol profile reflecting the contents of the Protocol Profile (reference ETS 300 239 [1], subclause 7.1.2.3).

GFTC/CR/COTA/IV/TP2212
- Ensure that the IUT, on receiving via PC a Facility IE, related to a call, with a Network Protocol Profile incorrectly coded (i.e. other than "ACSE" or "DSE"), discards this Facility IE (reference ETS 300 239 [1], subclause 7.1.2.3).

GFTC/CR/COTA/IV/TP2213
- Ensure that the IUT, on receiving via PC a Facility IE, related to a call, with octets 4 onwards not containing an APDU in the form of an ASN1 encoded value, discards this Facility IE (reference ETS 300 239 [1], subclause 7.1.2.3).

5.3.1.3 Relaying requirements

PC/CR/COTA/BV/TP1068
- Ensure that the IUT as a Transit PINX, in state TCC_Idle, on receiving a SETUP message on interface X, containing a Facility IE which is to be relayed, sends a SETUP message on interface Y containing this Facility IE.

PC/CR/COTA/BV/TP1069
- Ensure that the IUT as a Transit PINX, in state TCC_Transit_Call_Proceeding, on receiving an ALERTING message on interface Y, containing a Facility IE which is to be relayed, sends an ALERTING message on interface X containing this Facility IE.

PC/CR/COTA/BV/TP1070
- Ensure that the IUT as a Transit PINX, in state TCC_Call_Alerting, on receiving a CONNECT message on interface Y, containing a Facility IE which is to be relayed, sends a CONNECT message on interface X containing this Facility IE.

PC/CR/COTA/BV/TP1071
- Ensure that the IUT as a Transit PINX, in state TCC_Transit_Call_Proceeding, on receiving a PROGRESS message on interface Y, containing a Facility IE which is to be relayed, sends a PROGRESS message on interface X containing this Facility IE.

PC/CR/COTA/BV/TP1072
- Ensure that the IUT as a Transit PINX, in state TCC_Call_Active, on receiving a DISCONNECT message on interface X, containing a Facility IE which is to be relayed, sends a DISCONNECT message on interface Y containing this Facility IE.

PC/CR/COTA/BV/TP1073
- Ensure that the IUT as a Transit PINX, in state TCC_Call_Active, on receiving a RELEASE message on interface Y, containing a Facility IE which is to be relayed, sends a DISCONNECT message on interface X containing this Facility IE.

PC/CR/COTA/BV/TP1074
- Ensure that the IUT as a Transit PINX, in state TCC_Call_Active, on receiving a RELEASE COMPLETE message on interface X, containing a Facility IE which is to be relayed, sends a DISCONNECT message on interface Y containing this Facility IE.

5.3.2 Connection Oriented Call Independent APDU transport mechanism

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.

5.3.2.1 PC requirements

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.

5.3.2.1.1 PC - Actions in the Null state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.1.

PC/CISC/COTA/BV/TP2043
- Ensure that the IUT in state 0, when requested by GFT-Control to initiate a CISC when a SCM connection does not already exist, establishes a SCM connection (reference ETS 300 239 [1], subclause 7.3.1.1).

PC/CISC/COTA/BI/TP2044

- Ensure that the IUT in state 0, when requested by GFT-Control to initiate a CISC, sends a SETUP message containing:
  - a Call Reference IE according to 14.3 of ETS 300 172;
  - optionally a Sending Complete IE;
  - a Bearer Capability IE with Coding Standard field encoded as "Other international standard", Information Transfer Capability field encoded as "Unrestricted digital information", Transfer Mode field encoded as "Circuit mode" and Information Transfer Rate field encoded as "CISC";
  - a Channel Identification IE with Channel Selection field encoded as "No channel", Signalling Channel Indication field encoded as "Channel indicated is the signalling channel", and Preferred/exclusive field encoded as "exclusive";
  - a Called Party Number IE containing a number at least sufficient to identify a terminating PINX;
  - optionally a Calling Party Number IE containing a number at least sufficient to identify the originating PINX;
  - optionally one or more Facility IEs;
  - optionally a Transit Counter IE;

  and enters state 1 (reference ETS 300 239 [1], subclause 7.3.1.1).

PC/CISC/COTA/BV/TP2045

- Ensure that the IUT in state 0, on receiving of a SETUP message related to the establishment of a CISC, sends a CALL PROCEEDING message and enters state 9 (reference ETS 300 239 [1], subclause 7.3.1.1).

5.3.2.1.2 PC - Actions in the Call Initiated state

The TPs in this subclause refer to ETS 300 239 [1], subclauses 7.3.1.1 and 7.3.1.2.

PC/CISC/COTA/BV/TP2046

- Ensure that the IUT, in state 1 for a CISC, on receiving a CALL PROCEEDING message, enters state 3 (reference ETS 300 239 [1], subclause 7.3.1.1).

PC/CISC/COTA/BV/TP2047

- Ensure that the IUT, in state 1 for a CISC, on first expiry of T303, either re-transmits the SETUP message or sends a RELEASE COMPLETE message (reference ETS 300 239 [1], subclause 7.3.1.2).

PC/CISC/COTA/BV/TP2048

- Ensure that the IUT, in state 1 for a CISC, on second expiry of T303, sends a RELEASE COMPLETE message containing a Cause and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.2).

5.3.2.1.3 PC - Actions in the incoming Call Proceeding state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.3.

PC/CISC/COTA/BV/TP2049

- Ensure that the IUT in state 9 for a CISC, when requested by GFT-Control to indicate that the CISC is established, sends a CONNECT message and enters state 8 or state 10 (reference ETS 300 239 [1], subclause 7.3.1.3).

5.3.2.1.4 PC - Actions in the outgoing Call Proceeding state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.4.

PC/CISC/COTA/BV/TP2050

- Ensure that the IUT in state 3 for a CISC, on receiving a CONNECT message, sends a CONNECT ACKNOWLEDGE message and enters state 10 (reference ETS 300 239 [1], subclause 7.3.1.4).

PC/CISC/COTA/BV/TP2051

- Ensure that the IUT in state 3 for a CISC, on expiry of T310, sends a RELEASE message containing a Cause IE and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.4).

5.3.2.1.5 PC - Actions in the Connect Request state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.5.

PC/CISC/COTA/BV/TP2052
- Ensure that the IUT in state 8 for a CISC, on receiving a CONNECT ACKNOWLEDGE message enters state 10 (reference ETS 300 239 [1], subclause 7.3.1.5).

PC/CISC/COTA/BV/TP2053
- Ensure that the IUT in state 8 for a CISC, on expiry of T313, sends a RELEASE message containing a Cause IE and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.5).

5.3.2.1.6 PC - Actions in the Active state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.6.

PC/CISC/COTA/BV/TP2055
- Ensure that the IUT, in state 10 for a CISC, on receiving a CONNECT ACKNOWLEDGE message remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.6).

5.3.2.1.7 PC - Connection release

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.7.

SP1009
- Ensure that the IUT in all states other that 19 for a CISC, when requested by GFT-Control to release the CISC, sends a RELEASE message containing a Cause IE with an appropriate Cause value and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.7).

  PC/CISC/COTA/BV/TP2056
  - Ensure that the IUT in state 1 for a CISC, when requested by GFT-Control to release the CISC, sends a RELEASE message containing a Cause IE with an appropriate Cause value and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.7).

  PC/CISC/COTA/BV/TP2057
  - Ensure that the IUT in state 8 for a CISC, when requested by GFT-Control to release the CISC, sends a RELEASE message containing a Cause IE with an appropriate Cause value and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.7).

  PC/CISC/COTA/BV/TP2058
  - Ensure that the IUT in state 10 for a CISC, when requested by GFT-Control to release the CISC, sends a RELEASE message containing a Cause IE with an appropriate Cause value and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.7).

SP1010
- Ensure that the IUT, in all states other than state 19 for a CISC, on receiving a RELEASE message, sends a RELEASE COMPLETE message and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.7).

  PC/CISC/COTA/BV/TP2059
  - Ensure that the IUT, in state 3 for a CISC, on receiving a RELEASE message, sends a RELEASE COMPLETE message and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.7).

  PC/CISC/COTA/BV/TP2060
  - Ensure that the IUT, in state 9 for a CISC, on receiving a RELEASE message, sends a RELEASE COMPLETE message and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.7).

  PC/CISC/COTA/BV/TP2061
  - Ensure that the IUT, in state 10 for a CISC, on receiving a RELEASE message, sends a RELEASE COMPLETE message and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.7).

SP1059

- Ensure that the IUT in all states other than state 19 for a CISC, on receiving a RELEASE COMPLETE message, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.7).

PC/CISC/COTA/BV/TP2062

- Ensure that the IUT in state 1 for a CISC, on receiving a RELEASE COMPLETE message, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.7).

PC/CISC/COTA/BV/TP2214

- Ensure that the IUT in state 3 for a CISC, on receiving a RELEASE COMPLETE message, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.7).

PC/CISC/COTA/BV/TP2215

- Ensure that the IUT in state 10 for a CISC, on receiving a RELEASE COMPLETE message, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.7).

5.3.2.1.8 PC - Actions in the Release Request state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.8.

PC/CISC/COTA/BV/TP2063

- Ensure that the IUT in state 19 for a CISC, on receiving a RELEASE message, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.8).

PC/CISC/COTA/BV/TP2064

- Ensure that the IUT in state 19 for a CISC, on receiving a RELEASE COMPLETE message, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.8).

PC/CISC/COTA/BV/TP2065

- Ensure that the IUT in state 19 for a CISC, on first expiry of T308, re-transmits the RELEASE message and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.8).

PC/CISC/COTA/BV/TP2066

- Ensure that the IUT in state 19 for a CISC, on second expiry of T308, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.8).

5.3.2.1.9 PC - Transport of APDUs associated with a CISC

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.9.

a) PC - CISC - Sending Facility IE

The TPs in this subclause refer to ETS 300 239 [1], subclauses 7.3.1.9 and 7.1.1.1.

PC/CISC/COTA/BV/TP2216

- Ensure that the IUT, when requested by GFT-Control to send a Facility IE related to a CISC, either includes the Facility IE in one of the relevant messages which is to be sent, i.e. CONNECT, SETUP, RELEASE or RELEASE COMPLETE, or sends a FACILITY message including the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1 and 7.3.1.9).

SP1012

- Ensure that the IUT, when requested by GFT-Control to send a Facility IE related to a CISC in a state other than state 1, 6 or 19, when no CONNECT, SETUP, RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing that Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1, 7.3.1.6 and 7.3.1.9).

PC/CISC/COTA/BV/TP2071

- Ensure that the IUT in state 10 for a CISC, when requested by GFT-Control to send a Facility IE when no RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1, 7.3.1.6 and 7.3.1.9).

PC/CISC/COTA/IO/TP2072

- Ensure that the IUT in state 1 for a CISC, when requested by GFT-Control to send a Facility IE, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1 and 7.3.1.9).

PC/CISC/COTA/IO/TP2217

- Ensure that the IUT in state 6 for a CISC, when requested by GFT-Control to send a Facility IE, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1 and 7.3.1.9).

PC/CISC/COTA/IO/TP2073

- Ensure that the IUT in state 19 for a CISC, when requested by GFT-Control to send a Facility IE, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1 and 7.3.1.9).

PC/CISC/COTA/IO/TP2218

- Ensure that the IUT in state 19 for a CISC, when requested by GFT-Control to send a Facility IE with network significance, does not send a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1 and 7.3.1.9).

b) PC - CISC - Receiving Facility IE

The TPs in this subclause refer to ETS 300 239 [1], subclauses 7.3.1.9 and 7.1.1.2.

SP1013

- Ensure that the IUT, on receiving a CONNECT, SETUP, RELEASE or RELEASE COMPLETE message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

PC/CISC/COTA/BV/TP2074

- Ensure that the IUT, on receiving a CONNECT message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

PC/CISC/COTA/BV/TP2075

- Ensure that the IUT, on receiving a SETUP message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

PC/CISC/COTA/BV/TP2076

- Ensure that the IUT, on receiving a RELEASE message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

PC/CISC/COTA/BV/TP2077

- Ensure that the IUT, on receiving a RELEASE COMPLETE message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

PC/CISC/COTA/BV/TP2078

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

5.3.2.1.10 PC - Protocol error handling

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.10.

PC/CISC/COTA/IV/TP2079

- Ensure that the IUT in state 0 for a CISC, on receiving a SETUP message containing a Call Reference IE with a Call Reference Flag encoded as 1, does not send any message in response to the incoming message and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.3.2).

SP1014

- Ensure that the IUT in state 6, 8, 9, 10 or 19 for a CISC, on receiving a SETUP message containing a Call Reference IE with the Call Reference Value of the CISC, does not send any message in response to the incoming message and remains in the same state for this call and (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.3.2).

PC/CISC/COTA/IO/TP2080

- Ensure that the IUT in state 9 for a CISC, on receiving a SETUP message containing a Call Reference IE with the Call Reference Value of the CISC in progress, does not send any message in response to the incoming message and remains in the same state for the CISC. (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.3.2).

PC/CISC/COTA/IO/TP2081

- Ensure that the IUT in state 10 for a CISC, on receiving a SETUP message containing a Call Reference IE with the Call Reference Value of the CISC, does not send any message in response to the incoming message and remains in the same state for the CISC (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.3.2).

SP1015

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, on receiving a message containing a Message Type IE other than one of those specified in ETS 300 172 [2] and ETS 300 239 [1], either sends a STATUS message containing a Cause IE with a Cause value encoded as 97 or 98, or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

PC/CISC/COTA/IV/TP2082

- Ensure that the IUT in state 3 for a CISC, on receiving a message containing a Message Type IE other than one of those specified in ETS 300 172 [2] or ETS 300 239 [1], either sends a STATUS message containing a Cause IE with a Cause value encoded as 97 or 98, or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

SP1016

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, on receiving a message other than RELEASE, RELEASE COMPLETE or SETUP which is not expected in that state, either sends a STATUS message containing a Cause IE with a Cause value encoded as 98 or 101, or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

PC/CISC/COTA/IO/TP2083

- Ensure that the IUT in state 8 for a CISC, on receiving a CALL PROCEEDING message which is not expected in that state, either sends a STATUS message containing a Cause IE with a Cause value encoded as 98 or 101, or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

SP1017

- Ensure that the IUT in state 3, 8, 9 or 10 for a CISC, on receiving a RELEASE COMPLETE message, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

PC/CISC/COTA/IO/TP2084

- Ensure that the IUT in state 10 for a CISC, on receiving a RELEASE COMPLETE message, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

SP1018

- Ensure that the IUT, on receiving a message related to a CISC, and containing two or more instances of an IE for which repetition is not permitted, behaves as though only the first had been received (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.5.1).

PC/CISC/COTA/IV/TP2085

- Ensure that the IUT, on receiving a SETUP message related to a CISC, and containing two Calling Party Number IEs, behaves as though only the first had been received (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.5.1).

SP1019

- Ensure that the IUT in state 0, on receiving a SETUP message related to a CISC, and containing a mandatory IE with a length greater than the permitted maximum, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.5.2 and 9.2.6.2).

PC/CISC/COTA/IV/TP2086

- Ensure that the IUT in state 0, on receiving a SETUP message related to a CISC, and containing a Bearer Capability IE with a length of 12, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.5.2 and 9.2.6.2).

SP1020

- Ensure that the IUT in state 1 for a CISC, on receiving a RELEASE message containing a Cause IE exceeding the maximum permitted length, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 100 and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.5.2 and 9.2.6.2).

