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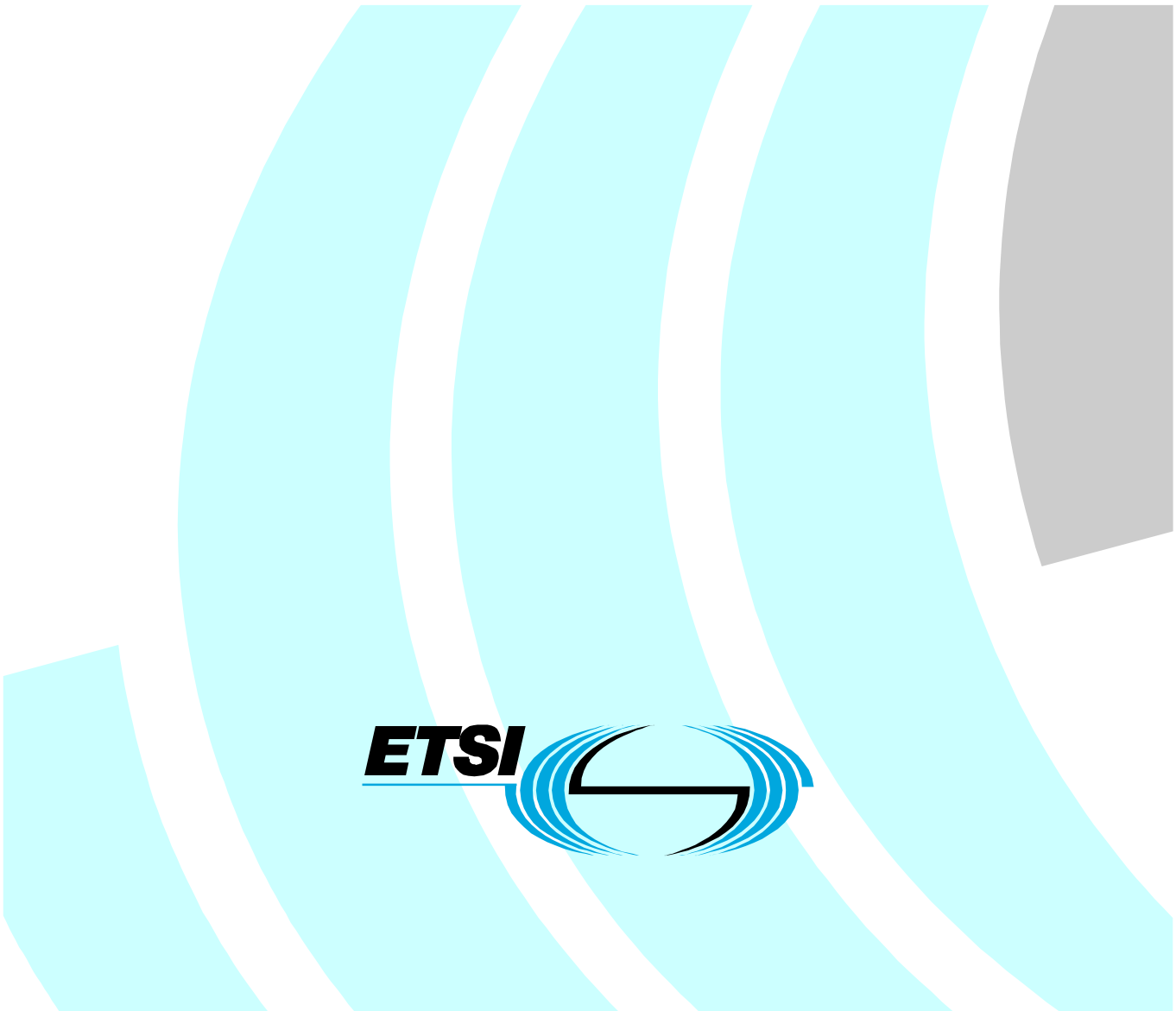
European Standard (Telecommunications series)

**Integrated Services Digital Network (ISDN);
Generic functional protocol for the
support of supplementary services;
Digital Subscriber Signalling System No. one (DSS1) protocol;
Part 3: Test Suite Structure and Test Purposes (TSS&TP)
specification for the user**



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Contents

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 3 of a multi-part deliverable covering the Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; as described below:

Part 1: "Protocol specification";

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

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

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user";

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

Part 6: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the network".

National transposition dates	
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1 Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) for the User side of the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 [5]) of implementations conforming to the stage three standard for the generic functional protocol for the support of supplementary services for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, EN 300 196-1 [1].

A further part of the present document specifies the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma based on the present document. Other parts specify the TSS&TP and the ATS and partial PIXIT proforma for the Network side of the T reference point or coincident S and T reference point of implementations conforming to EN 300 196-1 [1].

The present document adds the TSS and TPs relating to the bearer independent connection oriented transport mechanism.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

[1] ETSI EN 300 196-1: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[2] ETSI EN 300 196-2: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

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

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

[5] ITU-T Recommendation I.411 (1993): "ISDN user-network interfaces - Reference configurations".

[6] ETSI EN 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".

NOTE: There are no clause numbering in EN 300 403-1; the clause numbers used in the present document actually refer to the clause numbers of ITU-T Recommendation Q.931.

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

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

[9] ETSI EN 300 403-3: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 3: Protocol Implementation Conformance Statement (PICS) proforma specification".

[10] ITU-T Recommendation X.209 (1988): "Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)".

[11] ITU-T Recommendation X.208 (1988): "Specification of Abstract Syntax Notation One (ASN.1)".

[12] ITU-T Recommendation X.680: "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".

[13] ITU-T Recommendation X.690: "Information technology - ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER)".

[14] ETSI EN 301 813-3: "Integrated Services Digital Network (ISDN) and Broadband Integrated Services Digital Network (B-ISDN); Generic Addressing and Transport (GAT) protocol; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification".

3 Definitions

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

3.1 Definitions related to conformance testing

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

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [3].

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

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

point of control and observation: Refer to ISO/IEC 9646-1 [3].

Protocol Implementation Conformance Statement (PICS): Refer to ISO/IEC 9646-1 [3].

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

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

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

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

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

3.2 Definitions related to EN 300 196-1

bearer-related transport mechanism: procedure tied to the procedures for basic call control and tied to a connection in progress, active or in the clearing phase

NOTE: The call reference used by the basic call control procedure is adopted by the bearer-related service invocations to correlate with the appropriate basic call control transaction.

bearer-independent transport mechanism: procedure independent of the procedures for basic call control and not correlated to a connection

connection-oriented transport mechanism: mechanism requiring the establishment of a data link and a transport association between the service requesting entity and the service provider

NOTE: It provides a facility to access common information element category operations where success and/or failure reporting is required. It provides a call reference within the transport association as a means to associate uniquely among the related transport messages.

connectionless transport mechanism: mechanism where no transport association exists but a single transport message transfer is provided using the dummy call reference

call held auxiliary state: See EN 300 196-1 [1], clause 7.1.2.

call reference: See EN 300 403-1 [9], clause 4.3.

called user: user at the origination side of the call

calling user: user at the destination side of the call

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

general signalling: signalling procedure for the exchange of APDUs between application entities that need not be adjacent

hold requested auxiliary state: See EN 300 196-1 [1], clause 7.1.2.

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

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [7], definition 308.

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

local signalling: signalling procedure restricted to the exchange of APDUs between adjacent application entities

retrieve requested auxiliary state: See EN 300 196-1 [1], clause 7.1.2.

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

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

service; telecommunication service: See ITU-T Recommendation I.112 [7], definition 201.

supplementary service: See ITU-T Recommendation I.210 [8], clause 2.4.

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

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

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

4 Abbreviations

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

ATM	Abstract Test Method
ATS	Abstract Test Suite
CR	Call Reference
DSS1	Digital Subscriber Signalling System No. one
GFP	Generic Functional Protocol
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
NCICS	Networked Call Independent Signalling Connection
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
TP	Test Purpose
TSS	Test Suite Structure
U00	Null call state
U03	Outgoing Call Proceeding call state
U04	Call Delivered call state

U07	Call Received call state
U08	Connect Request call state
U09	Incoming Call Proceeding call state
U10	Active call state
U25	Overlap Receiving call state
UI	Unnumbered Information

5 General Test Suite Structure (TSS)

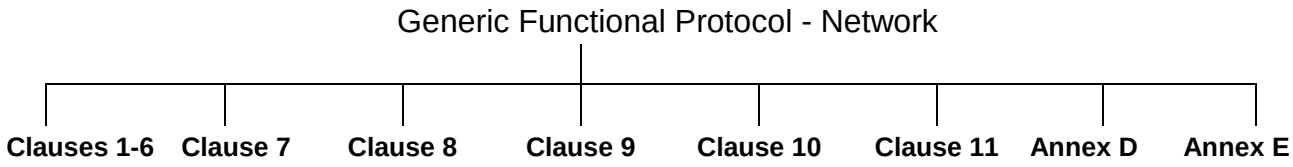


Figure 1: Test suite structure

More detailed TSSs for each group (branch) are contained in separate clauses.

6 TSS&TP

6.1 Introduction

For each test requirement a TP is defined.

6.1.1 TP naming convention

TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS. Additional references are added to identify the actual test suite and whether it applies to the network or the user (see table 1).

Table 1: TP identifier naming convention scheme

Identifier: **<ss>_<iut><clause>_<group>_<nnn>**				
<ss>	=	supplementary service:	e.g. "GFP"	
<iut>	=	type of IUT:	U N	User Network
<clause>	=	clause	1 or 2 character field representing a clause number from EN 300 196-1 [1]	
<group>	=	group	2 digit field representing group reference according to TSS	
<nnn>	=	sequential number	(001-999)	

6.1.2 Source of TP definition

The TPs are based on EN 300 196-1 [1].

6.1.3 TP structure

Each TP has been written in a manner which is consistent with all other TPs. The intention of this is to make the TPs more readable and checkable. A particular structure has been used and this is illustrated in table 2. This table should be read in conjunction with any TP, i.e. use a TP as an example to fully understand the table.

Table 2: Structure of a single TP

TP part	Text	Example
Header	**<Identifier>** *tab* **<paragraph number in base EN>** *tab* **<type of test>** *CR*	see table 1 **clause 0.0.0** **valid, invalid, inopportune**
Stimulus	Ensure that the IUT in the <basic call state> <trigger> *see below for message structure* *or* <goal>	 U10, U10, etc. receiving a XXXX message to request a ...
Reaction	<action> <conditions> *if the action is sending* *see below for message structure* <next action>, *etc.* and remains in the same state *or* and enters state <state>	sends, saves, does, etc. using en-bloc sending, ...
Message structure	<message type> message containing a *a)* <info element> information element with *b)* a <field name> encoded as *or* including <coding of the field> and *back to a or b,*	SETUP, FACILITY, CONNECT, ... Bearer capability, Facility, ...
NOTE: Text in italics will not appear in TPs and text between <> is filled in for each TP and may differ from one TP to the next.		

6.1.4 Test strategy

As the base standard EN 300 196-1 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard and the PICS specification EN 300 196-2 [2]. The criteria applied include the following:

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

6.1.5 Test of call states

Many TPs include a reference to the IUT's final call state after the realization of the TP. In these cases the TP includes the requirement to ensure that the IUT has entered this particular final call state. Ensuring that the IUT is in a particular call state shall be realized by following the procedures described in clause 5.8.10 of EN 300 403-1 [6]. According to these procedures, the IUT on receipt of a STATUS ENQUIRY message, shall respond with a STATUS message indicating, in the third octet of the Call state information element, the current call state of the IUT. This exchange of messages is not mentioned explicitly in each TP but is considered to be implicit in the reference to the final call state. This way of phrasing the TPs has been used to avoid over-complicating the text and structure of the TPs and to improve the readability.

NOTE: Timer T322 is associated with that STATUS ENQUIRY/STATUS procedure.

6.2 User TSS&TP for the generic functional protocol

6.2.1 TSS&TP for clauses 1 to 6

None identified.

6.2.2 TSS&TP for clause 7

6.2.2.1 TSS for clause 7

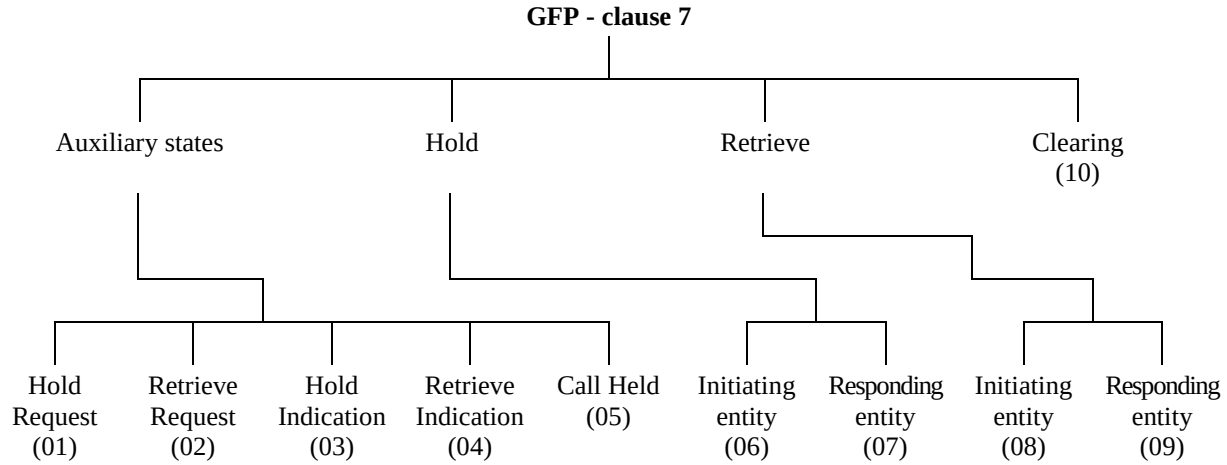


Figure 2: TSS

6.2.2.2 TPs for clause 7

Selection: IUT supports the functional protocol for the control of supplementary services. PICS: MCu 1.

NOTE 1: There are no auxiliary states relating to bearer independent connection oriented transport mechanism for general signalling.

NOTE 2: These TPs for clause 7 do not apply to NCICS.

6.2.2.2.1 Auxiliary states

6.2.2.2.1.1 Hold Request

Selection: IUT supports the functions of an initiating entity. PICS: R 5.1.

GFP_U7_01_001 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Hold Request auxiliary state, entering the Null call state U00,
enters the Idle auxiliary state.

GFP_U7_01_002 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Hold Request auxiliary state, entering the Disconnect Request call state U11,
enters the Idle auxiliary state.

GFP_U7_01_003 clause 7.1.2, 4th paragraph
Ensure that IUT, while in the Active call state U10 and Hold Request auxiliary state, entering the Disconnect Indication call state U12,
enters the Idle auxiliary state.

6.2.2.2.1.2 Retrieve Request

Selection: IUT supports the functions of an initiating entity. PICS: R 5.1.

GFP_U7_02_001 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Retrieve Request auxiliary state, entering the Null call state U00,
enters the Idle auxiliary state.

GFP_U7_02_002 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Retrieve Request auxiliary state, entering the Disconnect Request call state U11,
enters the Idle auxiliary state.

GFP_U7_02_003 clause 7.1.2, 4th paragraph
Ensure that IUT, while in the Active call state U10 and Retrieve Request auxiliary state, entering the Disconnect Indication call state U12,
it remains in the same auxiliary state.

6.2.2.2.1.3 Hold Indication

Selection: IUT supports the functions of a responding entity. PICS: R 5.2.

GFP_U7_03_001 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Hold Indication auxiliary state, entering the Null call state U00,
enters the Idle auxiliary state.

GFP_U7_03_002 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Hold Indication auxiliary state, entering the Disconnect Request call state U11,
enters the Idle auxiliary state.

GFP_U7_03_003 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Hold Indication auxiliary state, entering the Disconnect Indication call state U12,
enters the Idle auxiliary state.

6.2.2.2.1.4 Retrieve Indication

Selection: IUT supports the functions of a responding entity. PICS: R 5.2.

GFP_U7_04_001 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Retrieve Indication auxiliary state, entering the Null call state U00,
enters the Idle auxiliary state.

GFP_U7_04_002 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Retrieve Indication auxiliary state, entering the Disconnect Request call state U11,
enters the Idle auxiliary state.

GFP_U7_04_003 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Retrieve Indication auxiliary state, entering the Disconnect Indication call state U12,
it remains in the same auxiliary state.

6.2.2.2.1.5 Call Held

GFP_U7_05_001 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Call Held auxiliary state, entering the Null call state U00,
enters the Idle auxiliary state.

GFP_U7_05_002 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Call Held auxiliary state, entering the Disconnect Request call state U11,
enters the Idle auxiliary state.