PC/CISC/COTA/IV/TP2087

- Ensure that the IUT in state 1 for a CISC, on receiving a RELEASE message containing a Cause IE with length 33 octets, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 100 and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.5.2 and 9.2.6.2).

SP1021

- Ensure that the IUT, in state 1 for a CISC, on receiving a RELEASE COMPLETE message containing a Cause IE exceeding the maximum length, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.5.2 and 9.2.6.2).

PC/CISC/COTA/IV/TP2088

- Ensure that the IUT, in state 1 for a CISC, on receiving a RELEASE COMPLETE message containing a Cause IE with length 33 octets, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.5.2 and 9.2.6.2).

SP1022

- Ensure that the IUT in any state for a CISC, on receiving a message other than SETUP, RELEASE or RELEASE COMPLETE with one or more mandatory IEs missing, sends a STATUS message containing a Cause IE with a Cause value encoded as 96 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1).

PC/CISC/COTA/IV/TP2089

- Ensure that the IUT in state 10 for a CISC, on receiving a FACILITY message not containing a Facility IE, sends a STATUS message containing a Cause IE with a Cause value encoded as 96 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1).

SP1023

- Ensure that the IUT in state 0, on receiving a SETUP message related to a CISC, and containing one or more mandatory IEs missing, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96, and remains in state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1).

PC/CISC/COTA/IV/TP2090

- Ensure that the IUT in state 0, on receiving a SETUP message related to a CISC, and not containing a Called Party Number IE, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96, and returns to state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1).

SP1024

- Ensure that the IUT in state 3, 8, 9 or 10 for a CISC, on receiving a RELEASE message containing one or more mandatory IEs missing, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96 and enters state 0.(reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1)

PC/CISC/COTA/IV/TP2091

- Ensure that the IUT in state 10 for a CISC, on receiving a RELEASE message as the first clearing message not containing a Cause IE, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96 and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1).

SP1025

- Ensure that the IUT in state 3, 8, 9 or 10 for a CISC, on receiving a RELEASE COMPLETE message as the first clearing message containing one or more mandatory IEs missing, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1).

PC/CISC/COTA/IV/TP2092

- Ensure that the IUT in state 3 for a CISC, on receiving a RELEASE COMPLETE message as the first clearing message not containing a Cause IE, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1).

PC/CISC/COTA/IV/TP2093

- Ensure that the IUT in state 8 for a CISC, on receiving a RELEASE COMPLETE message as the first clearing message not containing a Cause IE, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.1).

SP1026

- Ensure that the IUT, on receiving a message related to a CISC other than SETUP, RELEASE or RELEASE COMPLETE, and containing a mandatory IE encoded with a content error, sends a STATUS message containing a Cause IE with a Cause value encoded as 100 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.2).

PC/CISC/COTA/IV/TP2094

- Ensure that the IUT in state 10 for a CISC, on receiving a FACILITY message containing a Facility IE encoded with a reserved value for the protocol profile field, sends a STATUS message containing a Cause IE with a Cause value encoded as 100 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.2).

SP1027

- Ensure that the IUT in state 0 for a CISC, on receiving a SETUP message containing a mandatory IE encoded with a content error, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.2).

PC/CISC/COTA/IV/TP2095

- Ensure that the IUT in state 0 for a CISC, on receiving a SETUP message containing a Channel Identification IE encoded with a content error, sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.2).

PC/CISC/COTA/IV/TP2096

- Ensure that the IUT in state 1 for a CISC, on receiving a RELEASE message containing a Cause IE encoded with a content error, sends a RELEASE COMPLETE message containing a Cause IE encoded as 100 and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.2).

PC/CISC/COTA/IV/TP2097

- Ensure that the IUT in state 1 for a CISC, on receiving a RELEASE COMPLETE message containing a Cause IE encoded with a content error, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.6.2).

SP1028

- Ensure that the IUT in any state for a CISC, on receiving a message other than SETUP, RELEASE or RELEASE COMPLETE with one or more IEs which are unrecognized and encoded as "comprehension required", sends a STATUS message containing a Cause IE with a Cause value encoded as 96 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

PC/CISC/COTA/IV/TP2098

- Ensure that the IUT in state 1 for a CISC, on receiving a CALL PROCEEDING message containing an unrecognized IE encoded as "comprehension required", sends a STATUS message containing a Cause IE with a Cause value encoded as 96 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

PC/CISC/COTA/IV/TP2099

- Ensure that the IUT in state 8 for a CISC, on receiving a CONNECT ACK message containing an unrecognized IE encoded as "comprehension required", sends a STATUS message containing a Cause IE with a Cause value encoded as 96 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

SP1029

- Ensure that the IUT in state 0 for a CISC, on receiving a SETUP message containing one or more IEs which are unrecognized and encoded as "comprehension required", sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96, and returns to state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1)

PC/CISC/COTA/IV/TP2100

- Ensure that the IUT in state 0 for a CISC, on receiving a SETUP message containing an unrecognized IE encoded as "comprehension required", sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96, and returns to state 0 (reference ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

SP1030

- Ensure that the IUT in state 3, 8, 9 or 10 for a CISC, on receiving a RELEASE message containing one or more IEs which are unrecognized and encoded as "comprehension required", sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96 and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

PC/CISC/COTA/IV/TP2101

- Ensure that the IUT in state 3 for a CISC, on receiving a RELEASE message containing an unrecognized IE encoded as "comprehension required", sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96 and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

PC/CISC/COTA/IV/TP2102

- Ensure that the IUT in state 8 for a CISC, on receiving a RELEASE message containing an unrecognized IE encoded as "comprehension required", sends a RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 96 and enters state 0 (reference ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

SP1031

- Ensure that the IUT in state 3, 8, 9 or 10 for a CISC, on receiving a RELEASE COMPLETE message containing one or more IEs which are unrecognized and encoded as "comprehension required", enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

PC/CISC/COTA/IV/TP2103

- Ensure that the IUT in state 10 for a CISC, on receiving a RELEASE COMPLETE message containing an unrecognized IE encoded as "comprehension required", enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1 and 9.2.6.1).

SP1032

- Ensure that the IUT in state 3, 8, 9 or 10 for a CISC, on receiving a RELEASE message containing one or more IEs which are unrecognized and encoded as "comprehension not required", sends a RELEASE COMPLETE message containing a Cause IE with a cause value encoded as 99 and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.2.7.1).

PC/CISC/COTA/IV/TP2104

- Ensure that the IUT in state 3 for a CISC, on receiving a RELEASE message containing an unrecognized IE encoded as "comprehension not required", sends a RELEASE COMPLETE message containing a Cause IE with Cause value encoded as 99 and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.7.1).

SP1033

- Ensure that the IUT in state 3, 8, 9 or 10 for a CISC, on receiving a RELEASE COMPLETE message containing one or more IEs which are unrecognized and encoded as "comprehension not required", enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.7.1).

PC/CISC/COTA/IV/TP2105

- Ensure that the IUT in state 8 for a CISC, on receiving a RELEASE COMPLETE message containing an unrecognized IE encoded as "comprehension not required", enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.7.1).

SP1034

- Ensure that the IUT in any state for a CISC, on receiving a message other than RELEASE or RELEASE COMPLETE with one or more IEs which are unrecognized and encoded as "comprehension not required", optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 99 and performs whatever action required according to the received message (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.7.1).

PC/CISC/COTA/IV/TP2106

- Ensure that the IUT in state 1 for a CISC, on receiving a CALL PROCEEDING message containing an unrecognized IE encoded as "comprehension not required", enters state 3 and optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 99 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.7.1).

SP1035

- Ensure that the IUT in any state for a CISC, on receiving a message other than RELEASE or RELEASE COMPLETE with one or more non-mandatory IEs with invalid contents, optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100 and performs whatever action required according to the received message, ignoring the invalid IE (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.7.2).

PC/CISC/COTA/IV/TP2107

- Ensure that the IUT in state 0 for a CISC, on receiving a SETUP message containing a Calling Party Number IE with invalid content, sends a CALL PROCEEDINGmessage, ignoring the invalid IE, and optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.7.2).

SP1036

- Ensure that the IUT in state 1, 3, 8, 9, or 10 for a CISC, on receiving a DL_ESTABLISH_CONFIRMATION primitive from layer 2 following SCM Failure, either sends a STATUS message containing a Cause IE, or sends a STATUS ENQUIRY (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.9).

PC/CISC/COTA/IO/TP2110

- Ensure that the IUT in state 10 for a CISC, on receiving a DL_ESTABLISH_CONFIRMATION primitive from layer 2 following SCM Failure, either sends a STATUS message containing a Cause IE, or sends a STATUS ENQUIRY message or enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.9).

SP1037

- Ensure that the IUT in states 1, 3, 8, 9, 10 or 19 for a CISC, on receiving a SETUP ACKNOWLEDGE, ALERTING, DISCONNECT or PROGRESS message, either sends a STATUS message containing a Cause IE with a Cause value encoded as 97 or 98 or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

PC/CISC/COTA/IO/TP2111

- Ensure that the IUT in state 1 for a CISC, on receiving a SETUP ACKNOWLEDGE message, either sends a STATUS message containing a Cause IE with a Cause value encoded as 97 or 98 or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

PC/CISC/COTA/IO/TP2112

- Ensure that the IUT in state 3 for a CISC, on receiving an ALERTING message, either sends a STATUS message containing a Cause IE with a Cause value encoded as 97 or 98 or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

PC/CISC/COTA/IO/TP2113

- Ensure that the IUT in state 10 for a CISC, on receiving a DISCONNECT message, either sends a STATUS message containing a Cause IE with a Cause value encoded as 97, 98 or 101, or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

PC/CISC/COTA/IO/TP2114

- Ensure that the IUT in state 10 for a CISC, on receiving a PROGRESS message, either sends a STATUS message containing a Cause IE with a Cause value encoded as 97, 98 or 101, or sends a STATUS ENQUIRY message, and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.2.4).

SP1038

- Ensure that the IUT in state 19 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as other than 0 remains in the same state (reference ETS 300 172 [2], subclause 9.3.2.1).

PC/CISC/COTA/BV/TP2115

- Ensure that the IUT in state 19 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as 3, remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.1).

SP1039

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC on receiving a STATUS message containing a Call State IE with a Call State value encoded as 0, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.1).

PC/CISC/COTA/BV/TP2116

- Ensure that the IUT in state 1 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as 0, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.1).

PC/CISC/COTA/BV/TP2117

- Ensure that the IUT in state 9 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as 0, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.1).

PC/CISC/COTA/BV/TP2118

- Ensure the IUT in state 10 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as 0, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.1).

PC/CISC/COTA/BV/TP2119

- Ensure that the IUT in state 19 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as 0, enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.1).

SP1040

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as a compatible state and containing a Cause IE with a Cause value encoded as other than 96 or 97 or 99 or 100, remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.2).

PC/CISC/COTA/BV/TP2120

- Ensure that the IUT in state 3 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as 9 and containing a Cause IE with a Cause value encoded as other than 96 or 97 or 99 or 100, remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.2).

PC/CISC/COTA/BV/TP2121

- Ensure that the IUT in state 8 for a CISC, on receiving a STATUS message containing a Call State IE with a Call State value encoded as 10 and containing a Cause IE with a Cause value encoded as other than 96 or 97 or 99 or 100, remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.2.2).

SP1041

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, on receiving a STATUS ENQUIRY message, sends a STATUS message containing a Call State IE with a Call State value encoded as the current state of the IUT and a Cause IE with a Cause value encoded as 30 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2122

- Ensure that the IUT in state 3 for a CISC, on receiving a STATUS ENQUIRY message, sends a STATUS message containing a Call State IE with a Call State value encoded as state 3 and a Cause IE with a Cause value encoded as 30 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2123

- Ensure that the IUT in state 8 for a CISC, on receiving a STATUS ENQUIRY message, sends a STATUS message containing a Call State IE with a Call State value encoded as state 8 and a Cause IE with a Cause value encoded as 30 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2124

- Ensure that the IUT in state 9 for a CISC, on receiving a STATUS ENQUIRY message, sends a STATUS message containing a Call State IE with a Call State value encoded as state 9 and a Cause IE with a Cause value encoded as 30 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

SP1042

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, after having sent a STATUS ENQUIRY message, on first expiry of timer T322, without receiving a STATUS message, sends a STATUS ENQUIRY message and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2125

- Ensure that the IUT in state 3 for a CISC, after having sent a STATUS ENQUIRY message, on first expiry of timer T322, without receiving a STATUS message, sends a STATUS ENQUIRY message and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2126

- Ensure that the IUT in state 10 for a CISC, after having sent a STATUS ENQUIRY message, on first expiry of timer T322, without receiving a STATUS message, sends a STATUS ENQUIRY message and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

SP1043

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, after having sent a STATUS ENQUIRY message, on occurrence of an event which would usually provoke the sending of a STATUS ENQUIRY, does not re-start T322, does not send a STATUS ENQUIRY message until expiry of T322 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2127

- Ensure that the IUT in state 3 for a CISC, after having sent a STATUS ENQUIRY message, on occurrence of an event which would usually provoke the sending of a STATUS ENQUIRY, does not re-start T322, does not send a STATUS ENQUIRY message until expiry of T322 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

SP1044

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a STATUS message containing a Cause IE with a Cause value encoded as other than 30, does not send any further STATUS ENQUIRY message(s) until expiry of T322 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2128

- Ensure that the IUT in state 3 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a STATUS message containing a Cause IE with a Cause value encoded as other than 30, does not send any further STATUS ENQUIRY message(s) until expiry of T322 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2129

- Ensure that the IUT in state 10 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a STATUS message containing a Cause IE with a Cause value encoded as other than 30, does not send any further STATUS ENQUIRY messages until expiry of T322 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

SP1045

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a STATUS message containing a Cause IE with a Cause value encoded as 30, stops timer T322 and remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2130

- Ensure that the IUT in state 3 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a STATUS message containing a Cause IE with a Cause value encoded as 30 remains in the same state (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

SP1046

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a RELEASE message, stops timer T322, sends a RELEASE COMPLETE message and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2131

- Ensure that the IUT in state 10 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a RELEASE message, stops timer T322, sends a RELEASE COMPLETE message and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

SP1047

- Ensure that the IUT in state 1, 3, 8, 9, 10 or 19 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a RELEASE COMPLETE message, stops timer T322, and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2132

- Ensure that the IUT in state 9 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a RELEASE COMPLETE message, stops timer T322, and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

PC/CISC/COTA/BV/TP2133

- Ensure that the IUT in state 10 for a CISC, after having sent a STATUS ENQUIRY message, on receiving a RELEASE COMPLETE message, stops timer T322, and enters state 0 (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclause 9.3.1).

5.3.2.1.11 PC requirements - Layer Management procedures

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.11.

SP1060

- Ensure that the IUT in layer Management state R0 and in state 1, 3, 6, 8, 9, 10 or 19 for a CISC, on receiving a RESTART message containing a Restart Indicator IE with a Class Value encoded as "Indicated Channel" and a Channel Identification IE with a Channel Number encoded as **n**, does not clear the CISC (reference ETS 300 239 [1], subclause 7.3.1.11, ETS 300 172 [2], subclause 11.1.2).

PC/CISC/COTA/LM/TP2219

- Ensure that the IUT in layer Management state R0 and in state 10 for a CISC, on receiving a RESTART message containing a Restart Indicator IE with a Class Value encoded as "Indicated Channel" and a Channel Identification IE with a Channel Number encoded as **n**, remains in state 10 for this CISC (reference ETS 300 239 [1] and subclause 7.3.1.11 and ETS 300 172 [2], subclause 11.1.2).