GFP_U7_05_003 clause 7.1.2, 3rd paragraph
Ensure that IUT, while in the Active call state U10 and Call Held auxiliary state, entering the Disconnect Indication call state U12,
it remains in the same auxiliary state.

6.2.2.2.2 Hold function

6.2.2.2.2.1 Initiating entity

Selection: IUT supports the functions of an initiating entity. PICS: R 5.1.

GFP_U7_06_001 clause 7.2.1.1
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Idle auxiliary state,
is able to transmit a HOLD message and enters the Hold Request auxiliary state.

GFP_U7_06_002 clause 7.2.1.1
Ensure that the IUT, while in the Call Delivered call state U04 and Idle auxiliary state,
is able to transmit a HOLD message and enters the Hold Request auxiliary state.

GFP_U7_06_003 clause 7.2.1.1
Ensure that the IUT, while in the Call Received call state U07 and Idle auxiliary state,
is able to transmit a HOLD message and enters the Hold Request auxiliary state.

Selection: IUT supports point-to-point configuration IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_06_004 clause 7.2.1.1
Ensure that the IUT, while in the Connect Request call state U08 and Idle auxiliary state,
is able to transmit a HOLD message and enters the Hold Request auxiliary state.

Selection: IUT supports point-to-point configuration IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_06_005 clause 7.2.1.1
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Idle auxiliary state,
is able to transmit a HOLD message and enters the Hold Request auxiliary state.

Selection: IUT supports point-to-point configuration IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_06_006 clause 7.2.1.1
Ensure that the IUT, while in the Active call state U10 and Idle auxiliary state,
is able to transmit a HOLD message and enters the Hold Request auxiliary state.

GFP_U7_06_007 clause 7.2.1.1
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Hold Request auxiliary state, on receipt of a HOLD ACKNOWLEDGE message,
enters the Call Held auxiliary state.

GFP_U7_06_008 clause 7.2.1.1
Ensure that the IUT, while in the Call Delivered call state U04 and Hold Request auxiliary state, on receipt of a HOLD ACKNOWLEDGE message,
enters the Call Held auxiliary state.

GFP_U7_06_009 clause 7.2.1.1
Ensure that the IUT, while in the Call Received call state U07 and Hold Request auxiliary state, on receipt of a HOLD ACKNOWLEDGE message,
enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_06_010 clause 7.2.1.1
Ensure that the IUT, while in the Connect Request call state U08 and Hold Request auxiliary state, on receipt of a HOLD ACKNOWLEDGE message,
enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_06_011 clause 7.2.1.1
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Hold Request auxiliary state, on receipt of a HOLD ACKNOWLEDGE message,
enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1

GFP_U7_06_012 clause 7.2.1.1
Ensure that the IUT, while in the Active call state U10 and Hold Request auxiliary state, on receipt of a HOLD ACKNOWLEDGE message,
enters the Call Held auxiliary state.

GFP_U7_06_013 clause 7.2.1.2
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Hold Request auxiliary state, on receipt of a HOLD REJECT message,
enters the Idle auxiliary state.

GFP_U7_06_014 clause 7.2.1.2
Ensure that the IUT, while in the Call Delivered call state U04 and Hold Request auxiliary state, on receipt of a HOLD REJECT message,
enters the Idle auxiliary state.

GFP_U7_06_015 clause 7.2.1.2
Ensure that the IUT, while in the Call Received call state U07 and Hold Request auxiliary state, on receipt of a HOLD REJECT message,
enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_06_016 clause 7.2.1.2
Ensure that the IUT, while in the Connect Request call state U08 and Hold Request auxiliary state, on receipt of a HOLD REJECT message,
enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_06_017 clause 7.2.1.2
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Hold Request auxiliary state, on receipt of a HOLD REJECT message,
enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_06_018 clause 7.2.1.2
Ensure that the IUT, while in the Active call state U10 and Hold Request auxiliary state, on receipt of a HOLD REJECT message,
enters the Idle auxiliary state.

6.2.2.2.2.2 Responding entity

Selection: IUT supports the functions of a responding entity. PICS: R 5.2.

GFP_U7_07_001 clause 7.2.2.1
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

GFP_U7_07_002 clause 7.2.2.1
Ensure that the IUT, while in the Call Delivered call state U04 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

GFP_U7_07_003 clause 7.2.2.1
Ensure that the IUT, while in the Call Received call state U07 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_07_004 clause 7.2.2.1
Ensure that the IUT, while in the Connect Request call state U08 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_07_005 clause 7.2.2.1
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1

GFP_U7_07_006 clause 7.2.2.1
Ensure that the IUT, while in the Active call state U10 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

GFP_U7_07_007 clause 7.2.2.1
Ensure that the user, while in the Outgoing Call Proceeding call state U03 and Hold Request auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

GFP_U7_07_008 clause 7.2.2.1
Ensure that the user, while in the Call Delivered call state U04 and Hold Request auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

GFP_U7_07_009 clause 7.2.2.1
Ensure that the user, while in the Call Received call state U07 and Hold Request auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_07_010 clause 7.2.2.1
Ensure that the user, while in the Connect Request call state U08 and Hold Request auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1R 7.1.

GFP_U7_07_011 clause 7.2.2.1
Ensure that the user, while in the Incoming Call Proceeding call state U09 and Hold Request auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_07_012 clause 7.2.2.1
Ensure that the user, while in the Active call state U10 and Hold Request auxiliary state, on receipt of a HOLD message,
sends a HOLD ACKNOWLEDGE message and enters the Call Held auxiliary state.

GFP_U7_07_013 clause 7.2.2.2, 1st paragraph
Ensure that the IUT, while in the Active call state U10 and Hold Indication auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Hold Indication auxiliary state.

GFP_U7_07_014 clause 7.2.2.2, 1st paragraph
Ensure that the IUT, while in the Active call state U10 and Call Held auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Call Held auxiliary state.

GFP_U7_07_015 clause 7.2.2.2, 1st paragraph
Ensure that the IUT, while in the Active call state U10 and Retrieve Indication auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Retrieve Indication auxiliary state.

GFP_U7_07_016 clause 7.2.2.2, 1st paragraph
Ensure that the IUT, while in the Active call state U10 and Retrieve Request auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Retrieve Request auxiliary state.

GFP_U7_07_017 clause 7.2.2.2, 2nd paragraph
Ensure that the IUT, while in the Null call state U00 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Idle auxiliary state.

GFP_U7_07_018 clause 7.2.2.2, 2nd paragraph
Ensure that the IUT, while in the Call Initiated call state U01 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Idle auxiliary state.

GFP_U7_07_019 clause 7.2.2.2, 2nd paragraph
Ensure that the IUT, while in the Overlap Sending call state U02 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Idle auxiliary state.

GFP_U7_07_020 clause 7.2.2.2, 2nd paragraph
Ensure that the IUT, while in the Disconnect Request call state U11 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Idle auxiliary state.

GFP_U7_07_021 clause 7.2.2.2, 2nd paragraph
Ensure that the IUT, while in the Overlap Receiving call state U25 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with cause #101 and remains in the Idle auxiliary state.

GFP_U7_07_022 clause 7.2.2.2, 3rd paragraph
Ensure that the IUT, while in the Disconnect Indication call state U12 and Idle auxiliary state, on receipt of a HOLD message,
ignores it and remains in the Idle auxiliary state.

GFP_U7_07_023 clause 7.2.2.2, 3rd paragraph
Ensure that the IUT, while in the Release Request call state U19 and Idle auxiliary state, on receipt of a HOLD message,
ignores it and remains in the Idle auxiliary state.

GFP_U7_07_024 clause 7.2.2.2, 4th paragraph
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with an appropriate cause value, if the Hold function is not permitted, and remains in the Idle auxiliary state.

GFP_U7_07_025 clause 7.2.2.2, 4th paragraph
Ensure that the IUT, while in the Call Delivered call state U04 and Idle auxiliary state, on receipt of a HOLD message,
sends a HOLD REJECT message with an appropriate cause value, if the Hold function is not permitted, and remains in the Idle auxiliary state.

GFP_U7_07_026 clause 7.2.2.2, 4th paragraph

Ensure that the IUT, while in the Call Received call state U07 and Idle auxiliary state, on receipt of a HOLD message, sends a HOLD REJECT message with an appropriate cause value, if the Hold function is not permitted, and remains in the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_07_027 clause 7.2.2.2, 4th paragraph

Ensure that the IUT, while in the Connect Request call state U08 and Idle auxiliary state, on receipt of a HOLD message,

sends a HOLD REJECT message with an appropriate cause value, if the Hold function is not permitted, and remains in the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_07_028 clause 7.2.2.2, 4th paragraph

Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Idle auxiliary state, on receipt of a HOLD message,

sends a HOLD REJECT message with an appropriate cause value, if the Hold function is not permitted, and remains in the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_07_029 clause 7.2.2.2, 4th paragraph

Ensure that the IUT, while in the Active call state U10 and Idle auxiliary state, on receipt of a HOLD message, sends a HOLD REJECT message with an appropriate cause value, if the Hold function is not permitted, and remains in the Idle auxiliary state.

6.2.2.2.3 Retrieve function

6.2.2.2.3.1 Initiating entity

Selection: IUT supports the functions of an initiating entity. PICS: R 5.1.

GFP_U7_08_001 clause 7.4.1.1, 1st paragraph

Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Call Held auxiliary state, is able to transmit a RETRIEVE message and enters the Retrieve Request auxiliary state.

GFP_U7_08_002 clause 7.4.1.1, 1st paragraph

Ensure that the IUT, while in the Call Delivered call state U04 and Call Held auxiliary state, is able to transmit a RETRIEVE message and enters the Retrieve Request auxiliary state.

GFP_U7_08_003 clause 7.4.1.1, 1st paragraph

Ensure that the IUT, while in the Call Received call state U07 and Call Held auxiliary state, is able to transmit a RETRIEVE message and enters the Retrieve Request auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_004 clause 7.4.1.1, 1st paragraph

Ensure that the IUT, while in the Connect Request call state U08 and Call Held auxiliary state, is able to transmit a RETRIEVE message and enters the Retrieve Request auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_005 clause 7.4.1.1, 1st paragraph

Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Call Held auxiliary state, is able to transmit a RETRIEVE message and enters the Retrieve Request auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_006 clause 7.4.1.1, 1st paragraph

Ensure that the IUT, while in the Active call state U10 and Call Held auxiliary state, is able to transmit a RETRIEVE message and enters the Retrieve Request auxiliary state.

GFP_U7_08_007 clause 7.4.1.1, 5th paragraph
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Retrieve Request auxiliary state,
is able to accept a RETRIEVE ACKNOWLEDGE message and enter the Idle auxiliary state.

GFP_U7_08_008 clause 7.4.1.1, 5th paragraph
Ensure that the IUT, while in the Call Delivered call state U04 and Retrieve Request auxiliary state,
is able to accept a RETRIEVE ACKNOWLEDGE message and enter the Idle auxiliary state.

GFP_U7_08_009 clause 7.4.1.1, 5th paragraph
Ensure that the IUT, while in the Call Received call state U07 and Retrieve Request auxiliary state,
is able to accept a RETRIEVE ACKNOWLEDGE message and enter the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_010 clause 7.4.1.1, 5th paragraph
Ensure that the IUT, while in the Connect Request call state U08 and Retrieve Request auxiliary state,
is able to accept a RETRIEVE ACKNOWLEDGE message and enter the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_011 clause 7.4.1.1, 5th paragraph
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Retrieve Request auxiliary state,
is able to accept a RETRIEVE ACKNOWLEDGE message and enter the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_012 clause 7.4.1.1, 5th paragraph
Ensure that the IUT, while in the Active call state U10 and Retrieve Request auxiliary state,
is able to accept a RETRIEVE ACKNOWLEDGE message and enter the Idle auxiliary state.

GFP_U7_08_013 clause 7.4.1.2
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Retrieve Request auxiliary state, on receipt of a RETRIEVE REJECT message,
enters the Call Held auxiliary state.

GFP_U7_08_014 clause 7.4.1.2
Ensure that the IUT, while in the Call Delivered call state U04 and Retrieve Request auxiliary state, on receipt of a RETRIEVE REJECT message,
enters the Call Held auxiliary state.

GFP_U7_08_015 clause 7.4.1.2
Ensure that the IUT, while in the Call Received call state U07 and Retrieve Request auxiliary state, on receipt of a RETRIEVE REJECT message,
enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_016 clause 7.4.1.2
Ensure that the IUT, while in the Connect Request call state U08 and Retrieve Request auxiliary state, on receipt of a RETRIEVE REJECT message,
enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_017 clause 7.4.1.2
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Retrieve Request auxiliary state, on receipt of a RETRIEVE REJECT message,
enters the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_08_018 clause 7.4.1.2
Ensure that the IUT, while in the Active call state U10 and Retrieve Request auxiliary state, on receipt of a RETRIEVE REJECT message,
enters the Call Held auxiliary state.

6.2.2.2.3.2 Responding entity

Selection: IUT supports the functions of a responding entity. PICS: R 5.2.

GFP_U7_09_001 clause 7.4.2.1
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

GFP_U7_09_002 clause 7.4.2.1
Ensure that the IUT, while in the Call Delivered call state U04 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

GFP_U7_09_003 clause 7.4.2.1
Ensure that the IUT, while in the Call Received call state U07 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_004 clause 7.4.2.1
Ensure that the IUT, while in the Connect Request call state U08 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_005 clause 7.4.2.1
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_006 clause 7.4.2.1
Ensure that the IUT, while in the Active call state U10 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

GFP_U7_09_007 clause 7.4.2.1
Ensure that the user, while in the Outgoing Call Proceeding call state U03 and Retrieve Request auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

GFP_U7_09_008 clause 7.4.2.1
Ensure that the user, while in the Call Delivered call state U04 and Retrieve Request auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

GFP_U7_09_009 clause 7.4.2.1
Ensure that the user, while in the Call Received call state U07 and Retrieve Request auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_010 clause 7.4.2.1
Ensure that the user, while in the Connect Request call state U08 and Retrieve Request auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_011 clause 7.4.2.1
Ensure that the user, while in the Incoming Call Proceeding call state U09 and Retrieve Request auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_012 clause 7.4.2.1
Ensure that the user, while in the Active call state U10 and Retrieve Request auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE ACKNOWLEDGE message and enters the Idle auxiliary state.

GFP_U7_09_013 clause 7.4.2.2, 1st paragraph
Ensure that the IUT, while in the Active call state U10 and Idle auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the same auxiliary state.

GFP_U7_09_014 clause 7.4.2.2, 1st paragraph
Ensure that the IUT, while in the Active call state U10 and Hold Request auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the same auxiliary state.

GFP_U7_09_015 clause 7.4.2.2, 1st paragraph
Ensure that the IUT, while in the Active call state U10 and Hold Indication auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the same auxiliary state.

GFP_U7_09_016 clause 7.4.2.2, 1st paragraph
Ensure that the IUT, while in the Active call state U10 and Retrieve Indication auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the same auxiliary state.

GFP_U7_09_017 clause 7.4.2.2, 2nd paragraph
Ensure that the IUT, while in the Null call state U00 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the Call Held auxiliary state.

GFP_U7_09_018 clause 7.4.2.2, 2nd paragraph
Ensure that the IUT, while in the Call Initiated call state U01 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the Call Held auxiliary state.

GFP_U7_09_019 clause 7.4.2.2, 2nd paragraph
Ensure that the IUT, while in the Overlap Sending call state U02 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the Call Held auxiliary state.

GFP_U7_09_020 clause 7.4.2.2, 2nd paragraph
Ensure that the IUT, while in the Disconnect Request call state U11 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the Call Held auxiliary state.

GFP_U7_09_021 clause 7.4.2.2, 2nd paragraph
Ensure that the IUT, while in the Disconnect Indication call state U12 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the Call Held auxiliary state.

GFP_U7_09_022 clause 7.4.2.2, 2nd paragraph
Ensure that the IUT, while in the Overlap Receiving call state U25 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with cause #101 and remains in the Call Held auxiliary state.

GFP_U7_09_023 clause 7.4.2.2, 3rd paragraph
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "B1 channel exclusive" where B1 is not available,
sends a RETRIEVE REJECT message with cause #44 and remains in the Call Held auxiliary state.

GFP_U7_09_024 clause 7.4.2.2, 3rd paragraph
Ensure that the IUT, while in the Call Delivered call state U04 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "B1 channel exclusive" where B1 is not available,
sends a RETRIEVE REJECT message with cause #44 and remains in the Call Held auxiliary state.