SP1061

- Ensure that the IUT in layer Management state R0 and in state 1, 3, 6, 8, 9, 10 or 19 for a CISC, on receiving a RESTART message containing a Restart Indicator IE with a Class Value encoded as "All Channels", sends a RESTART ACK message containing a Restart Indicator IE with a Class Value encoded as "All Channels", enters state 0 for this CISC and returns to Layer Management state R0 (reference ETS 300 239 [1], subclause 7.3.1.11 and ETS 300 172 [2], subclause 11.1.2).

PC/CISC/COTA/LM/TP2220

- Ensure that the IUT in layer Management state R0 and in state 10 for a CISC, on receiving a RESTART message containing a Restart Indicator IE with a Class Value encoded as "All Channels", sends a RESTART ACK message containing a Restart Indicator IE with a Class Value encoded as "All Channels", enters state 0 for this CISC (reference ETS 300 239 [1] and subclause 7.3.1.11, ETS 300 172 [2], subclause 11.1.2).

SP1062

- Ensure that the IUT in layer Management state R1 and in state 1, 3, 6, 8, 9, 10 or 19 for a CISC, on receiving a RESTART message containing a Restart Indicator IE with a Class Value encoded as "All Channels", sends a RESTART ACK message containing a Restart Indicator IE with a Class Value encoded as "All Channels", enters state 0 for this CISC and returns to Layer Management state R0 for the incoming RESTART (reference ETS 300 239 [1], subclause 7.3.1.11 and ETS 300 172 [2], subclause 11.1.3).

PC/CISC/COTA/LM/TP2221

- Ensure that the IUT in layer Management state R1 and in state 10 for a CISC, on receiving a RESTART message containing a Restart Indicator IE with a Class Value encoded as "All Channels", sends a RESTART ACK message containing a Restart Indicator IE with a Class Value encoded as "All Channels", enters state 0 for this CISC and returns to Layer Management state R0 for the incoming RESTART (reference ETS 300 239 [1], subclause 7.3.1.11 and ETS 300 172 [2], subclause 11.1.3).

5.3.2.1.12 PC - Protocol timer values

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.1.12.

The following 2 TPs are only applicable to an IUT if it supports SETUP retransmission.

PC/CISC/COTA/TI/TP2134

- Ensure that the IUT timer T303, following the transmission of a SETUP message related to a CISC, expires within the time range 3,6 to 6,6 s (reference ETS 300 239 [1], subclause 7.3.1.12).

PC/CISC/COTA/TI/TP2135

- Ensure that the IUT timer T303, following the re-transmission of a SETUP message related to a CISC, expires within the time range 3,6 to 6,6 s (reference ETS 300 239 [1], subclause 7.3.1.12).

PC/CISC/COTA/TI/TP2136

- Ensure that the IUT timer T308, following the transmission of a RELEASE message related to a CISC, expires within the time range 3,6 to 6,6 s (reference ETS 300 239 [1], subclause 7.3.1.12).

PC/CISC/COTA/TI/TP2137

- Ensure that the IUT timer T308, following the re-transmission of a RELEASE message related to a CISC, does not expire before 3,6 s have elapsed from the time of re-transmission of the RELEASE message (reference ETS 300 239 [1], subclause 7.3.1.12).

PC/CISC/COTA/TI/TP2138

- Ensure that the IUT timer T308, following the re-transmission of a RELEASE message related to a CISC, expires before 6,6 s have elapsed from the time of re-transmission of the RELEASE message (reference ETS 300 239 [1], subclause 7.3.1.12).

PC/CISC/COTA/TI/TP2139

- Ensure that the IUT timer T309, following the disconnection of the SCM, does not expire before 81 s have elapsed from the time of disconnection of the SCM (reference ETS 300 239 [1], subclause 7.3.1.12).

PC/CISC/COTA/TI/TP2140
- Ensure that the IUT timer T309, following the disconnection of the SCM, expires before 99 s have elapsed from the time of disconnection of the SCM (reference ETS 300 239 [1], subclause 7.3.1.12).

The following TP is only applicable to an IUT if it supports T313 implementation.

PC/CISC/COTA/TI/TP2142
- Ensure that the IUT timer T313, following the transmission of a CONNECT message related to a CISC, expires within the time range 3,6 to 6,6 s (reference ETS 300 239 [1], subclause 7.3.1.12).

The following TP is only applicable to an IUT if it supports STATUS ENQUIRY sending.

PC/CISC/COTA/TI/TP2143
- Ensure that the IUT timer T322, following the transmission of a STATUS ENQUIRY message related to a CISC, expires within the time range 3,6 to 6,6 s (reference ETS 300 239 [1], subclause 7.3.1.12).

5.3.2.2 GFTC requirements

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.2.2, as referenced by 7.3.3.

GFTC/CISC/COTA/BI/TP2231
- Ensure that the IUT, on receiving via PC a Facility IE not including an NFE, becomes the Destination PINX for that IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2).

5.3.2.2.1 GFTC - Actions at a Transit PINX

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.1.2.2.2, as referenced by 7.3.3.2.

GFTC/CISC/COTA/BV/TP2222
- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CISC/COTA/BV/TP2223
- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and understanding the contents of this IE, either becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function, or passes that Facility IE unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

SP1063
- Ensure that the IUT as a Transit PINX for a CISC, on receiving a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element, and unable to become an End PINX for that Facility IE, passes it unchanged to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CISC/COTA/BV/TP2224
- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element matching its own address, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CISC/COTA/CA/TP2225

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element not matching its own address, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CISC/COTA/BV/TP2226

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with no destinationEntityAddress element, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CISC/COTA/BV/TP2227

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, and understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CISC/COTA/BV/TP2228

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, and not understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CISC/COTA/BV/TP2229

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and not understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFTC/CISC/COTA/IV/TP2230

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE including an NFE not encoded or structured according to clause 11, discards the entire Facility IE, without passing it on via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

5.3.2.2.1.1 GFTC - Actions in the Transit_connection_idle state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.3.2.1.

GFTC/CISC/COTA/BV/TP2146

- Ensure that the IUT in the Transit_connection_idle state, on receiving from PC an indication of a received SETUP message containing a Called Party Number IE of another PINX to which a connection is possible, requests PC to send a SETUP message to the subsequent PINX (reference ETS 300 239 [1], subclause 7.3.3.2.1).

GFTC/CISC/COTA/BV/TP2147

- Ensure that the IUT in the Transit_connection_idle state, on receiving from PC an indication of a received SETUP message containing a Called Party Number IE of another PINX to which a connection is possible and containing a Transit counter IE with a Transit Count field encoded with a value less than the acceptable network dependent limit, requests PC to send a SETUP message to the subsequent PINX containing a Transit Counter IE with a Transit Count field encoded with a value one greater than the value encoded in the Transit Count field of the Transit Counter IE in the received SETUP (reference ETS 300 239 [1], subclause 7.3.3.2.1).

GFTC/CISC/COTA/IV/TP2148
- Ensure that the IUT in the Transit_connection_idle state, on receiving from PC an indication of a received SETUP message containing a Called Party Number IE of another PINX to which a connection is possible and a Transit Counter IE with a Transit Count field encoded with a value greater than or equal to the acceptable (network dependent limit) of the IUT and the IUT is unable to become the terminating PINX, requests PC to send a RELEASE message to the preceding PINX (and remains in the same state) (reference ETS 300 239 [1], subclause 7.3.3.2.1).

GFTC/CISC/COTA/BV/TP2149
- Ensure that the IUT in the Transit_connection_idle state, on receiving from PC an indication of a received SETUP message not containing a Transit Counter IE, requests PC to send a SETUP message to the subsequent PINX optionally including a Transit Counter IE with a Transit Count field encoded with a value not less than 1 (reference ETS 300 239 [1], subclause 7.3.3.2.1).

GFTC/CISC/COTA/IV/TP2150
- Ensure that the IUT in the Transit_connection_idle state, on receiving from PC an indication of a received SETUP message containing a Called Party Number IE with insufficient information to enable routing to a further inter-PINX link, requests PC to send a RELEASE message to the preceding PINX and remains in the same state (reference ETS 300 239 [1], subclause 7.3.3.2.1).

5.3.2.2.1.2 GFTC - Actions in the Transit_connection_request state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.3.2.2.

GFTC/CISC/COTA/BV/TP2153
- Ensure that the IUT in the Transit_connection_request state, on receiving from PC an indication of a received CONNECT message from the subsequent PINX, requests PC to send a CONNECT message to the preceding PINX and enters Transit_connection_active state (reference ETS 300 239 [1], subclause 7.3.3.2.2).

GFTC/CISC/COTA/BV/TP2154
- Ensure that the IUT in the Transit_connection_request state, on receiving from PC an indication of a received RELEASE message from a subsequent PINX, requests PC to send a RELEASE message to the preceding PINX and enters the Transit_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.2.2).

GFTC/CISC/COTA/BV/TP2155
- Ensure that the IUT in the Transit_connection_request state, on receiving from PC an indication of a received RELEASE COMPLETE message from a subsequent PINX, requests PC to send a RELEASE message to the preceding PINX and enters the Transit_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.2.2).

GFTC/CISC/COTA/BV/TP2156
- Ensure that the IUT in the Transit_connection_request state, on receiving from PC an indication of a received RELEASE message from the preceding PINX, requests PC to send a RELEASE message to the subsequent PINX and enters the Transit_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.2.2).

5.3.2.2.1.3 GFTC - Actions in the Transit_connection_active state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.3.2.3.

GFTC/CISC/COTA/BV/TP2157
- Ensure that the IUT in the Transit_connection_active state, on receiving from PC an indication of a received FACILITY message containing a Facility IE including an NFE encoded as follows:

sourceEntity:	"endPINX"
sourceEntityAddress:	(omitted)
detinationEntity:	"endPINX"
destinationEntityAddress:	(omitted)

  from the subsequent PINX, requests PC to send the same FACILITY message to the preceding PINX (reference ETS 300 239 [1], subclause 7.3.3.2.3).

GFTC/CISC/COTA/BV/TP2158

- Ensure that the IUT in the Transit_connection_active state, on receiving from PC an indication of a received FACILITY message containing a Facility IE including an NFE encoded as follows:

  sourceEntity: "endPINX"
  sourceEntityAddress: (omitted)
  detinationEntity: "endPINX"
  destinationEntityAddress: (omitted)

  from the preceding PINX, requests PC to send the same FACILITY message to the subsequent PINX (reference ETS 300 239 [1], subclause 7.3.3.2.3).

GFTC/CISC/COTA/BV/TP2159

- Ensure that the IUT in the Transit_connection_active state, on receiving from PC an indication of a received RELEASE message from the subsequent PINX requests PC to send a RELEASE message to the preceding PINX and enters Transit_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.2.3).

GFTC/CISC/COTA/BV/TP2160

- Ensure that the IUT in the Transit_connection_active state, on receiving from PC an indication of a received RELEASE message from the preceding PINX requests PC to send a RELEASE message to the subsequent PINX and enters Transit_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.2.3).

5.3.2.2.2 GFTC - Actions at an End PINX

The TPs in this subclause refer to ETS 300 239 [1], subclauses 7.1.2.2 and 7.1.2.2.1, as referenced by 7.3.3.3.

SP1064

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" or "anyTypeOfPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

  GFTC/CISC/COTA/BV/TP2232

  - Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

  GFTC/CISC/COTA/CA/TP2233

  - Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CISC/COTA/BV/TP2234

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

SP1065

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

  GFTC/CISC/COTA/BV/TP2235

  - Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CISC/COTA/BV/TP2236

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element not matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CISC/COTA/IV/TP2237

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, discards the Facility IE (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CISC/COTA/IV/TP2238

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with coding or structure not as specified in clause 11 of ETS 300 239 [1], discards the entire Facility IE (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFTC/CISC/COTA/BV/TP2239

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC two facility IEs from the same message, the first Facility IE including an NFE encoded as follows:
  destinationEntity: "endPINX"
  destinationEntityAddress: (omitted)
  and the second Facility IE including an NFE encoded as follows:
  detinationEntity: "anyTypeOfPINX"
  destinationEntityAddress: (not matching the address of the IUT)
  becomes the Destination PINX for the first Facility IE and passes it to the Co-ordination Function, and discards the second Facility IE (reference ETS 300 239 [1], subclause 7.1.2.2.1).

5.3.2.2.3 GFTC - Actions at a Terminating PINX

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.3.3.

5.3.2.2.3.1 GFTC - Actions in the incoming_connection_idle state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.3.3.1.

GFTC/CISC/COTA/CA/TP2161

- Ensure that the IUT in the incoming_connection_idle state, on receiving from PC an indication of a received SETUP message, requests PC to send a CONNECT message or requests PC to send a RELEASE message (reference ETS 300 239 [1], subclause 7.3.3.3.1).

NOTE: PC will send a CALL PROCEEDING message.

5.3.2.2.3.2 GFTC - Actions in the incoming_connection_active state

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.3.3.2.

GFTC/CISC/COTA/BV/TP2162

- Ensure that the IUT in the incoming_connection_active state, in order to transmit APDUs, requests PC to send a FACILITY message to the preceding PINX (reference ETS 300 239 [1], subclause 7.3.3.3.2).

GFTC/CISC/COTA/BV/TP2163

- Ensure that the IUT in the incoming_connection_active state, in order to release a CISC, requests PC to send a RELEASE message. (reference ETS 300 239 [1], subclause 7.3.3.3.2).

GFTC/CISC/COTA/BV/TP2164

- Ensure that the IUT in the incoming_connection_active state, on receiving from PC an indication of a received RELEASE message, enters the incoming_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.3.2).

5.3.2.2.4 GFTC - Actions at a Destination PINX

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.3.3.5.

SP1067

- Ensure that the IUT, on receiving via PC a Facility IE related to a CISC, with a Protocol Profile encoded with another value than "Networking Extensions", passes the APDUs to CF together with an indication of the protocol profile reflecting the contents of the Protocol Profile (reference ETS 300 239 [1], subclause 7.1.2.3).

GFTC/CISC/COTA/IV/TP2249

- Ensure that the IUT, on receiving via PC a Facility IE, related to a CISC, with a Protocol Profile encoded as '10001', passes the APDUs to CF together with an indication of the protocol profile reflecting the contents of the Protocol Profile (reference ETS 300 239 [1], subclause 7.1.2.3).

GFTC/CISC/COTA/IV/TP2250

- Ensure that the IUT, on receiving via PC a Facility IE, related to a CISC, with a Network Protocol Profile incorrectly coded (i.e. other than "ACSE" or "DSE"), discards this Facility IE (reference ETS 300 239 [1], subclause 7.1.2.3).

GFTC/CISC/COTA/IV/TP2251

- Ensure that the IUT, on receiving via PC a Facility IE, related to a CISC, with octets 4 onwards not containing an APDU in the form of an ASN1 encoded value, discards this Facility IE (reference ETS 300 239 [1], subclause 7.1.2.3).

5.3.2.3 Relaying requirements

PC/CISC/COTA/BV/TP1075

- Ensure that the IUT as a Transit PINX, in state Transit_connection_idle, on receiving a SETUP message on interface X, containing a Facility IE which is to be relayed, sends a SETUP message on interface Y containing this Facility IE.

PC/CISC/COTA/BV/TP1076

- Ensure that the IUT as a Transit PINX, in state Transit_connection_request, on receiving a CONNECT message on interface Y, containing a Facility IE which is to be relayed, sends a CONNECT message on interface X containing this Facility IE.

PC/CISC/COTA/BV/TP1077

- Ensure that the IUT as a Transit PINX, in state Transit_connection_active, on receiving a RELEASE message on interface X, containing a Facility IE which is to be relayed, sends a RELEASE message on interface Y containing this Facility IE.