GFP_U7_09_025 clause 7.4.2.2, 3rd paragraph
Ensure that the IUT, while in the Call Received call state U07 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "B1 channel exclusive" where B1 is not available,
sends a RETRIEVE REJECT message with cause #44 and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_026 clause 7.4.2.2, 3rd paragraph
Ensure that the IUT, while in the Connect Request call state U08 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "B1 channel exclusive" where B1 is not available,
sends a RETRIEVE REJECT message with cause #44 and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_027 clause 7.4.2.2, 3rd paragraph
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "B1 channel exclusive" where B1 is not available,
sends a RETRIEVE REJECT message with cause #44 and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_028 clause 7.4.2.2, 3rd paragraph
Ensure that the IUT, while in the Active call state U10 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "B1 channel exclusive" where B1 is not available,
sends a RETRIEVE REJECT message with cause #44 and remains in the Call Held auxiliary state.

GFP_U7_09_029 clause 7.4.2.2, 4th paragraph
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "any channel" where no channel is available,
sends a RETRIEVE REJECT message with cause #34 and remains in the Call Held auxiliary state.

GFP_U7_09_030 clause 7.4.2.2, 4th paragraph
Ensure that the IUT, while in the Call Delivered call state U04 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "any channel" where no channel is available,
sends a RETRIEVE REJECT message with cause #34 and remains in the Call Held auxiliary state.

GFP_U7_09_031 clause 7.4.2.2, 4th paragraph
Ensure that the IUT, while in the Call Received call state U07 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "any channel" where no channel is available,
sends a RETRIEVE REJECT message with cause #34 and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_032 clause 7.4.2.2, 4th paragraph
Ensure that the IUT, while in the Connect Request call state U08 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "any channel" where no channel is available,
sends a RETRIEVE REJECT message with cause #34 and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_033 clause 7.4.2.2, 4th paragraph
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "any channel" where no channel is available,
sends a RETRIEVE REJECT message with cause #34 and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_034 clause 7.4.2.2, 4th paragraph
Ensure that the IUT, while in the Active call state U10 and Call Held auxiliary state on receipt of a RETRIEVE message indicating "any channel" where no channel is available,
sends a RETRIEVE REJECT message with cause #34 and remains in the Call Held auxiliary state.

GFP_U7_09_035 clause 7.4.2.2, 5th paragraph
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with an appropriate cause value, if the Retrieve function is not permitted, and remains in the Call Held auxiliary state.

GFP_U7_09_036 clause 7.4.2.2, 5th paragraph
Ensure that the IUT, while in the Call Delivered call state U04 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with an appropriate cause value, if the Retrieve function is not permitted, and remains in the Call Held auxiliary state.

GFP_U7_09_037 clause 7.4.2.2, 5th paragraph
Ensure that the IUT, while in the Call Received call state U07 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with an appropriate cause value, if the Retrieve function is not permitted, and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_038 clause 7.4.2.2, 5th paragraph
Ensure that the IUT, while in the Connect Request call state U08 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with an appropriate cause value, if the Retrieve function is not permitted, and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_039 clause 7.4.2.2, 5th paragraph
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with an appropriate cause value, if the Retrieve function is not permitted, and remains in the Call Held auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_09_040 clause 7.4.2.2, 5th paragraph
Ensure that the IUT, while in the Active call state U10 and Call Held auxiliary state, on receipt of a RETRIEVE message,
sends a RETRIEVE REJECT message with an appropriate cause value, if the Retrieve function is not permitted, and remains in the Call Held auxiliary state.

6.2.2.2.4 Clearing of a held call

GFP_U7_10_001 clause 7.6
Ensure that the IUT, while in the Outgoing Call Proceeding call state U03 and Call Held auxiliary state, following basic call clearing, on receipt of a RELEASE COMPLETE,
enters the Idle auxiliary state.

GFP_U7_10_002 clause 7.6
Ensure that the IUT, while in the Call Delivered call state U04 and Call Held auxiliary state, following basic call clearing, on receipt of a RELEASE COMPLETE,
enters the Idle auxiliary state.

GFP_U7_10_003 clause 7.6
Ensure that the IUT, while in the Call Received call state U07 and Call Held auxiliary state, following basic call clearing, on receipt of a RELEASE COMPLETE,
enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_10_004 clause 7.6
Ensure that the IUT, while in the Connect Request call state U08 and Call Held auxiliary state, following basic call clearing, on receipt of a RELEASE COMPLETE,
enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

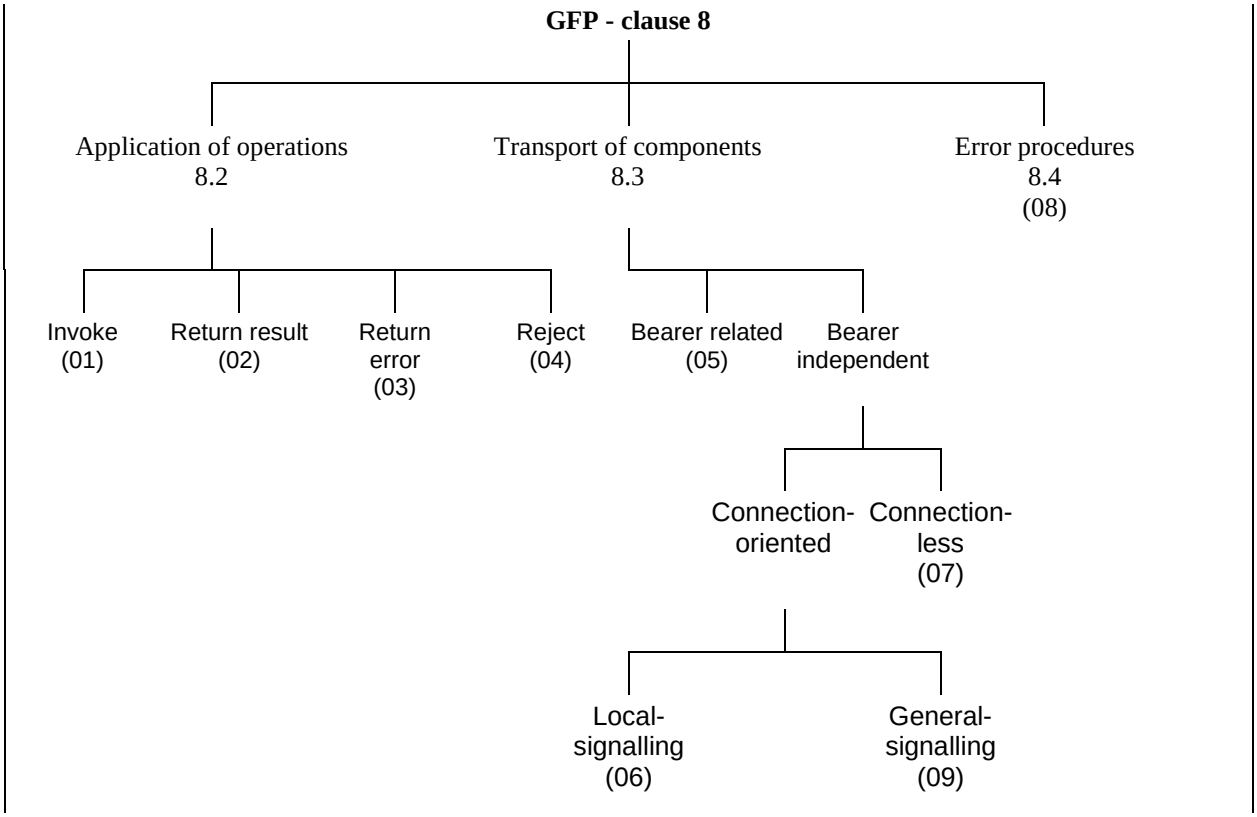
GFP_U7_10_005 clause 7.6
Ensure that the IUT, while in the Incoming Call Proceeding call state U09 and Call Held auxiliary state, following basic call clearing, on receipt of a RELEASE COMPLETE,
enters the Idle auxiliary state.

Selection: IUT supports point-to-point configuration PICS: [9] R 7.1.

GFP_U7_10_006 clause 7.6
Ensure that the IUT, while in the Active call state U10 and Call Held auxiliary state, following basic call clearing, on receipt of a RELEASE COMPLETE,
enters the Idle auxiliary state.

6.2.3 TSS&TP for clause 8

6.2.3.1 TSS for clause 8



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

Figure 3: TSS

6.2.3.2 TPs for clause 8

Selection: IUT supports the functional protocol for the control of supplementary services. PICS: MCu 2.

6.2.3.2.1 Introduction

How to apply these TPs:

These TPs are generic and so are not useable on their own. They should be parameterized and inserted into the appropriate supplementary service TSS&TP ETS. The following steps should be applied for each supplementary service TSS&TP ETS:

- combine table 1 with TPs from clause 6.2.3.2.2;
- check supplementary service transport mechanism(s) supported and apply relevant TPs from clause 6.2.3.2.3;
- apply TP from clause 6.2.3.2.4.

Test Purposes for NCICS in clause 6.2.3.2.3.2.5 are directly useable.

6.2.3.2.2 Application of operations (clause 8.2)

Table 3: Cross reference between transport mechanisms, call states, messages, call references and data links

Transport mechanism	**<cstate> call state**	**<PDU> message**	**<CR> call reference**	**<transport> data link**
Bearer related pt-to-pt	U 00, 01, 02, 03, 04, 06, 07, 08, 09, 10, 11, 12, 19, 25	call control message FACILITY	CR of an existing call	
Bearer related broadcast pt-to-multipt	U 00, 01, 02, 03, 04, 06, 07, 08, 09, 10, 11, 12, 19, 25	call control message FACILITY	CR of an existing call	
Bearer independent Connection oriented point-to-point for local signalling clause 8.3.2.1	U 00, 19, 31	REGISTER FACILITY (call state 31 only) RELEASE RELEASE COMP STATUS (Note) STATUS ENQ*	CR created	via point-to-point data link
Bearer independent Connectionless point-to-point for local signalling clause 8.3.2.2	U any state	FACILITY (I-frame)	dummy CR	via point-to-point data link
Bearer independent Connection oriented broadcast for local signalling	Not specified			
Bearer independent Connectionless broadcast for local signalling	U any state	FACILITY (UI-frame)	dummy CR	via broadcast data link
Bearer independent Connection oriented pt-to-pt for general signalling	U0, U1, U3, U6, U8, U9, U10, U19	FACILITY (I-frame)	CR created	via point-to-point D-link
Bearer independent Connection oriented broadcast for general signalling	Not used			
NOTE: STATUS, STATUS ENQUIRY not used for transportation of components.				

6.2.3.2.2.1 Invocation (clause 8.2.2.1)

Selection: IUT supports use of the invocation procedure. PICS: SCu 2.1

GFP_U8_01_001 clause 8.2.2.1
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state, to initiate an operation,
sends a <PDU> message with <CR> containing a Facility information element with a <service> <component> invoke component (via <transport>) and enters the <service> <sstate> state.

GFP_U8_01_002 clause 8.2.2.1
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state receiving a <PDU> message with <CR> containing a Facility information element with a <service> <component> invoke component (via <transport>),
enters | remains in call state <cstate> and enters the <service> <sstate> state.

6.2.3.2.2.2 Return result (clause 8.2.2.2)

Selection: IUT supports use of the return result procedure. PICS: SCu 2.2

GFP_U8_02_001 clause 8.2.2.2
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state, to transfer the result of a successfully performed operation,
sends a <PDU> message with <CR> containing a Facility information element with a <service> <component> return result component (via <transport>), enters | remains in call state <cstate> and enters the <service> <sstate> state.

GFP_U8_02_002 clause 8.2.2.2
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state receiving a <PDU> message with <CR> containing a Facility information element with a <service> <component> return result component (via <transport>),
enters | remains in call state <cstate> and enters the <service> <sstate> state.

6.2.3.2.2.3 Return error (clause 8.2.2.3)

Selection: IUT supports use of the return error procedure. PICS: SCu 2.3

GFP_U8_03_001 clause 8.2.2.3
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state, to transfer error information in the case of an unsuccessfully performed operation,
sends a <PDU> message with <CR> containing a Facility information element with a <service> <component> return error component (via <transport>), enters | remains in call state <cstate> and enters the <service> <sstate> state.

GFP_U8_03_002 clause 8.2.2.3
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state receiving a <PDU> message with <CR> containing a Facility information element with a <service> <component> return error component (via <transport>),
enters | remains in call state <cstate> and enters the <service> <sstate> state.

6.2.3.2.2.4 Reject (clause 8.2.2.4)

Selection: IUT supports use of the reject procedure. PICS: SCu 2.4

GFP_U8_04_001 clause 8.2.2.4
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state receiving a <PDU> message with <CR> containing a Facility information element with a reject component not including an invoke identifier (via <transport>),
enters | remains in call state <cstate> and enters the <service> <sstate> state.

NOTE 1: The receipt of a reject component is dealt with according to the procedures defined in the individual supplementary service ETSs.

GFP_U8_04_002 clause 8.2.2.4
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state receiving a <PDU> message with <CR> containing a Facility information element with a reject component including a valid invoke identifier (via <transport>),
enters | remains in call state <cstate> and enters the <service> <sstate> state.

GFP_U8_04_003 clause 8.2.2.4

Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state detecting an <error> error classified as general-problem/<problem code> in a received <PDU> message with <CR> containing a Facility information element with a <service> <component> component (via <transport>),

sends a <PDU> message with <CR> containing a Facility information element with a reject component indicating general-problem/<problem code> and including an invoke identifier or including NULL (via <transport>), enters | remains in call state <cstate> and enters the <service> <sstate> state.

NOTE 2: For a list of problem codes see EN 300 196-1 [1], table 2 or table D.1.

GFP_U8_04_004 clause 8.2.2.4

Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state detecting an <error> error classified as <problem type>/<problem code> in a received <PDU> message with <CR> containing a Facility information element with a <service> <component> component (via <transport>),

sends a <PDU> message with <CR> containing a Facility information element with a reject component indicating <problem type>/<problem code> and including a valid invoke identifier (via <transport>), enters | remains in call state <cstate> and enters the <service> <sstate> state.

NOTE 3: <problem type> = invoke-problem, return-result-problem or return-error-problem. For a list of problem codes see EN 300 196-1 [1], table 2 or table D.1.

6.2.3.2.3 Transport of components (clause 8.3)

NOTE: Most TPs of clause 6.2.3.2.2 also test the procedures of clause 8.3 of EN 300 196-1 [1]. Only additional procedures related to clause 8.3 of EN 300 196-1 [1], not already covered, are included below.

6.2.3.2.3.1 Bearer related transport (clause 8.3.1)

Selection: IUT supports the bearer related supplementary services procedure. PICS: MCu 2.1.

GFP_U8_05_001 clause 8.3.1.1.2

Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state unable to process a <service> <component> invoke component,

sends a <PDU1> message with <CR> containing a Facility information element with a <service> <component> <answer> component (via <transport>), enters | remains in call state <cstate> and enters the <service> <sstate> state

or ignores the invocation.

NOTE: <PDU1> = DISCONNECT, RELEASE, RELEASE COMPLETE, FACILITY
<answer> = return error, reject

6.2.3.2.3.2 Bearer independent transport (clause 8.3.2)

Selection: IUT supports the bearer independent supplementary services procedure. PICS: MCu 2.2.

In that clause 8.3.2, "call" is to be interpreted as an "NCICS connection"

6.2.3.2.3.2.1 Connection-oriented (clause 8.3.2.1)

Selection: IUT supports the point-to-point (bearer independent) connection-oriented transport mechanism. PICS: MCu 2.5.

GFP_U8_06_001 clause 8.3.2.1.1.1

Ensure that the IUT, in call state UU00 in order to establish a connection towards the responder,

sends a REGISTER message and enters the Bearer independent Transport call state UU31.

GFP_U8_06_002 clause 8.3.2.1.1.2

Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state receiving a REGISTER message with a call reference in use,

ignores the message and sends a STATUS message with a Cause information element containing the cause value #101, a Call state information element containing the call state and using the call reference value of the received REGISTER message and remains in the same states.

GFP_U8_06_003 clause 8.3.2.1.1.2
Ensure that the IUT, in call state UU00 and in the <service> <sstate> state receiving a REGISTER message containing a Facility information element with an invalid protocol profile,
sends a RELEASE COMPLETE message containing cause #100 and using the call reference value of the received REGISTER message.

GFP_U8_06_004 [6] clause 8.3.2.1.1.1 and clause 5.8.3.2 d
Ensure that the IUT, in call state <cstate> and in the <service> <sstate> state receiving a REGISTER message with a call reference not recognized as relating to a call and with the call reference flag set to "1",
ignores the message.

GFP_U8_06_005 clause 8.3.2.1.2.1
Ensure that the IUT, in call state UU31 and in the <service> <sstate> state to transfer data,
sends a FACILITY message and remains the same call state and enters the <service> <sstate> state.

GFP_U8_06_006 clause 8.3.2.1.2.2
Ensure that the IUT, in call state UU31 and in the <service> <sstate> state receiving a message other than FACILITY, RELEASE, RELEASE COMPLETE, STATUS or STATUS ENQUIRY using the call reference assigned by a REGISTER message,
ignores the message and sends a STATUS message with a Cause information element containing the cause value #101 and a Call state information element containing the call state value 31.