PC/CISC/COTA/BV/TP1078

- Ensure that the IUT as a Transit PINX, in state Transit_connection_active, on receiving a RELEASE COMPLETE message on interface Y, containing a Facility IE which is to be relayed, sends a RELEASE message on interface X containing this Facility IE.

5.3.3 Call Related procedures for the transport of Notifications

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.4.

5.3.3.1 PC requirements

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.4.2.

5.3.3.1.1 PC - Sending Notification information

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.4.2.1.

SP1050

- Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when an ALERTING, CONNECT, SETUP (except re-transmission), DISCONNECT, PROGRESS or FACILITY message, is to be sent, either includes a Notification Indicator IE in that message or sends a NOTIFY message containing the Notification Indicator IE reference ETS 300 239 [1], subclause 7.4.2.1).

  PC/CR/COTN/BV/TP2167
  - Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when an ALERTING message is to be sent, either sends an ALERTING message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

  PC/CR/COTN/BV/TP2168
  - Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a CONNECT message is to be sent, either sends a CONNECT message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

  PC/CR/COTN/BV/TP2169
  - Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a SETUP message (except re-transmission) is to be sent, sends a SETUP message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

  PC/CR/COTN/BV/TP2170
  - Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a DISCONNECT message is to be sent, either sends a DISCONNECT message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

  PC/CR/COTN/BV/TP2171
  - Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a PROGRESS message is to be sent, either sends a PROGRESS message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

  PC/CR/COTN/BV/TP2172
  - Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a FACILITY message is to be sent, either sends a FACILITY message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

SP1051

- Ensure that the IUT in a state other than 1, 6, 11, 12 or 19 for a call, when requested by GFT-Control to send a notification related to that call, when no ALERTING, CONNECT, SETUP, PROGRESS, DISCONNECT, or FACILITY message is to be sent, sends a NOTIFY message containing a Notification Indicator IE and remains in the same state (reference ETS 300 239 [1], subclause 7.4.2.1).

PC/CR/COTN/BV/TP2173

- Ensure that the IUT in state 3 for a call, when requested by GFT-Control to send a notification related to that call when no DISCONNECT, or FACILITY message is to be sent, sends a NOTIFY message containing a Notification Indicator IE and remains in the same state (reference ETS 300 239 [1], subclause 7.4.2.1).

PC/CR/COTN/CA/TP2174

- Ensure that the IUT in state 10 for a call, when requested by GFT-Control to send a notification related to that call when no PROGRESS, DISCONNECT, or FACILITY message is to be sent, sends a NOTIFY message containing a Notification Indicator IE and remains in the same state (reference ETS 300 239 [1], subclause 7.4.2.1).

PC/CR/COTN/BV/TP2175

- Ensure that the IUT in state 4 for a call, when requested by GFT-Control to send a notification related to that call when no DISCONNECT, or FACILITY message is to be sent, sends a NOTIFY message containing a Notification Indicator IE and remains in the same state (reference ETS 300 239 [1], subclause 7.4.2.1).

PC/CR/COTN/IO/TP2176

- Ensure that the IUT with a call in state 1, when requested by GFT-Control to send a notification related to that call, does not include it in any message sent while in state 1 (reference ETS 300 239 [1], subclause 7.4.2.1).

PC/CR/COTN/IO/TP2177

- Ensure that the IUT with a call in state 11, when requested by GFT-Control to send a notification related to that call, does not include it in any message it sends (reference ETS 300 239 [1], subclause 7.4.2.1).

PC/CR/COTN/IO/TP2178

- Ensure that the IUT with a call in state 19, when requested by GFT-Control to send a notification related to that call, does not include it in any message it sends (reference ETS 300 239 [1], subclause 7.4.2.1).

5.3.3.1.2 PC - Receiving Notification information

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.4.2.2.

SP1052

- Ensure that the IUT, on receiving an ALERTING, CONNECT, SETUP, DISCONNECT, PROGRESS or FACILITY message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

PC/CR/COTN/BV/TP2179

- Ensure that the IUT, on receiving an ALERTING message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

PC/CR/COTN/BV/TP2180

- Ensure that the IUT, on receiving a CONNECT message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

PC/CR/COTN/BV/TP2181

- Ensure that the IUT, on receiving a SETUP message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

PC/CR/COTN/BV/TP2182

- Ensure that the IUT, on receiving a DISCONNECT message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

PC/CR/COTN/BV/TP2183
- Ensure that the IUT, on receiving a PROGRESS message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

PC/CR/COTN/BV/TP2184
- Ensure that the IUT, on receiving a FACILITY message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

PC/CR/COTN/CA/TP2185
- Ensure that the IUT on receiving a NOTIFY message related to a call containing a Notification Indicator IE, passes that IE to GFT-Control and remains in the same state.

5.3.3.1.3 PC - Protocol error handling

The TPs in this subclause refer to ETS 300 239 [1], subclauses 10.8, 11.3.4, and ETS 300 172 [2], subclause 9.2.

SP1053
- Ensure that the IUT, on receiving a NOTIFY message related to a call, and containing a Notification Indicator IE encoded with a content error, sends a STATUS message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclauses 10.8 and 11.3.4 and ETS 300 172 [2], subclause 9.2.6.2).

PC/CR/COTN/IV/TP2186
- Ensure that the IUT, on receiving a NOTIFY message related to a call, and containing a Notification Indicator IE with the extension bit in octet 3 encoded as 0 with no following octets, sends a STATUS message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclauses 10.8 and 11.3.4 and ETS 300 172 [2], subclause 9.2.6.2).

PC/CR/COTN/IV/TP2187
- Ensure that the IUT, on receiving a NOTIFY message related to a call, and containing a Notification Indicator IE with the Notification Description field encoded as other than "discriminator for notification extension" or "discriminator for extension to ISO defined ASN.1 encoded notification data structure" and including a NotificationDataStructure, sends a STATUS message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclauses 10.8 and 11.3.4 and ETS 300 172 [2], subclause 9.2.6.2).

PC/CR/COTN/IV/TP2188
- Ensure that the IUT, on receiving a NOTIFY message related to a call, and containing a Notification Indicator IE with the Notification Description field encoded as "discriminator for notification extension" and with no NotificationDataStructure, sends a STATUS message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclauses 10.8 and 11.3.4 and ETS 300 172 [2], subclause 9.2.6.2).

PC/CR/COTN/IV/TP2252
- Ensure that the IUT, on receiving a NOTIFY message related to a call, and containing a Notification Indicator IE with the Notification Description field encoded "discriminator for extension to ISO defined ASN.1 encoded notification data structure" and with no NotificationDataStructure, sends a STATUS message containing a Cause IE with a Cause value encoded as 100 (reference ETS 300 239 [1], subclauses 10.8 and 11.3.4 and ETS 300 172 [2], subclause 9.2.6.2).

SP1054
- Ensure that the IUT, on receiving an ALERTING, CONNECT, SETUP, DISCONNECT, FACILITY or PROGRESS message related to a call, and containing a Notification Indicator IE encoded with a content error, ignores the Notification Indicator IE, optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100 and enters the appropriate state according to the Basic Call message received (reference ETS 300 239 [1], subclause 11.3.4 and ETS 300 172 [2] subclause 9.2.7.2).

PC/CR/COTN/IV/TP2189

- Ensure that the IUT in state 3 for a call, on receiving an ALERTING message containing a Notification Indicator IE with the extension bit in octet 3 encoded as 0, ignores the Notification Indicator IE and optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100 and enters state 4. (reference ETS 300 239 [1], subclause 11.3.4 and ETS 300 172 [2], subclause 9.2.7.2).

PC/CR/COTN/IV/TP2190

- Ensure that the IUT in state 3 for a call, on receiving an ALERTING message containing a Notification Indicator IE with the Notification description encoded as other than "discriminator for notification extension" or "discriminator for extension to ISO defined ASN.1 encoded notification data structure" and containing a NotificationDataStructure, ignores the Notification Indicator IE, optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100 and enters state 4 (reference ETS 300 239 [1], subclause 11.3.4 and ETS 300 172 [2], subclause 9.2.7.2).

PC/CR/COTN/IV/TP2191

- Ensure that the IUT in state 10 for a call, on receiving a DISCONNECT message containing a Notification Indicator IE with the Notification description encoded as "discriminator for notification extension" and with no NotificationDataStructure, ignores the Notification Indicator IE and optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100, sends a RELEASE message and enters state 19. (reference ETS 300 239 [1], subclause 11.3.4 and ETS 300 172 [2], subclause 9.2.7.2).

PC/CR/COTN/IV/TP2253

- Ensure that the IUT in state 10 for a call, on receiving a DISCONNECT message containing a Notification Indicator IE with the Notification description encoded as "discriminator for extension to ISO defined ASN.1 encoded notification data structure" and with no NotificationDataStructure, ignores the Notification Indicator IE and optionally sends a STATUS message containing a Cause IE with a Cause value encoded as 100, sends a RELEASE message and enters state 19. (reference ETS 300 239 [1], subclause 11.3.4 and ETS 300 172 [2], subclause 9.2.7.2).

PC/CR/COTN/IV/TP2192

- Ensure that the IUT, on receiving a NOTIFY message related to a call, and not containing a Notification Indicator IE, sends a STATUS message containing a Cause IE with a Cause value encoded as 96. (reference ETS 300 239 [1], subclause 10.7 and ETS 300 172 [2], subclause 9.2.6.1)

5.3.3.2 Generic Functional Transport Control requirements

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.4.3.

5.3.3.2.1 GFTC - Actions at a Transit PINX

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.4.3.2.

GFTC/CR/COTN/BV/TP2193
- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Preceding PINX, sends a Notification Indicator IE via PC to the Subsequent PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

GFTC/CR/COTN/CA/TP2194
- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Subsequent PINX, sends a Notification Indicator IE via PC to the Preceding PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

5.3.3.2.2 GFTC - Actions at a Receiving End PINX

The TPs in this subclause refer to ETS 300 239 [1], subclause 7.4.3.3.

GFTC/CR/COTN/CA/TP2195
- Ensure that the IUT as an End PINX, on receiving via PC a Notification Indicator IE at any time during a Call, conveys this information to the PISN user (reference ETS 300 239 [1], subclause 7.4.3.3).

5.3.4 Application Layer requirements

5.3.4.1 Co-ordination Function requirements

The TPs in this subclause refer to ETS 300 239 [1], subclause 8.1.2.

CF/P/TA/IV/TP2196
- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with an "InvokeProblem" encoded as "unrecognizedOperation" resulting from the processing of a sequence of APDUs received from GFTC, where the first one of the sequence was an InterpretationAPDU encoded as "rejectUnrecognizedInvokePdu", and where another one of the sequence was an InvokePDU which caused the rejection, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU received from ROSE (reference ETS 300 239 [1], subclause 8.1.2).

CF/P/TA/IV/TP2197
- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with an "InvokeProblem" encoded as "unrecognizedOperation" resulting from the processing of a sequence of APDUs received from GFTC, with no InterpretationAPDU, and whose one APDU was an InvokePDU which caused the rejection, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU received from ROSE (reference ETS 300 239 [1], subclause 8.1.2).

SP1055
- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with an "InvokeProblem" encoded as "unrecognizedOperation " resulting from the processing of a sequence of APDUs received from GFTC, where the first one of the sequence was an InterpretationAPDU encoded as "clearCallIfAnyInvokePduNotRecognized ", and where another one of the sequence was an InvokePDU which caused the rejection, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU received from ROSE and to clear the underlying connection (reference ETS 300 239 [1], subclause 8.1.2).

CF/P/TA/IV/TP2198

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU associated with a call with an "InvokeProblem" encoded as "unrecognizedOperation" resulting from the processing of a sequence of APDUs received from GFTC, where the first one of the sequence was an InterpretationAPDU encoded as "clearCallIfAnyInvokePduNotRecognized", and where another one of the sequence was an InvokePDU which caused the rejection, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU received from ROSE and to clear the underlying call (reference ETS 300 239 [1], subclause 8.1.2).

CF/P/TA/IV/TP2199

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU associated with a CISC with an "InvokeProblem" encoded as "unrecognizedOperation" resulting from the processing of a sequence of APDUs received from GFTC, where the first one of the sequence was an InterpretationAPDU encoded as "clearCallIfAnyInvokePduNotRecognized", and where another one of the sequence was an InvokePDU which caused the rejection, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU received from ROSE and to clear the underlying CISC (reference ETS 300 239 [1], subclause 8.1.2).

SP1056

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with an "InvokeProblem" encoded as "unrecognizedOperation" resulting from the processing of a sequence of APDUs received from GFTC, where the first one of the sequence was an InterpretationAPDU encoded as "discardAnyUnrecognizedInvokePdu", and where another one of the sequence was an InvokePDU which caused the rejection, does not request GFT-Control to send a Facility IE with the APDU of type RejectPDU received from ROSE (reference ETS 300 239 [1], subclause 8.1.2).

CF/P/TA/IV/TP2200

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU associated with a call with an "InvokeProblem" encoded as "unrecognizedOperation" resulting from the processing of a sequence of APDUs received from GFTC, where the first one of the sequence was an InterpretationAPDU encoded as "discardAnyUnrecognizedInvokePdu", and where another one of the sequence was an InvokePDU which caused the rejection, does not request GFT-Control to send a Facility IE with the APDU of type RejectPDU received from ROSE (reference ETS 300 239 [1], subclause 8.1.2).

CF/P/TA/IV/TP2201

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU associated with a CISC with an "InvokeProblem" encoded as "unrecognizedOperation" resulting from the processing of a sequence of APDUs received from GFTC, where the first one of the sequence was an InterpretationAPDU encoded as "discardAnyUnrecognizedInvokePdu", and where another one of the sequence was an InvokePDU which caused the rejection, does not request GFT-Control to send a Facility IE with the APDU of type RejectPDU received from ROSE (reference ETS 300 239 [1], subclause 8.1.2).

CF/TA/IV/TP2254

- Ensure that the IUT, on receiving from GFTC APDUs together with an indication of the protocol profile indicating neither "ROSE", nor "ACSE" nor "DSE", discards all these APDUs (reference ETS 300 239 [1], subclause 8.1.2).

5.3.4.2 ROSE requirements

The TPs in this subclause refer to ETS 300 239 [1], subclause 8.2 and CCITT Recommendation X.229 [9], clause 7.

RO/P/TA/IV/TP2206

- Ensure that the IUT, on receiving via CF an APDU of type InvokePDU with an unrecognized operation value, requests CF to send an APDU of type RejectPDU with the invokeID field encoded as in the incoming APDU and the "problem" field encoded as "unrecognizedOperation" (reference ETS 300 239 subclause 8.2, CCITT Recommendation X.229 [9], subclauses 7.1.3.2 and 7.4.3.1).

5.3.5 Verification of state

Where a TP specifies that the IUT enters or remains in a specified protocol control state this is verified as follows:

Ensure that the IUT, on receiving a STATUS ENQUIRY message containing a Call Reference IE encoded with the appropriate call reference flag and value for the relevant call or CISC, sends the appropriate response for the expected state (the state is specified in the TP). For all states a STATUS message containing a Call State IE encoded with the expected state and a Cause IE with a cause value encoded as 30 is acceptable. For state 0 a RELEASE or RELEASE COMPLETE message containing a Cause IE with a Cause value encoded as 81 is also acceptable. If, for a call, the expected state is state 2 and an INFORMATION message is received this shall be ignored (reference ETS 300 239 [1], subclause 7.3.1.10 and ETS 300 172 [2], subclauses 9.3.1 and 9.2.3.2).