GFP_U8_06_007 clause 8.3.2.1.2.2
Ensure that the IUT, in call state UU31 and in the <service> <sstate> state receiving a FACILITY message containing a Facility information element with an invalid protocol profile,
ignores the message and sends a STATUS message with a Cause information element containing the cause value #100.

GFP_U8_06_008 clause 8.3.2.1.3.1
Ensure that the IUT, in call state UU31 to clear the connection,
sends a RELEASE message and enters the call state UU 19.

GFP_U8_06_009 [6] clause 5.8
Ensure that the IUT in call state UU31 and in the <service> <sstate> state, on receipt of a FACILITY message delivered in a DL-UNIT-DATA-INDICATION,
sends no message or processes the message as valid.

GFP_U8_06_010 [6] clause 5.8.3.1
Ensure that the IUT in call state UU31 and in the <service> <sstate> state, on receipt of a FACILITY message using the dummy call reference,
sends no message.

GFP_U8_06_011 [6] clause 5.8.3.2 a
Ensure that the IUT in call state UU31 and in the <service> <sstate> state for CR1, on receipt of a FACILITY message for CR2 which is not recognized as relating to a call,
sends a STATUS message for CR2 with a Cause information element indicating cause value 81 "invalid call reference value" for CR2 and remains in call state UU31 and in the <service> <sstate> state for CR1.

GFP_U8_06_012 [6] clause 5.8.3.2 f
Ensure that the IUT in call state UU31 and in the <service> <sstate> state, on receipt of a FACILITY message using the global call reference,
sends a STATUS message using the global call reference with a Call state information element indicating the call state associated with the global call reference and a Cause information element indicating cause value 81 "invalid call reference value".

GFP_U8_06_013 [6] clause 5.8.4
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of an inopportune message (ALERTING),
sends either a STATUS message with a Cause information element indicating cause value 98 "message type not compatible with call state or message type non-existent or not implemented" or 101 "message not compatible with call state" or a STATUS ENQUIRY message.

GFP_U8_06_014 [6] clause 5.8.8
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a DL-ESTABLISH-INDICATION,
sends no message.

GFP_U8_06_015 [6] clause 5.8.11
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a STATUS message with a Call state information element indicating the Null call state,
sends no message and enters the Null call state N00.

GFP_U8_06_016 [6] clause 5.8.1
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a FACILITY message with an erroneous protocol discriminator, coded other than '08'H,
sends no message.

GFP_U8_06_017 [6] clause 5.8.2
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a message which is too short,
sends no message.

GFP_U8_06_018 [6] clause 5.8.3.1
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a FACILITY message with an invalid call reference format (octet 1, bits 8 - 5 <> '0000'B),
sends no message.

GFP_U8_06_019 [6] clause 5.8.3.1
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a FACILITY message with an invalid call reference format (octet 1, bits 4 - 1, length value too high),
sends no message.

GFP_U8_06_020 [6] clause 5.8.4
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a message with an unrecognized message type,
sends either a STATUS message with a Cause information element indicating cause value 98 "message type not compatible with call state or message type non-existent or not implemented" or 97 "message type non-existent or not implemented" or a STATUS ENQUIRY message.

GFP_U8_06_021 [6] clause 5.8.6.1
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a FACILITY message with a mandatory information element missing,
sends a STATUS message with a Cause information element indicating cause value 96 "mandatory information element missing".

GFP_U8_06_022 [6] clause 5.8.6.2
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a FACILITY message with a mandatory information element content error,
sends a STATUS message with a Cause information element indicating cause value 100 "invalid information element contents".

GFP_U8_06_023 [6] clause 5.8.7.1, 5.8.6.1
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a FACILITY message with an unrecognized information element (coded comprehension required),
sends a STATUS message with a Cause information element indicating cause value 96 "mandatory information element missing".

GFP_U8_06_024 [6] clause 5.8.7.1
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a FACILITY message with an unrecognized information element (coded comprehension not required),
processes the message as valid and optionally sends a STATUS message with a Cause information element indicating cause value 99 "information element non-existent or not implemented".

GFP_U8_06_025 [6] clause 5.8.7.2
Ensure that the IUT in call state U31 and in the <service> <sstate> state, on receipt of a FACILITY message with a non-mandatory information element content error,
processes the message as valid and optionally sends a STATUS message with a Cause information element indicating cause value 100 "invalid information element contents".

6.2.3.2.3.2.2 Connectionless (clauses 8.3.2.2 and 8.3.2.4)

Selection: IUT supports the (bearer independent) connectionless transport mechanism. PICS: MCu 2.6 OR MCu 2.7.

GFP_U8_07_001 clause 8.3.2
Ensure that the IUT, in the <service> <sstate> state, on receipt of a FACILITY message with a dummy call reference containing a Facility information element with a <component> and a Called party number information element,
accepts the message and its contents as valid and responds appropriately for the supplementary service.

Selection: IUT supports MSN supplementary service. PIXIT.

GFP_U8_07_002 clause 8.3.2
Ensure that the IUT, in the <service> <sstate> state, on receipt of a FACILITY message with a dummy call reference containing a Facility information element with a <component> and a Called party sub-address information element,
accepts the message and its contents as valid and responds appropriately for the supplementary service.

Selection: IUT supports SUB supplementary service. PIXIT.

GFP_U8_07_003 clauses 8.3.2.2.2 and 8.3.2.4.2
Ensure that the IUT, in the <service> <sstate> state, receiving a FACILITY message with a dummy call reference containing a Facility information element with an invalid protocol profile,
ignores the message.

GFP_U8_07_004 clauses 8.3.2.2.2 and 8.3.2.4.2
Ensure that the IUT, in the <service> <sstate> state, receiving FACILITY message with a dummy call reference but without a Facility information element,
ignores the message.

GFP_U8_07_005 clauses 8.3.2.2.2 and 8.3.2.4.2
Ensure that the IUT, in the <service> <sstate> state, receiving a message other than FACILITY with a dummy call reference and this message does not apply to some other application of the dummy call reference,
ignores the message.

6.2.3.2.3.2.3 Connection-oriented bearer independent general signalling (clause 8.3.2.5)

In that clause 8.3.2.5, "call" is to be interpreted as an "NCICS connection".

Selection: IUT supports the bearer independent connection oriented general signalling. PICS: MCu 2.8.

GFP_U8_09_001 clause 8.3.2.5.1.1
Ensure that the IUT, in call state U00 in order to establish a connection towards the responder,
sends a SETUP message and enters the Bearer independent Call Initiated state.

GFP_U8_09_002 clause 8.3.2.5.1.3
Ensure that the IUT, in call state U03 after receiving a CALL PROCEEDING message and on expiration of timer T310,
sends RELEASE message and a Cause information element containing the cause value #102, "recovery on timer expiry".

GFP_U8_09_003 clause 8.3.2.5.1.4
Ensure that the IUT, in call state U03 and receiving a CONNECT message
sends a CONNECT ACKNOWLEDGE , enters Active state and starts timer T.310

GFP_U8_09_004 clause 8.3.2.5.2.2
Ensure that the IUT, in call state U00 on receipt of a SETUP message containing sufficient NCIS connection set-up information,
sends a CALL PROCEEDING message to the network and enters state Incoming Call Proceeding.

GFP_U8_09_005 clause 8.3.2.5.2.5

Ensure that the IUT, in call state U09 to indicate acceptance of an incoming NCICS connection,
sends a CONNECT message to the network.

GFP_U8_09_006 clause 8.3.2.5.2.6

Ensure that the IUT, in call state U08 in case where timer T313 expires prior to receipt of CONNECT ACKNOWLEDGE message,
initiates clearing with cause 102; recovery on timer expiry.

GFP_U8_09_007 clause 8.3.2.5.3.1

Ensure that the IUT, to reject an NCICS connection,
sends the RELEASE COMPLETE message, releases the Call Reference and enters the null (U00) state.

GFP_U8_09_008 clause 8.3.2.5.3.2

Ensure that the IUT, to initiate clearing of a call,
sends a RELEASE message, starts timer T308 and enters the Release Request state.

GFP_U8_09_009 clause 8.3.2.5.3.2

Ensure that the IUT, in state U19, in reply to a RELEASE COMPLETE message,
stops timer T308, releases the call reference and enters the Null state.