6 Final TPs

This clause lists the final TPs. These consist of two types, the first type are TPs, which, to be tested, do not need to be combined with any other TPs. The second type (CTPs) consist of TPs which have been combined with each other. For each CTP, the relevant TPs making up the combination are listed.

The final TPs have been produced taking into account the TPs which are untestable using the test methods described in DE/ECMA 00110-2. Where a test is referred to as untestable in the clause it means that it is untestable using these test methods and does not necessarily imply that it is untestable using any other test method.

Uncombined TPs which are applicable to one PINX role only, e.g End PINX, Transit PINX, are identified as such for one of the following reasons:

a) the individual TP is applicable to only one PINX role;

b) the individual TP, is, in principle, applicable to both the Transit and End PINX roles, however in the case where the TP is applicable to an End PINX, it is concerned with testing procedures or states which are only relevant when the End PINX is acting as an originating PINX or an incoming gateway PINX (both out of scope for this ETS, see clause 1, note 1). Therefore for this ETS, the particular TP is only in scope for a Transit PINX;

c) the individual TP has been included in a CTP for one role only, as it is untestable for the other role. These TP's are listed for the untestable role, as uncombined.

Each of the CTPs is identified as being applicable to a Transit PINX, an End PINX, or a Transit and an End PINX. Where a CTP is identified as applicable to one PINX role only, it is because at least one of the individual test purposes, making up the CTP, is only applicable, or within the scope of the ETS, for that PINX role (for reasons a) or b) above), or though applicable to both roles, has been identified as untestable for the other role.

A cross reference table subclause showing the combination of test purposes is included after each subclause describing the combined TPs.

6.1 Requirements for Call Related procedures for the transport of APDUs

6.1.1 Combined TPs

GFP/CR/COTA/BV/CP3001: TP2011; TP2035 Transit PINX

PC/CR/COTA/BV/TP2011 (test of PC)

- Ensure that the IUT, on receiving an ALERTING message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2035 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element matching its own address, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CR/COTA/CA/CP3002: TP2012; TP2036; Transit PINX

PC/CR/COTA/BV/TP2012 (test of PC)

- Ensure that the IUT, on receiving a CONNECT message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/CA/TP2036 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element not matching its own address, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CR/COTA/BV/CP3003: TP2013; TP2037 Transit PINX

PC/CR/COTA/BV/TP2013 (test of PC)

- Ensure that the IUT, on receiving a SETUP message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2037 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with no destinationEntityAddress element, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CR/COTA/BV/CP3069: TP2014; TP1072 Transit PINX

PC/CR/COTA/BV/TP2014

- Ensure that the IUT, on receiving a DISCONNECT message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP1072

- Ensure that the IUT as a Transit PINX, in state TCC_Call_Active, on receiving a DISCONNECT message on interface X, containing a Facility IE which is to be relayed, sends a DISCONNECT message on interface Y containing this Facility IE.

GFP/CR/COTA/BV/CP3070: TP2016; TP1073 Transit PINX

PC/CR/COTA/BV/TP2016

- Ensure that the IUT, on receiving a RELEASE message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP1073

- Ensure that the IUT as a Transit PINX, in state TCC_Call_Active, on receiving a RELEASE message on interface Y, containing a Facility IE which is to be relayed, sends a DISCONNECT message on interface X containing this Facility IE.

GFP/CR/COTA/BV/CP3071: TP2017; TP1074 Transit PINX

PC/CR/COTA/BV/TP2017

- Ensure that the IUT, on receiving a RELEASE COMPLETE message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

PC/CR/COTA/BV/TP1074

- Ensure that the IUT as a Transit PINX, in state TCC_Call_Active, on receiving a RELEASE COMPLETE message on interface X, containing a Facility IE which is to be relayed, sends a DISCONNECT message on interface Y containing this Facility IE.

GFP/CR/COTA/BV/CP3004: TP2018; TP2038 Transit PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2038 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, and understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CR/COTA/BV/CP3005: TP2015; TP2039 Transit PINX

PC/CR/COTA/BV/TP2015 (test of PC)

- Ensure that the IUT, on receiving a PROGRESS message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2039 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, and not understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CR/COTA/BI/CP3006: TP2018; TP2040; TP2007 Transit PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2040 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and not understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

PC/CR/COTA/BI/TP2007 (test of PC)

- Ensure that the IUT in state 10 for a call, when requested by GFT-Control to send a Facility IE related to that call, when no DISCONNECT, RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

GFP/CR/COTA/MI/CP3007: TP2018;TP2025; TP2206; TP2196; TP2007 End PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2025 (test of GFTC)

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

RO/P/TA/IV/TP2206 (test of ROSE)

- Ensure that the IUT on receiving via CF an APDU of type InvokePDU with an unrecognized operation value, requests CF to send an APDU of type RejectPDU with the invokeID field encoded as in the incoming APDU and the "problem" field encoded as "unrecognizedOperation" (reference ETS 300 239, subclause 8.2, CCITT Recommendation X.229 [9], subclauses 7.1.3.2 and 7.4.3.1).

CF/P/TA/IV/TP2196 (test of CF)

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with the element "problem" encoded as "unrecognizedOperation" and when an Interpretation APDU encoded as "rejectUnrecognizedInvokePdu" had been received associated with the related APDU of type InvokePDU, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU having the "invokeID" element as in the InvokePDU received (reference ETS 300 239 [1], subclause 8.1.2).

PC/CR/COTA/BI/TP2007 (test of PC)

- Ensure that the IUT in state 10 for a call, when requested by GFT-Control to send a Facility IE related to that call, when no DISCONNECT, RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

GFP/CR/COTA/CA/CP3008: TP2018; TP2026 End PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/CA/TP2026 (test of GFTC)

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CR/COTA/BV/CP3009: TP2018; TP2028 End PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2028 (test of GFTC)

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CR/COTA/BV/CP3010: TP2018; TP2029 End PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message, related to a call, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2029 (test of GFTC)

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element not matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CR/COTA/BV/CP3011: TP2015; TP2032 End PINX

PC/CR/COTA/BV/TP2015 (test of PC)

- Ensure that the IUT, on receiving a PROGRESS message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2032 (test of GFTC)

- Ensure that the IUT as an End PINX, on receiving via PC two facility IEs from the same message,
  the first Facility IE including an NFE encoded as follows:
  destinationEntity: "endPINX"
  destinationEntityAddress: (omitted)
  and the second Facility IE including an NFE encoded as follows:
  detinationEntity: "anyTypeOfPINX"
  destinationEntityAddress: (not matching the address of the IUT)
  becomes the Destination PINX for the first Facility IE, passes it to the Co-ordination Function, and discards the second Facility IE (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CR/COTA/BV/CP3012: TP2018; TP2027 End PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2027 (test of GFTC)

- Ensure that the IUT as an End PINX, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CR/COTA/BI/CP3013: TP2011; TP2024 Transit PINX

PC/CR/COTA/BV/TP2011 (test of PC)

- Ensure that the IUT, on receiving an ALERTING message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BI/TP2024 (test of GFTC)

- Ensure that the IUT, on receiving via PC a Facility IE not including an NFE, becomes the Destination PINX for that IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2).

GFP/CR/COTA/MI/CP3016: TP2018;TP2033; TP2206, TP2196; TP2007 Transit PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2033 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.2).

RO/P/TA/IV/TP2206 (test of ROSE)

- Ensure that the IUT on receiving via CF an APDU of type InvokePDU with an unrecognized operation value, requests CF to send an APDU of type RejectPDU with the invokeID field encoded as in the incoming APDU and the "problem" field encoded as "unrecognizedOperation" (reference ETS 300 239 [1], subclause 8.2, CCITT Recommendation X.229 [9], subclauses 7.1.3.2 and 7.4.3.1).

CF/P/TA/IV/TP2196 (test of CF)

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with the element "problem" encoded as "unrecognizedOperation" and when an Interpretation APDU encoded as "rejectUnrecognizedInvokePdu" had been received associated with the related APDU of type InvokePDU, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU having the "invokeID" element as in the InvokePDU received (reference ETS 300 239 [1], subclause 8.1.2).

PC/CR/COTA/BI/TP2007 (test of PC)

- Ensure that the IUT in state 10 for a call, when requested by GFT-Control to send a Facility IE related to that call, when no DISCONNECT, RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

GFP/CR/COTA/BV/CP3017: TP2018; TP2034 Transit PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BV/TP2034 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a call, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and understanding the contents of this IE, either becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function, or passes that Facility IE unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CR/COTA/MI/CP3019: TP2018; TP2024; TP2206; TP2197 End and Transit PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BI/TP2024 (test of GFTC)

- Ensure that the IUT, on receiving via PC a Facility IE not including an NFE, becomes the Destination PINX for that IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2).

RO/P/TA/IV/TP2206 (test of ROSE)

- Ensure that the IUT on receiving via CF an APDU of type InvokePDU with an unrecognized operation value, requests CF to send an APDU of type RejectPDU with the invokeID field encoded as in the incoming APDU and the "problem" field encoded as "unrecognizedOperation" (reference ETS 300 239 [1], subclause 8.2, CCITT Recommendation X.229 [9], subclauses 7.1.3.2 and 7.4.3.1).

CF/P/TA/IV/TP2197 (test of CF)

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with the element "problem" encoded as "unrecognizedOperation" and when no Interpretation APDU had been received associated with the related APDU of type InvokePDU, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU having the "invokeID" element encoded as in the InvokePDU received (reference ETS 300 239 [1], subclause 8.1.2).

GFP/CR/COTA/MI/CP3020: TP2018; TP2024; TP2206; TP2198; TP2209 End and Transit PINX

PC/CR/COTA/BI/TP2018 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a call and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.1.1.2).

GFTC/CR/COTA/BI/TP2024 (test of GFTC)

- Ensure that the IUT, on receiving via PC a Facility IE not including an NFE, becomes the Destination PINX for that IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2).

RO/P/TA/IV/TP2206 (test of ROSE)

- Ensure that the IUT on receiving via CF an APDU of type InvokePDU with an unrecognized operation value, requests CF to send an APDU of type RejectPDU with the invokeID field encoded as in the incoming APDU and the "problem" field encoded as "unrecognizedOperation" (reference ETS 300 239 [1], subclause 8.2, CCITT Recommendation X.229 [9], subclauses 7.1.3.2 and 7.4.3.1).

CF/P/TA/IV/TP2198 (test of CF)

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU associated with a call with the element "problem" encoded as "unrecognizedOperation" and when an Interpretation APDU encoded as "clearCallIfAnyInvokePduNotRecognized" had been received associated with the related APDU of type InvokePDU, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU having the "invokeID" element encoded as in the InvokePDU received and to clear the underlying call. (reference ETS 300 239 [1], subclause 8.1.2).

PC/CR/COTA/BV/TP2209

- Ensure that the IUT, when requested by GFT-Control to send a Facility IE related to a call, either includes the Facility IE in one of the relevant messages which is to be sent, i.e. ALERTING, CONNECT, SETUP, PROGRESS, DISCONNECT, RELEASE or RELEASE COMPLETE, or sends a FACILITY message including the Facility IE (reference ETS 300 239 [1], subclause 7.1.1.1).

6.1.2 TPs end-use cross reference table

NOTE: Table 7 indicates the applicability ("A" column) of a TP identified in the left hand column of any row, to a particular PINX role (i.e Transit, End), and also the status ("St" column) of any TP regarding its testability and its use in an uncombined or combined test purpose. A "Y" indication in the particular role column means that the TP is applicable to the PINX identified in the role, a "N" indicates that the TP is not applicable to that role. The "St" column in any particular role column indicates the status of the TP from the point of view of whether it is:

"U" Untestable;

"O" Out of scope;

"T" Tested using only behaviour described in the TP;

"r" Tested using the behaviour described in the TP plus some additional behaviour (not other TP behaviour);

"R" Tested using the behaviour described in the TP while testing any combined test purpose (CTP) of which it is part (R = Relies on other TP behaviour).

EXAMPLE 1: TP2210 is applicable to both End and Transit PINX ("Y" in both "A" columns), but is untestable ("U" in both "St" column) for End and Transit PINX (not possible to keep the IUT in state 6).

EXAMPLE 2: TP2011 is applicable to both End and Transit PINX ("Y" in both "A" columns). As it is describing behaviour for an originating PINX, it is out of scope ("O" in "St" column of End role) for testing the End PINX. However it can be tested for a Transit PINX behaviour, as the "R" in "St" column for Transit role, indicates that it "Relies" for testing as Transit PINX, on behaviour of other TPs in any combined TP (CTP) of which it is part, plus the behaviour described in TP2011.

EXAMPLE 3: TP2023 is applicable to both End and Transit PINX ("Y" in both "A" columns), and it can be tested on its own for End and Transit behaviours ("T" in both "St" columns).

EXAMPLE 4: TP2030 is applicable to End PINX ("Y" in "A" column of End role), it is not applicable to Transit PINX ("N" in "A" column of Transit role). The "r" in "St" column for End role, indicates that it "relies" for testing as End PINX, on additionnal behaviour plus the behaviour described in the TP.

Table 7: TPs end-use cross reference table for the transport of APDUs (Call Related)

TP	End		Transit		End	Transit
	A	St	A	St		
TP1068	N		Y	T	-	TP1068
TP1069	N		Y	T	-	TP1069
TP1070	N		Y	T	-	TP1070
TP1071	N		Y	T	-	TP1071
TP1072	N		Y	R	-	CP3069
TP1073	N		Y	R	-	CP3070
TP1074	N		Y	R	-	CP3071
TP2007	Y	R	Y	R	CP3007	CP3006, CP3016
TP2008	Y	O	Y	r	-	TP2008
TP2009	Y	r	Y	r	TP2009	TP2009
TP2010	Y	r	Y	r	TP2010	TP2010
TP2011	Y	O	Y	R	-	CP3001, CP3013
TP2012	Y	O	Y	R	-	CP3002
TP2013	Y	r	Y	R	TP2013	CP3003
TP2014	Y	U	Y	R	-	CP3069
TP2015	Y	R	Y	R	CP3011	CP3005
TP2016	Y	U	Y	R	-	CP3070
TP2017	Y	U	Y	R	-	CP3071
TP2018	Y	R	Y	R	CP3019, CP3020, CP3007, CP3008, CP3009, CP3010, CP3012	CP3019, CP3020, CP3004, CP3006, CP3016, CP3017
TP2019	Y	T	Y	T	TP2019	TP2019
TP2021	Y	O	Y	r	-	TP2021
TP2022	Y	r	Y	r	TP2022	TP2022
TP2023	Y	T	Y	T	TP2023	TP2023
TP2024	Y	R	Y	R	CP3019, CP3020	CP3019, CP3020, CP3013
TP2025	Y	R	N		CP3007	-
TP2026	Y	R	N		CP3008	-
TP2027	Y	R	N		CP3012	-
TP2028	Y	R	N		CP3009	-
TP2029	Y	R	N		CP3010	-
TP2030	Y	r	N		TP2030	-
TP2031	Y	r	N		TP2031	-
TP2032	Y	R	N		CP3011	-
TP2033	N		Y	R	-	CP3016
TP2034	N		Y	R	-	CP3017
TP2035	N		Y	R	-	CP3001
TP2036	N		Y	R	-	CP3002
TP2037	N		Y	R	-	CP3003
TP2038	N		Y	R	-	CP3004
TP2039	N		Y	R	-	CP3005
TP2040	N		Y	R	-	CP3006
TP2041	N		Y	r	-	TP2041
TP2042	Y	U	Y	U	-	-
TP2209	Y	R	Y	R	CP3020	CP3020
TP2210	Y	U	Y	U	-	-
TP2211	Y	r	Y	r	TP2211	TP2211
TP2212	Y	r	Y	r	TP2212	TP2212
TP2213	Y	U	Y	U	-	-

NOTE: The following TPs are indicated as untestable ("U"):

TP2014:

End: on receiving a DISCONNECT message containing a Facility IE, the IUT will process the APDU via GFTC, but in parallel, the PC will send a RELEASE message and enter state 19. If the IUT enters state 19 before the APDU processing is completed, the only remaining way for an APDU to be sent is within a FACILITY message, which is forbidden to be sent in state 19. Therefore, it is not possible to test that the IUT has passed the IE to GFTC.

TP2016:

End: on receiving a RELEASE message containing a Facility IE, the IUT will process the APDU via GFTC, but in parallel, the PC will send a RELEASE COMPLETE message and enter state 0. If the IUT enters state 0 before the APDU processing is completed, the only remaining way for an APDU to be sent is within a FACILITY message, which is forbidden to be sent in state 0. Therefore, it is not possible to test that the IUT has passed the IE to GFTC.

TP2017:

End: on receiving a RELEASE COMPLETE message containing a Facility IE, the IUT will process the APDU via GFTC, but in parallel, the PC will enter state 0. If the IUT enters state 0 before the APDU processing is completed, the only remaining way for an APDU to be sent is within a FACILITY message, which is forbidden to be sent in state 0. Therefore, it is not possible to test that the IUT has passed the IE to GFTC.

TP2042

End and Transit : it is not possible to check the contents of the indication of the protocol profile passed to CF together with the APDUs, because this indication is not formalized in the base standard.

TP2210:

End and Transit : it is not possible to keep the IUT in state 6 because it is unstable in this state.

TP2213:

End and Transit : it is not possible to check that there is no response to something wrongly coded.

6.2 Requirements for Call Independent Connection Oriented procedures for the transport of APDUs

6.2.1 Combined TPs

GFP/CISC/COTA/BI/CP3022: TP2044; TP2146 Transit PINX

GFTC/CISC/COTA/BV/TP2146 (test of GFTC)

- Ensure that the IUT in the Transit_connection_idle state, on receiving from PC an indication of a received SETUP message containing a Called Party Number IE of another PINX to which a connection is possible, requests PC to send a SETUP message to the subsequent PINX (reference ETS 300 239 [1], subclause 7.3.3.2.1).

PC/CISC/COTA/BI/TP2044 (test of PC)

- Ensure that the IUT in state 0, when requested by GFT-Control to initiate a CISC, sends a SETUP message containing:
  - a Call Reference IE according to subclause 14.3 of ETS 300 172 [2];
  - optionally a Sending Complete IE;
  - a Bearer Capability IE with Coding Standard field encoded as "Other international standard", Information Transfer Capability field encoded as "Unrestricted digital information", Transfer Mode field encoded as "Circuit mode" and Information Transfer Rate field encoded as "CISC";
  - a Channel Identification IE with Channel Selection field encoded as "No channel", Signalling Channel Indication field encoded as "Channel indicated is the signalling channel", and Preferred/exclusive field encoded as "exclusive";
  - a Called Party Number IE containing a number at least sufficient to identify a terminating PINX;
  - optionally a Calling Party Number IE containing a number at least sufficient to identify the originating PINX;
  - optionally one or more Facility IEs;
  - optionally a Transit Counter IE;

  and enters state 1 (reference ETS 300 239 [1], subclause 7.3.1.1).

GFP/CISC/COTA/BV/CP3023: TP2153; TP2049 Transit PINX

GFTC/CISC/COTA/BV/TP2153 (test of GFTC)

- Ensure that the IUT in the Transit_connection_request state, on receiving from PC an indication of a received CONNECT message from the subsequent PINX, requests PC to send a CONNECT message to the preceding PINX and enters Transit_connection_active state (reference ETS 300 239 [1], subclause 7.3.3.2.2).

PC/CISC/COTA/BV/TP2049 (test of PC)

- Ensure that the IUT in state 9 for a CISC, when requested by GFT-Control to indicate that the CISC is established, sends a CONNECT message and enters state 8 or state 10 (reference ETS 300 239 [1], subclause 7.3.1.3).

GFP/CISC/COTA/BV/CP3024: TP2157; TP2071 Transit PINX

GFTC/CISC/COTA/BV/TP2157 (test of GFTC)

Ensure that the IUT in state Transit_connection_active on receiving from PC an indication of a received FACILITY message containing a Facility IE including an NFE encoded as follows:

sourceEntity:	"endPINX"
sourceEntityAddress:	(omitted)
detinationEntity:	"endPINX"
destinationEntityAddress:	(omitted)

from the subsequent PINX, requests PC to send the same FACILITY message to the preceding PINX (reference ETS 300 239 [1], subclause 7.3.3.2.3).

PC/CISC/COTA/BV/TP2071

- Ensure that the IUT in state 10 for a CISC, when requested by GFT-Control to send a Facility IE when no RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1, 7.3.1.6 and 7.3.1.9).

GFP/CISC/COTA/BV/CP3025: TP2156; TP2056 Transit PINX

GFTC/CISC/COTA/BV/TP2156 (test of GFTC)

Ensure that the IUT in state Transit_connection_request on receiving from PC an indication of a received RELEASE message from the preceding PINX, requests PC to send a RELEASE message to the subsequent PINX and enters the Transit_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.2.2).

PC/CISC/COTA/BV/TP2056 (test of PC)

Ensure that the IUT in state 1 for a CISC, when requested by GFT-Control to release the CISC, sends a RELEASE message containing a Cause IE with an appropriate Cause value and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.7).

GFP/CISC/COTA/BV/CP3026: TP2159; TP2057 Transit PINX

GFTC/CISC/COTA/BV/TP2159 (test of GFTC)

- Ensure that the IUT in state Transit_connection_active, on receiving from PC an indication of a received RELEASE message from the subsequent PINX requests PC to send a RELEASE message to the preceding PINX and enters Transit_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.2.3).

PC/CISC/COTA/BV/TP2057 (test of PC)

- Ensure that the IUT in state 8 for a CISC, when requested by GFT-Control to release the CISC, sends a RELEASE message containing a Cause IE with an appropriate Cause value and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.7).

GFP/CISC/COTA/BV/CP3027: TP2160; TP2058 Transit PINX

GFTC/CISC/COTA/BV/TP2160 (test of GFTC)

- Ensure that the IUT in the Transit_connection_active state, on receiving from PC an indication of a received RELEASE message from the preceding PINX, requests PC to send a RELEASE message to the subsequent PINX and enters Transit_connection_idle state (reference ETS 300 239 [1], subclause 7.3.3.2.3).

PC/CISC/COTA/BV/TP2058 (test of PC)

- Ensure that the IUT in state 10 for a CISC, when requested by GFT-Control to release the CISC, sends a RELEASE message containing a Cause IE with an appropriate Cause value and enters state 19 (reference ETS 300 239 [1], subclause 7.3.1.7).

GFP/CISC/COTA/MI/CP3044: TP2078; TP2231; TP2206; TP2199; TP2216 End and Transit PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT, on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BI/TP2231

- Ensure that the IUT, on receiving via PC a Facility IE not including an NFE, becomes the Destination PINX for that IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2).

RO/P/TA/IV/TP2206 (test of ROSE)

- Ensure that the IUT on receiving via CF an APDU of type InvokePDU with an unrecognized operation value, requests CF to send an APDU of type RejectPDU with the invokeID field encoded as in the incoming APDU and the "problem" field encoded as "unrecognizedOperation" (reference ETS 300 239 [1], subclause 8.2, CCITT Recommendation X.229 [9], subclauses 7.1.3.2 and 7.4.3.1).

CF/P/TA/IV/TP2199 (test of CF)

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU associated with a call with the element "problem" encoded as "unrecognizedOperation" and when an Interpretation APDU encoded as "clearCallIfAnyInvokePduNotRecognized" had been received associated with the related APDU of type InvokePDU, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU having the "invokeID" element encoded as in the InvokePDU received and to clear the underlying CISC (reference ETS 300 239 [1], subclause 8.1.2).

PC/CISC/COTA/BV/TP2216

- Ensure that the IUT, when requested by GFT-Control to send a Facility IE related to a CISC, either includes the Facility IE in one of the relevant messages which is to be sent, i.e. CONNECT, SETUP, RELEASE or RELEASE COMPLETE, or sends a FACILITY message including the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1 and 7.3.1.9).

GFP/CISC/COTA/CA/CP3028: TP2074; TP2216 Transit PINX

PC/CISC/COTA/BV/TP2074 (test of PC)

- Ensure that the IUT, on receiving a CONNECT message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

PC/CISC/COTA/BV/TP1076

- Ensure that the IUT as a Transit PINX, in state Transit_connection_request, on receiving a CONNECT message on interface Y, containing a Facility IE which is to be relayed, sends a CONNECT message on interface X containing this Facility IE.

GFP/CISC/COTA/BV/CP3029: TP2075; TP2223; TP2216 Transit PINX

PC/CISC/COTA/BV/TP2075 (test of PC)

- Ensure that the IUT, on receiving a SETUP message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2223 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and understanding the contents of this IE, either becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function, or passes that Facility IE unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

PC/CISC/COTA/BV/TP2216

- Ensure that the IUT, when requested by GFT-Control to send a Facility IE related to a CISC, either includes the Facility IE in one of the relevant messages which is to be sent, i.e. CONNECT, SETUP, RELEASE or RELEASE COMPLETE, or sends a FACILITY message including the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1 and 7.3.1.9).

GFP/CISC/COTA/BV/CP3032: TP2078; TP2158; TP2071 Transit PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT, on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2158 (test of GFTC)

- Ensure that the IUT in state Transit_connection_active on receiving from PC an indication of a received FACILITY message containing a Facility IE including an NFE encoded as follows:

  sourceEntity: "endPINX"
  sourceEntityAddress: (omitted)
  detinationEntity: "endPINX"
  destinationEntityAddress: (omitted)

  from the preceding PINX, requests PC to send the same FACILITY message to the subsequent PINX (reference ETS 300 239 [1], subclause 7.3.3.2.3).

PC/CISC/COTA/BV/TP2071 (test of PC)

- Ensure that the IUT in state 10 for a CISC, when requested by GFT-Control to send a Facility IE when no RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1, 7.3.1.6 and 7.3.1.9).

GFP/CISC/COTA/MI/CP3033: TP2078; TP2232; TP2197; TP2206, TP2162, TP2071 End PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2232 (test of GFTC)

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

CF/P/TA/IV/TP2197 (test of CF)

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with the element "problem" encoded as "unrecognizedOperation" and when no Interpretation APDU had been received associated with the related APDU of type InvokePDU, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU having the "invokeID" element encoded as in the InvokePDU received (reference ETS 300 239 [1], subclause 8.1.2).

RO/P/TA/IV/TP2206 (test of ROSE)

- Ensure that the IUT on receiving via CF an APDU of type InvokePDU with an unrecognized operation value, requests CF to send an APDU of type RejectPDU with the invokeID field encoded as in the incoming APDU and the "problem" field encoded as "unrecognizedOperation" (reference ETS 300 239 [1], subclause 8.2, CCITT Recommendation X.229 [9], subclauses 7.1.3.2 and 7.4.3.1).

GFTC/CISC/COTA/BV/TP2162 (test of GFTC)

- Ensure that the IUT in the incoming_connection_active state, in order to transmit APDUs, requests PC to send a FACILITY message to the preceding PINX (reference ETS 300 239 [1], subclause 7.3.3.3.2).

PC/CISC/COTA/BV/TP2071 (test of PC)

- Ensure that the IUT in state 10 for a CISC, when requested by GFT-Control to send a Facility IE when no RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1, 7.3.1.6 and 7.3.1.9).

GFP/CISC/COTA/MI/CP3045: P2078; TP2222; TP2206; TP2196; TP2071 Transit PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2222 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.2).

RO/P/TA/IV/TP2206 (test of ROSE)

- Ensure that the IUT on receiving via CF an APDU of type InvokePDU with an unrecognized operation value, requests CF to send an APDU of type RejectPDU with the invokeID field encoded as in the incoming APDU and the "problem" field encoded as "unrecognizedOperation" (reference ETS 300 239 [1], subclause 8.2, CCITT Recommendation X.229 [9], subclauses 7.1.3.2 and 7.4.3.1).

CF/P/TA/IV/TP2196 (test of CF)

- Ensure that the IUT, on receiving from ROSE an APDU of type RejectPDU with the element "problem" encoded as "unrecognizedOperation" and when an Interpretation APDU encoded as "rejectUnrecognizedInvokePdu" had been received associated with the related APDU of type InvokePDU, requests GFT-Control to send a Facility IE with the APDU of type RejectPDU having the "invokeID" element as in the InvokePDU received (reference ETS 300 239 [1], subclause 8.1.2).

PC/CISC/COTA/BV/TP2071 (test of PC)

- Ensure that the IUT in state 10 for a CISC, when requested by GFT-Control to send a Facility IE when no RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 7.1.1.1, 7.3.1.6 and 7.3.1.9).

GFP/CISC/COTA/BV/CP3046: TP2078; TP2223 Transit PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2223 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and understanding the contents of this IE, either becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function, or passes that Facility IE unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CISC/COTA/BV/CP3047: TP2074; TP2224 Transit PINX

PC/CISC/COTA/BV/TP2074 (test of PC)

- Ensure that the IUT, on receiving a CONNECT message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2224 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element matching its own address, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CISC/COTA/BV/CP3048: TP2074; TP2225 Transit PINX

PC/CISC/COTA/BV/TP2074 (test of PC)

- Ensure that the IUT, on receiving a CONNECT message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/CA/TP2225 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element not matching its own address, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CISC/COTA/BV/CP3049: TP2075; TP2226 Transit PINX

PC/CISC/COTA/BV/TP2075 (test of PC)

- Ensure that the IUT, on receiving a SETUP message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2226 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with no destinationEntityAddress element, and unable to become an End PINX for that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CISC/COTA/BV/CP3050: TP2078; TP2227 Transit PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2227(test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, and understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CISC/COTA/BV/CP3051: TP2075; TP2228 Transit PINX

PC/CISC/COTA/BV/TP2075 (test of PC)

- Ensure that the IUT, on receiving a SETUP message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2228 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element not matching its own address, and not understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CISC/COTA/BI/CP3052: TP2078; TP2229; TP2071 Transit PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2229 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE containing a ROSE APDU of type InvokePDU including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, and not understanding the contents of that Facility IE, passes it unchanged via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

PC/CISC/COTA/BV/TP2071 (test of PC)

- Ensure that the IUT in state 10 for a CISC, when requested by GFT-Control to send a Facility IE when no RELEASE or RELEASE COMPLETE message is to be sent, sends a FACILITY message containing the Facility IE (reference ETS 300 239 [1], subclauses 1.1.1, 7.3.1.6 and 7.3.1.9).

GFP/CISC/COTA/BV/CP3053: TP2078; TP2230 Transit PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/IV/TP2230 (test of GFTC)

- Ensure that the IUT as a Transit PINX for a CISC, on receiving via PC a Facility IE including an NFE not encoded or structured according to clause 11, discards the entire Facility IE, without passing it on via PC to the next PINX (reference ETS 300 239 [1], subclause 7.1.2.2.2).

GFP/CISC/COTA/BV/CP3056 : TP2078; TP2233 End PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT, on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/CA/TP2233

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with no destinationEntityAddress element, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CISC/COTA/BV/CP3057 : TP2078; TP2234 End PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT, on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2234

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "anyTypeOfPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CISC/COTA/BV/CP3058 : TP2078; TP2235 End PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2235

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CISC/COTA/BV/CP3059 : TP2078; TP2236 End PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT, on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2236

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC a Facility IE including an NFE with a destinationEntity element indicating "endPINX" and with a destinationEntityAddress element not matching its own address, becomes the Destination PINX for that Facility IE and passes it to the Co-ordination Function (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CISC/COTA/BV/CP3060 : TP2078; TP2239 End PINX

PC/CISC/COTA/BV/TP2078 (test of PC)

- Ensure that the IUT on receiving a FACILITY message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFTC/CISC/COTA/BV/TP2239

- Ensure that the IUT as an End PINX for a CISC, on receiving via PC two facility IEs from the same message, the first Facility IE including an NFE encoded as follows:
  destinationEntity: "endPINX"
  destinationEntityAddress: (omitted)
  and the second Facility IE including an NFE encoded as follows:
  detinationEntity: "anyTypeOfPINX"
  destinationEntityAddress: (not matching the address of the IUT)
  becomes the Destination PINX for the first Facility IE and passes it to the Co-ordination Function, and discards the second Facility IE (reference ETS 300 239 [1], subclause 7.1.2.2.1).

GFP/CISC/COTA/BV/CP3072 : TP1077; TP2076 Transit PINX

PC/CISC/COTA/BV/TP1077

- Ensure that the IUT as a Transit PINX, in state Transit_connection_active, on receiving a RELEASE message on interface X, containing a Facility IE which is to be relayed, sends a RELEASE message on interface Y containing this Facility IE.

PC/CISC/COTA/BV/TP2076

- Ensure that the IUT, on receiving a RELEASE message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

GFP/CISC/COTA/BV/CP3073 : TP1078 and TP2077 Transit PINX

PC/CISC/COTA/BV/TP1078

- Ensure that the IUT as a Transit PINX, in state Transit_connection_active, on receiving a RELEASE COMPLETE message on interface Y, containing a Facility IE which is to be relayed, sends a RELEASE message on interface X containing this Facility IE.

PC/CISC/COTA/BV/TP2077

- Ensure that the IUT, on receiving a RELEASE COMPLETE message related to a CISC, and containing a Facility IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclauses 7.1.1.2 and 7.3.1.9).

6.2.2 TPs end-use cross reference table

NOTE: Table 8 indicates the applicability ("A" column) of a TP identified in the left hand column of any row, to a particular PINX role (i.e Transit, End), and also the status ("St" column) of any TP regarding its testability and its use in an uncombined or combined test purpose. A "Y" indication in the particular role column means that the TP is applicable to the PINX identified in the role, a "N" indicates that the TP is not applicable to that role. The "St" column in any particular role column indicates the status of the TP from the point of view of whether it is;

"U" Untestable;

"O" Out of scope;

"T" Tested using only behaviour described in the TP;

"r" Tested using the behaviour described in the TP plus some additional behaviour (not other TP behaviour);

"R" Tested using the behaviour described in the TP while testing any combined test purpose (CTP) of which it is part (R = Relies on other TP behaviour).

EXAMPLE 1: TP2049 is applicable to both End and Transit PINX ("Y" in both "A" columns), it is untestable ("U" in "St" column for End role) for an End PINX (not possible to provoke GFT-Control to indicate that the CISC is established). The "R" in "St" column for Transit role, indicates that it "Relies" for testing as Transit PINX, on behaviour of other TPs in any combined TP (CTP) of which it is part, plus the behaviour described in TP2049.

EXAMPLE 2: TP2088 is applicable to End and Transit PINX ("Y" in both "A" columns). As it is describing behaviour for an originating PINX, it is out of scope ("O" in "St" column of End role) for testing the End PINX. However it can be tested on its own for a Transit PINX behaviour ("T" in "St" column of Transit role).

EXAMPLE 3: TP2147 is applicable to Transit PINX ("Y" in "A" column of Transit role), it is not applicable to End PINX ("N" in "A" column of End role). The "r" in "St" column of Transit role indicates that it "relies" for testing a Transit PINX, on additional behaviour plus the behaviour described in the TP.

Table 8: TPs end-use cross reference table for transport of APDUs (CISC)

TP	End		Transit		End	Transit
	A	St	A	St		
TP1075	N		Y	T	-	TP1075
TP1076	N		Y	R	-	CP3028
TP1077	N		Y	R	-	CP3072
TP1078	N		Y	R	-	CP3073
TP2043	Y	O	Y	r	-	TP2043
TP2044	Y	O	Y	R	-	CP3022
TP2045	Y	T	Y	T	TP2045	TP2045
TP2046	Y	O	Y	T	-	TP2046
TP2047	Y	O	Y	T	-	TP2047
TP2048	Y	O	Y	T	-	TP2048
TP2049	Y	U	Y	R	-	CP3023
TP2050	Y	O	Y	T	-	TP2050
TP2051	Y	O	Y	T	-	TP2051
TP2052	Y	T	Y	T	TP2052	TP2052
TP2053	Y	T	Y	T	TP2053	TP2053
TP2055	Y	T	Y	T	TP2055	TP2055
TP2056	Y	O	Y	R	-	CP3025
TP2057	Y	U	Y	R	-	CP3026
TP2058	Y	U	Y	R	-	CP3027
TP2059	Y	O	Y	T	-	TP2059
TP2060	Y	T	Y	T	TP2060	TP2060
TP2061	Y	T	Y	T	TP2061	TP2061
TP2062	Y	O	Y	T	-	TP2062
TP2063	Y	T	Y	T	TP2063	TP2063
TP2064	Y	T	Y	T	TP2064	TP2064
TP2065	Y	T	Y	T	TP2065	TP2065
TP2066	Y	T	Y	T	TP2066	TP2066
TP2071	Y	R	Y	R	CP3033	CP3024, CP3032, CP3045, CP3052
TP2072	Y	O	Y	R	-	TP2072
TP2073	Y	U	Y	U	-	-
TP2074	Y	O	Y	R	-	CP3028, CP3047, CP3048
TP2075	Y	r	Y	R	TP2075	CP3029, CP3049, CP3051
TP2076	Y	U	Y	R		CP3072
TP2077	Y	U	Y	R		CP3073
TP2078	Y	R	Y	R	CP3044, CP3033, CP3054, CP3056, CP3057, CP3058, CP3059, CP3060	CP3044, CP3032, CP3045, CP3046, CP3050, CP3052, CP3053
TP2079	Y	T	Y	T	TP2079	TP2079
TP2080	Y	O	Y	T	-	TP2080
TP2081	Y	T	Y	T	TP2081	TP2081
TP2082	Y	O	Y	T	-	TP2082
TP2083	Y	T	Y	T	TP2083	TP2083
TP2084	Y	T	Y	T	TP2084	TP2084
TP2085	Y	U	Y	T	-	TP2085
TP2086	Y	T	Y	T	TP2086	TP2086
TP2087	Y	O	Y	T	-	TP2087
TP2088	Y	O	Y	T	-	TP2088
TP2089	Y	T	Y	T	TP2089	TP2089

(continued)

Table 8 (continued): TPs end-use cross reference table for transport of APDUs (CISC)

TP	End		Transit		End	Transit
	A	St	A	St		
TP2090	Y	T	Y	T	TP2090	TP2090
TP2091	Y	T	Y	T	TP2091	TP2091
TP2092	Y	O	Y	T	-	TP2092
TP2093	Y	T	Y	T	TP2093	TP2093
TP2094	Y	T	Y	T	TP2094	TP2094
TP2095	Y	T	Y	T	TP2095	TP2095
TP2096	Y	O	Y	T	-	TP2096
TP2097	Y	O	Y	T	-	TP2097
TP2098	Y	O	Y	T	-	TP2098
TP2099	Y	T	Y	T	TP2099	TP2099
TP2100	Y	T	Y	T	TP2100	TP2100
TP2101	Y	O	Y	T	-	TP2101
TP2102	Y	T	Y	T	TP2102	TP2102
TP2103	Y	T	Y	T	TP2103	TP2103
TP2104	Y	O	Y	T	-	TP2104
TP2105	Y	T	Y	T	TP2105	TP2105
TP2106	Y	O	Y	T	-	TP2106
TP2107	Y	O	Y	T	-	TP2107
TP2110	Y	T	Y	T	TP2110	TP2110
TP2111	Y	O	Y	T	-	TP2111
TP2112	Y	O	Y	T	-	TP2112
TP2113	Y	T	Y	T	TP2113	TP2113
TP2114	Y	T	Y	T	TP2114	TP2114
TP2115	Y	T	Y	T	TP2115	TP2115
TP2116	Y	O	Y	T	-	TP2116
TP2117	Y	T	Y	T	TP2117	TP2117
TP2118	Y	T	Y	T	TP2118	TP2118
TP2119	Y	T	Y	T	TP2119	TP2119
TP2120	Y	O	Y	T	-	TP2120
TP2121	Y	T	Y	T	TP2121	TP2121
TP2122	Y	O	Y	T	-	TP2122
TP2123	Y	T	Y	T	TP2123	TP2123
TP2124	Y	T	Y	T	TP2124	TP2124
TP2125	Y	O	Y	T	-	TP2125
TP2126	Y	T	Y	T	TP2126	TP2126
TP2127	Y	O	Y	T	-	TP2127
TP2128	Y	O	Y	T	-	TP2128
TP2129	Y	T	Y	T	TP2129	TP2129
TP2130	Y	O	Y	T	-	TP2130
TP2131	Y	T	Y	T	TP2131	TP2131
TP2132	Y	T	Y	T	TP2132	TP2132
TP2133	Y	T	Y	T	TP2133	TP2133
TP2134	Y	O	Y	T	-	TP2134
TP2135	Y	O	Y	T	-	TP2135
TP2136	Y	T	Y	T	TP2136	TP2136
TP2137	Y	T	Y	T	TP2137	TP2137
TP2138	Y	T	Y	T	TP2138	TP2138
TP2139	Y	U	Y	U	-	-
TP2140	Y	U	Y	U	-	-
TP2142	Y	T	Y	T	TP2142	TP2142
TP2143	Y	T	Y	T	TP2143	TP2143
TP2146	N		Y	R	-	CP3022

(continued)

Table 8 (concluded): TPs end-use cross reference table for transport of APDUs (CISC)

TP	End		Transit		End	Transit
	A	St	A	St		
TP2147	N		Y	r	-	TP2147
TP2148	N		Y	r	-	TP2148
TP2149	N		Y	r	-	TP2149
TP2150	N		Y	r	-	TP2150
TP2153	N		Y	R	-	CP3023
TP2154	N		Y	r	-	TP2154
TP2155	N		Y	r	-	TP2155
TP2156	N		Y	R	-	CP3025
TP2157	N		Y	R	-	CP3024
TP2158	N		Y	R	-	CP3032
TP2159	N		Y	R	-	CP3026
TP2160	N		Y	R	-	CP3027
TP2161	Y	r	N		TP2161	-
TP2162	Y	R	N		CP3033	-
TP2163	Y	r	N		TP2163	-
TP2164	Y	U	N		-	-
TP2214	Y	O	Y	T	-	TP2214
TP2215	Y	T	Y	T	TP2215	TP2215
TP2216	Y	R	Y	R	CP3044	CP3044, CP3029
TP2217	Y	U	Y	U	-	-
TP2218	Y	U	Y	U	-	-
TP2219	Y	T	Y	T	TP2219	TP2219
TP2220	Y	T	Y	T	TP2220	TP2220
TP2221	Y	T	Y	T	TP2221	TP2221
TP2222	N		Y	R	-	CP3045
TP2223	N		Y	R	-	CP3046, CP3029
TP2224	N		Y	R	-	CP3047
TP2225	N		Y	R	-	CP3048
TP2226	N		Y	R	-	CP3049
TP2227	N		Y	R	-	CP3050
TP2228	N		Y	R	-	CP3051
TP2229	N		Y	R	-	CP3052
TP2230	N		Y	R	-	CP3053
TP2231	Y	R	Y	R	CP3044	CP3044
TP2232	Y	R	N		CP3033	-
TP2233	Y	R	N		CP3056	-
TP2234	Y	R	N		CP3057	-
TP2235	Y	R	N		CP3058	-
TP2236	Y	R	N		CP3059	-
TP2237	Y	r	N		TP2237	-
TP2238	Y	r	N		TP2238	-
TP2239	Y	R	N		CP3060	-
TP2249	Y	U	Y	U		
TP2250	Y	r	Y	r	TP2250	TP2250
TP2251	Y	U	Y	U	-	-

NOTE: The following TPs are indicated as untestable ("U") :

TP2049:
End: it is not possible to provoke the GFTC to indicate that a CISC has been established.

TP2057:
End: it is not possible to provoke the GFTC to release a CISC.

TP2058:
End: it is not possible to provoke the GFTC to release a CISC.

TP2073:

End: it is not possible to provoke the GFTC to request PC to send a Facility IE while PC is in state 19.

Transit : on receiving a RELEASE message containing a Facility IE on the incoming side, the IUT will process the APDU via GFTC, but in parallel, the PC will send a RELEASE message on the outgoing side and enter state 19. If the APDU processing is completed before the IUT sends a RELEASE message, the IUT will include the APDU in the RELEASE message and enter state 19. Therefore it is not possible to test that it would have sent a FACILITY message if it had been in state 19 before the APDU processing is completed.

TP2076:

End: on receiving a RELEASE message containing a Facility IE, the IUT will process the APDU via GFTC, but in parallel, the PC will send a RELEASE COMPLETE message and enter state 0. If the IUT enters state 0 before the APDU processing is completed, the only remaining way for an APDU to be sent is within a FACILITY message, which is forbidden to be sent in state 0. Therefore, it is not possible to test that the IUT has passed the IE to GFTC.

TP2077:

End: on receiving a RELEASE COMPLETE message containing a Facility IE, the IUT will process the APDU via GFTC, but in parallel, the PC will enter state 0. If the IUT enters state 0 before the APDU processing is completed, the only remaining way for an APDU to be sent is within a FACILITY message, which is forbidden to be sent in state 0. Therefore, it is not possible to test that the IUT has passed the IE to GFTC.

TP2085:

End: it is not possible to check that a calling party number has been correctly received.

TP2139:

End and Transit: it is not possible to prevent the IUT from spontaneously re-establishing the SCM, without requiring abnormal behaviour from the data link layer.

TP2140: idem TP2139.

TP2164:

End: it is not possible to check that the IUT enters the incoming_Connection_Idle state, as this is an internal GFTC state.

TP2217:

End and Transit: it is not possible to keep the IUT in state 6 because it is unstable in this state.

TP2218: idem TP2073.

TP2249:

End and Transit: it is not possible to check the contents of the indication of the protocol profile passed to CF together with the APDUs, because this indication is not formalized in the base standard.

TP2251:

End and Transit: it is not possible to check that there is no response to something wrongly coded.

6.3 Requirements for Call Related procedures for the transport of Notifications

6.3.1 Combined TPs

GFP/CR/COTN/BV/CP3035: TP2179; TP2194; TP2167 Transit PINX

PC/CR/COTN/BV/TP2179 (test of PC)

- Ensure that the IUT, on receiving an ALERTING message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

GFTC/CR/COTN/CA/TP2194 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Subsequent PINX, sends a Notification Indicator IE via PC to the Preceding PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/BV/TP2167 (test of PC)

- Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when an ALERTING message is to be sent, either sends an ALERTING message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

GFP/CR/COTN/BV/CP3036: TP2180; TP2194; TP2168 Transit PINX

PC/CR/COTN/BV/TP2180 (test of PC)

- Ensure that the IUT, on receiving a CONNECT message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

GFTC/CR/COTN/CA/TP2194 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Subsequent PINX, sends a Notification Indicator IE via PC to the Preceding PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/BV/TP2168 (test of PC)

- Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a CONNECT message is to be sent, either sends a CONNECT message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

GFP/CR/COTN/BV/CP3037: TP2181; TP2193; TP2169 Transit PINX

PC/CR/COTN/BV/TP2181 (test of PC)

- Ensure that the IUT, on receiving a SETUP message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

GFTC/CR/COTN/BV/TP2193 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Preceding PINX, sends a Notification Indicator IE via PC to the Subsequent PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/BV/TP2169 (test of PC)

- Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a SETUP message(except re-transmission) is to be sent, sends a SETUP message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

GFP/CR/COTN/BV/CP3038: TP2170; TP2193; TP2182 Transit PINX

PC/CR/COTN/BV/TP2170 (test of PC)

- Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a DISCONNECT message is to be sent, either sends a DISCONNECT message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

GFTC/CR/COTN/BV/TP2193 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Preceding PINX, sends a Notification Indicator IE via PC to the Subsequent PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/BV/TP2182 (test of PC)

- Ensure that the IUT, on receiving a DISCONNECT message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

GFP/CR/COTN/BV/CP3039: TP2183; TP2194; TP2171 Transit PINX

PC/CR/COTN/BV/TP2183 (test of PC)

- Ensure that the IUT, on receiving a PROGRESS message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

GFTC/CR/COTN/CA/TP2194 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Subsequent PINX, sends a Notification Indicator IE via PC to the Preceding PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/BV/TP2171 (test of PC)

- Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a PROGRESS message is to be sent, either sends a PROGRESS message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

GFP/CR/COTN/BV/CP3040: TP2184; TP2193; TP2172 Transit PINX

PC/CR/COTN/BV/TP2184 (test of PC)

- Ensure that the IUT, on receiving a FACILITY message related to a call and containing a Notification Indicator IE, passes that IE to GFT-Control (reference ETS 300 239 [1], subclause 7.4.2.2).

GFTC/CR/COTN/BV/TP2193 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Preceding PINX, sends a Notification Indicator IE via PC to the Subsequent PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/BV/TP2172 (test of PC)

- Ensure that the IUT, when requested by GFT-Control to send a notification related to a call when a FACILITY message is to be sent, either sends a FACILITY message containing a Notification Indicator IE or sends a NOTIFY message containing a Notification Indicator IE (reference ETS 300 239 [1], subclause 7.4.2.1).

GFP/CR/COTN/BV/CP3041: TP2185; TP2193; TP2173 Transit PINX

PC/CR/COTN/CA/TP2185 (test of PC)

- Ensure that the IUT on receiving a NOTIFY message related to a call containing a Notification Indicator IE, passes that IE to GFT-Control and remains in the same state.

GFTC/CR/COTN/BV/TP2193 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Preceding PINX, sends a Notification Indicator IE via PC to the Subsequent PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/BV/TP2173 (test of PC)

- Ensure that the IUT in state 3 for a call, when requested by GFT-Control to send a notification related to that call when no DISCONNECT, or FACILITY message is to be sent, sends a NOTIFY message containing a Notification Indicator IE and remains in the same state (reference ETS 300 239 [1], subclause 7.4.2.1).

GFP/CR/COTN/CA/CP3042: TP2185; TP2194; TP2174 Transit PINX

PC/CR/COTN/CA/TP2185 (test of PC)

- Ensure that the IUT on receiving a NOTIFY message related to a call containing a Notification Indicator IE, passes that IE to GFT-Control and remains in the same state.

GFTC/CR/COTN/CA/TP2194 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Subsequent PINX, sends a Notification Indicator IE via PC to the Preceding PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/CA/TP2174 (test of PC)

- Ensure that the IUT in state 10 for a call, when requested by GFT-Control to send a notification related to that call when no PROGRESS, DISCONNECT, or FACILITY message is to be sent, sends a NOTIFY message containing a Notification Indicator IE and remains in the same state (reference ETS 300 239 [1], subclause 7.4.2.1).

GFP/CR/COTN/BV/CP3043: TP2185; TP2193; TP2175 Transit PINX

PC/CR/COTN/CA/TP2185 (test of PC)

- Ensure that the IUT on receiving a NOTIFY message related to a call containing a Notification Indicator IE, passes that IE to GFT-Control and remains in the same state.

GFTC/CR/COTN/BV/TP2193 (test of GFTC)

- Ensure that the IUT as a Transit PINX, on receiving via PC a Notification Indicator IE from the Preceding PINX, sends a Notification Indicator IE via PC to the Subsequent PINX (reference ETS 300 239 [1], subclause 7.4.3.2).

PC/CR/COTN/BV/TP2175 (test of PC)

- Ensure that the IUT in state 4 for a call, when requested by GFT-Control to send a notification related to that call when no DISCONNECT, or FACILITY message is to be sent, sends a NOTIFY message containing a Notification Indicator IE and remains in the same state (reference ETS 300 239 [1], subclause 7.4.2.1).

6.3.2 TPs end-use cross reference table

NOTE: Table 9 indicates the applicability ("A" column) of a TP identified in the left hand column of any row, to a particular PINX role (i.e Transit, End), and also the status ("St" column) of any TP regarding its testability and its use in an uncombined or combined test purpose. A "Y" indication in the particular role column means that the TP is applicable to the PINX identified in the role, a "N" indicates that the TP is not applicable to that role. The "St" column in any particular role column indicates the status of the TP from the point of view of whether it is:

"U" Untestable;

"O" Out of scope;

"T" Tested using only behaviour described in the TP;

"r" Tested using the behaviour described in the TP plus some additional behaviour (not other TP behaviour);

"R" Tested using the behaviour described in the TP while testing any combined test purpose (CTP) of which it is part (R = Relies on other TP behaviour).

EXAMPLE 1: TP2177 is applicable to both End and Transit PINX ("Y" in both "A" columns), it is untestable ("U" in "St" column for End role) for an End PINX (not possible to stimulate the IUT to generate a NOTIFY message). The "r" in "St" column of Transit role indicates that it "relies" for testing a Transit PINX, on additional behaviour plus the behaviour described in the TP.

EXAMPLE 2: TP2189 is applicable to End and Transit PINX ("Y" in both "A" columns). As it is describing behaviour for an originating PINX, it is out of scope ("O" in "St" column of End role) for testing the End PINX. However it can be tested on its own for a Transit PINX behaviour ("T" in "St" column of Transit role).

EXAMPLE 3: TP2193 is applicable to Transit PINX ("Y" in "A" column of Transit role), it is not applicable to End PINX ("N" in "A" column of End role). The "R" in "St" column for Transit role, indicates that it "Relies" for testing as Transit PINX, on behaviour of other TPs in any combined TP (CTP) of which it is part, plus the behaviour described in TP2193.

Table 9: TPs end-use cross reference table for transport of Notifications

TP	End		Transit		End	Transit
	A	St	A	St		
TP2167	Y	U	Y	R	-	CP3035
TP2168	Y	U	Y	R	-	CP3036
TP2169	Y	O	Y	R	-	CP3037
TP2170	Y	U	Y	R	-	CP3038
TP2171	Y	U	Y	R	-	CP3039
TP2172	Y	U	Y	R	-	CP3040
TP2173	Y	O	Y	R	-	CP3041
TP2174	Y	U	Y	R	-	CP3042
TP2175	Y	O	Y	R	-	CP3043
TP2176	Y	O	Y	r	-	TP2176
TP2177	Y	U	Y	r	-	TP2177
TP2178	Y	U	Y	r	-	TP2178
TP2179	Y	O	Y	R	-	CP3035
TP2180	Y	O	Y	R	-	CP3036
TP2181	Y	U	Y	R	-	CP3037
TP2182	Y	U	Y	R	-	CP3038
TP2183	Y	U	Y	R	-	CP3039
TP2184	Y	U	Y	R	-	CP3040
TP2185	Y	U	Y	R	-	CP3041, CP3042, CP3043
TP2186	Y	T	Y	T	TP2186	TP2186
TP2187	Y	T	Y	T	TP2187	TP2187
TP2188	Y	T	Y	T	TP2188	TP2188
TP2189	Y	O	Y	T	-	TP2189
TP2190	Y	O	Y	T	-	TP2190
TP2191	Y	U	Y	T	-	TP2191
TP2192	Y	T	Y	T	TP2192	TP2192
TP2193	N		Y	R	-	CP3037, CP3038, CP3040, CP3041, CP3043
TP2194	N		Y	R	-	CP3035, CP3036, CP3039, CP3042
TP2195	Y	U	N		-	-
TP2252	Y	T	Y	T	TP2252	TP2252
TP2253	Y	U	Y	T	-	TP2253

NOTE: The following TPs are indicated as untestable ("U"):

TP2167:
End: It is not possible to provoke the GFTC to request PC to send a notification.
TP2168: idem TP2167.
TP2170: idem TP2167.
TP2171: idem TP2167.
TP2172: idem TP2167.
TP2174: idem TP2167.
TP2177: idem TP2167.
TP2178: idem TP2167.
TP2181:
End : It is not possible to check that a Notification Indicator IE has been received.
TP2182: idem TP2181.
TP2183: idem TP2181.
TP2184: idem TP2181.
TP2185: idem TP2181.
TP2191:
End: It is not possible to check that a Notification Indicator IE has been ignored.
TP2195:
End : It is not possible to check what the user receives.
TP2253: idem TP2191.

6.4 Requirements for Application Layer

6.4.1 Combined TPs

The combined TPs for Application Layer requirements are already listed in subclauses 6.1.1 and 6.2.1.

6.4.2 Test purposes end-use cross reference table

NOTE: Table 10 indicates the applicability ("A" column) of a TP identified in the left hand column of any row, to a particular PINX role (i.e Transit, End), and also the status ("St" column) of any TP regarding its testability and its use in an uncombined or combined test purpose. A "Y" indication in the particular role column means that the TP is applicable to the PINX identified in the role, a "N" indicates that the TP is not applicable to that role. The "St" column in any particular role column indicates the status of the TP from the point of view of whether it is:

"U" Untestable;

"O" Out of scope;

"T" Tested using only behaviour described in the TP;

"r" Tested using the behaviour described in the TP plus some additional behaviour (not other TP behaviour);

"R" Tested using the behaviour described in the TP while testing any combined test purpose (CTP) of which it is part (R = Relies on other TP behaviour).

EXAMPLE 1: TP2197 is applicable to both End and Transit PINX ("Y" in both "A" columns). The "R" in both "St" columns indicates that it "Relies" for testing as End PINX and asTransit PINX, on behaviour of other TPs in any combined TP (CTP) of which it is part, plus the behaviour described in TP2197.

EXAMPLE 2: TP2200 is applicable to both End and Transit PINX ("Y" in both "A" columns). The "r" in both "St" columns indicates that it "relies" for testing as End PINX and as Transit PINX, on additional behaviour plus the behaviour described in the TP.

EXAMPLE 3: TP2254 is applicable to both End and Transit PINX ("Y" in both "A" columns), it is untestable for both End and Transit PINX ("U" in both "St" columns).

Table 10: TPs end-use cross reference table for Application Layer

TP	End		Transit	
	A	St	A	St
TP2196	Y	R	Y	R
TP2197	Y	R	Y	R
TP2198	Y	R	Y	R
TP2199	Y	R	Y	R
TP2200	Y	r	Y	r
TP2201	Y	r	Y	r
TP2206	Y	R	Y	R
TP2254	Y	U	Y	U

End	Transit
CP3007, CP3045	CP3016
CP3019, CP3033	CP3019
CP3020	CP3020
CP3044	CP3044
TP2200	TP2200
TP2201	TP2201
CP3019, CP3020, CP3044, CP3007, CP3033	CP3019, CP3020, CP3044, CP3016, CP3045
-	-

NOTE: The following TP is indicated as untestable ("U")

TP2254:

End and Transit : it is not possible to provoke the GFTC to send to CF a special indication of the protocol profile together with APDUs.

7 Compliance clause

In order to comply with this ETS a Generic or ATS shall:

a) correspond to a set of test cases, which, correspond to the set of test purposes specified in clause 6, or a subset thereof;

b) use a test suite structure which is as defined in clause 4, or an appropriate subset thereof;

c) use names for the test groups and test cases which are the same as, or derived from, the names of corresponding test groups and test purposes in this ETS;

d) comply with ISO/IEC 9646 [5] parts 2 and 3.

NOTE: The only subsets of the test suite structure which should be used are those which give complete coverage for one or more profiles, if the ATS does not cover the entire protocol, or those which omit test purposes which are untestable in the chosen Abstract Test Method.

Annex A (informative): Index of TPs

This index indicates the page number on which each TP, super TP and combined TP is defined.

SP1002	19	SP1065	43	TP2053	26	TP2119	35	TP2185	47
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SP1004	20			TP2056	26	TP2121	35	TP2187	47
SP1005	20	TP1068	24	TP2057	26	TP2122	36	TP2188	47
SP1006	21	TP1069	24	TP2058	27	TP2123	36	TP2189	48
SP1007	21	TP1070	24	TP2059	27	TP2124	36	TP2190	48
SP1008	22	TP1071	24	TP2060	27	TP2125	36	TP2191	48
SP1009	26	TP1072	24	TP2061	27	TP2126	36	TP2192	48
SP1010	27	TP1073	24	TP2062	27	TP2127	36	TP2193	48
SP1012	28	TP1074	25	TP2063	27	TP2128	36	TP2194	49
SP1013	28	TP1075	44	TP2064	27	TP2129	37	TP2195	49
SP1014	29	TP1076	44	TP2065	27	TP2130	37	TP2196	49
SP1015	29	TP1077	44	TP2066	27	TP2131	37	TP2197	49
SP1016	30	TP1078	44	TP2071	28	TP2132	37	TP2198	49
SP1017	30	TP2007	19	TP2072	28	TP2133	37	TP2199	49
SP1018	30	TP2008	19	TP2073	28	TP2134	38	TP2200	50
SP1019	30	TP2009	19	TP2074	28	TP2135	38	TP2201	50
SP1020	30	TP2010	19	TP2075	29	TP2136	38	TP2206	50
SP1021	30	TP2011	20	TP2076	29	TP2137	38	TP2209	19
SP1022	31	TP2012	20	TP2077	29	TP2138	38	TP2210	19
SP1023	31	TP2013	20	TP2078	29	TP2139	39	TP2211	19
SP1024	31	TP2014	20	TP2079	29	TP2140	39	TP2212	24
SP1025	31	TP2015	20	TP2080	29	TP2142	39	TP2213	24
SP1026	31	TP2016	20	TP2081	29	TP2143	39	TP2214	27
SP1027	32	TP2017	20	TP2082	29	TP2146	40	TP2215	27
SP1028	32	TP2018	20	TP2083	30	TP2147	41	TP2216	28
SP1029	32	TP2019	20	TP2084	30	TP2148	41	TP2217	28
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SP1034	33	TP2025	21	TP2089	31	TP2155	41	TP2222	39
SP1035	34	TP2026	21	TP2090	31	TP2156	41	TP2223	39
SP1036	34	TP2027	21	TP2091	31	TP2157	42	TP2224	40
SP1037	34	TP2028	21	TP2092	31	TP2158	42	TP2225	40
SP1038	35	TP2029	22	TP2093	31	TP2159	42	TP2226	40
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SP1053	47	TP2042	24	TP2106	34	TP2174	46	TP2239	43
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