GFP_U8_09_010 clause 8.3.2.5.3.3

Ensure that the IUT, to reply to a RELEASE message,
sends a RELEASE COMPLETE message, releases the Call Reference and enters the Null state.

GFP_U8_09_011 clause 8.3.2.5.3.4

Ensure that the IUT, to reply to a RELEASE message, while within the Release Request state (U19),
stops timer T308, releases the Call Reference and enters the Null state (U00) without sending a RELEASE COMPLETE message.

GFP_U8_09_012 clause 8.3.2.5.4

Ensure that the IUT, to react to a RESTART message coded with "all interfaces" or "single interface with D-Channel",
releases all NCICS connection.

GFP_U8_09_013 clause 8.3.2.5.6

Ensure that the IUT in U01 call state, on receipt of a SETUP ACKNOWLEDGE message,
treats the message as unrecognized or unexpected by sending a STATUS message with a Cause information element indicating the cause value 97 "message type non-existent or not implemented", 98 "message type not compatible with call state or message type non-existent or not implemented" or 101 "message not compatible with call state" and remains in the same state.

GFP_U8_09_014 clause 8.3.2.5.6

Ensure that the IUT in U03 call state, on receipt of an ALERTING message,
treats the message as unrecognized or unexpected by sending a STATUS message with a Cause information element indicating the cause value 97 "message type non-existent or not implemented", 98 "message type not compatible with call state or message type non-existent or not implemented" or 101 "message not compatible with call state" and remains in the same state.

GFP_U8_09_015 clause 8.3.2.5.6

Ensure that the IUT in U09 call state, on receipt of a PROGRESS message,
treats the message as unrecognized or unexpected by sending a STATUS message with a Cause information element indicating the cause value 97 "message type non-existent or not implemented", 98 "message type not compatible with call state or message type non-existent or not implemented" or 101 "message not compatible with call state" and remains in the same state.

GFP_U8_09_016 clause 8.3.2.5.6

Ensure that the IUT in U10 call state, on receipt of a DISCONNECT message,
treats the message as unrecognized or unexpected by sending a STATUS message with a Cause information element indicating the cause value 97 "message type non-existent or not implemented", 98 "message type not compatible with call state or message type non-existent or not implemented" or 101 "message not compatible with call state" and remains in the same state.

6.2.3.2.3.3 GAT-control (clause 8.3.3.2)

The Test Suite Structure and the Test Purposes for the GAT-Control are contained in EN 301 813-3 [14].

6.2.3.2.4 Error procedures (clause 8.4)

GFP_U8_08_001 clause 8.4.2

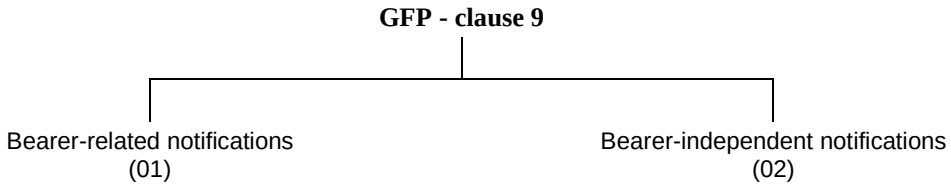
Ensure that the IUT, on receipt of an unknown value (data element) in an <element>, and if all values which are neither optional nor have default values assigned are correctly received,

ignores these unknown values and does not reject these components with problem code of "mistyped <element>".

NOTE: <element> = argument, result or parameter.

6.2.4 TSS&TP for clause 9

6.2.4.1 TSS for clause 9



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

Figure 4: TSS

6.2.4.2 TPs for clause 9

Selection: IUT supports notification category procedures. PICS: MCu 3.

6.2.4.2.1 Introduction

How to apply these TPs:

These TPs are generic and so are not useable on their own. They should be parameterized and inserted into the appropriate supplementary service TSS&TP ETSs. Each occurrence of a word enclosed in "<"and">" should be replaced by the appropriate expression for the applicable supplementary service.

6.2.4.2.2 Bearer-related notifications

Selection: IUT supports the transport of Bearer-related notifications. PICS: MCu 3.1.

GFP_U9_01_001 clause 9.3.1

Ensure that the IUT, in the call state <cstate>, to deliver <service> notification information in the call establishment phase,

sends a call control message (e.g. SETUP) containing a Notification indicator information element.

Selection: IUT supports notification indicators. PICS: SCu 3.1.

GFP_U9_01_002 clause 9.3.1

Ensure that the IUT, in the call state <cstate>, to deliver <service> notification information in the call establishment phase,

sends a call control message (e.g. SETUP) containing a <parameter> information element or a Notification indicator information element including Basic Encoding Rules (BER) encoded information.

Selection: IUT supports notification parameters. PICS: SCu 3.2.

GFP_U9_01_003 clause 9.3.1

Ensure that the IUT, in the call state <cstate>, to deliver <service> notification information in the call clearing phase,
sends a call control message (e.g. RELEASE) containing a Notification indicator information element.

Selection: IUT supports notification indicators. PICS: SCu 3.1.

GFP_U9_01_004 clause 9.3.1

Ensure that the IUT, in the call state <cstate>, to deliver <service> notification information in the call clearing phase,
sends a call control message (e.g. RELEASE) containing a <parameter> information element or a Notification indicator information element including BER encoded information.

Selection: IUT supports notification parameters. PICS: SCu 3.2.

GFP_U9_01_005 clause 9.3.1

Ensure that the IUT, in the call state <cstate>, to transfer <service> notification information coinciding with the sending of a FACILITY message,
sends a FACILITY message containing a Notification indicator information element.

Selection: IUT supports notification indicators. PICS: SCu 3.1.

GFP_U9_01_006 clause 9.3.1

Ensure that the IUT, in the call state <cstate>, to transfer <service> notification information coinciding with the sending of a FACILITY message,
sends a FACILITY message containing a <parameter> information element or a Notification indicator information element including BER encoded information.

Selection: IUT supports notification parameters. PICS: SCu 3.2.

GFP_U9_01_007 clause 9.3.1

Ensure that the IUT, in the Active call state U10, to transfer <service> notification information, not coinciding with the sending of a FACILITY message,
sends a NOTIFY message containing a Notification indicator information element.

Selection: IUT supports notification indicators. PICS: SCu 3.1.

GFP_U9_01_008 clause 9.3.1

Ensure that the IUT, in the Active call state U10, to transfer <service> notification information, not coinciding with the sending of a FACILITY message,
sends a NOTIFY message containing a <parameter> information element or a Notification indicator information element including BER encoded information.

Selection: IUT supports notification parameters. PICS: SCu 3.2.

GFP_U9_01_009 clause 9.3.1

Ensure that the IUT, in call state U06 (having received a SETUP message), to transfer <service> notification information,
sends, as its first response, a SETUP ACKNOWLEDGE, CALL PROCEEDING, ALERTING or a CONNECT message containing notification information.

GFP_U9_01_010 clause 9.3.1

Ensure that the IUT, in call state U01 (having sent a SETUP message), to transfer <service> notification information,
does not send, before receiving its first response to the SETUP message, a NOTIFY message.

GFP_U9_01_011 clause 9.3.1

Ensure that the IUT, in call state U11 (having initiated call clearing), to transfer <service> notification information,
does not send a NOTIFY message (containing <service> notification information).

GFP_U9_01_012 clause 9.3.1

Ensure that the IUT, in call state U12 (having received a DISCONNECT message), to transfer <service> notification information,
sends a RELEASE or a RELEASE COMPLETE message containing notification information.

GFP_U9_01_013 clause 9.3.1
Ensure that the IUT, in the call state <cstate>, having sent a NOTIFY message,
remains in the same call state.

GFP_U9_01_014 clause 9.3.1
Ensure that the IUT, in the call state <cstate>, on receipt of a valid NOTIFY message,
sends no message and remains in the same call state.

GFP_U9_01_015 clause 9.3.2
Ensure that the IUT, in the call state <cstate>, on receipt of a NOTIFY message containing no Notification indicator information element,
sends a STATUS message with cause #96.

GFP_U9_01_016 clause 9.3.2
Ensure that the IUT, in the call state <cstate>, on receipt of a NOTIFY message where it does not recognize a non-mandatory information element,
sends a STATUS message with cause #99

or sends no message.

GFP_U9_01_017 clause 9.3.2
Ensure that the IUT, in the call state <cstate>, on receipt of a NOTIFY message where it does not recognize a new code point in a Notification indicator information element,
sends a STATUS message with cause #100

or sends no message.

Selection: IUT supports notification indicators. PICS: SCu 3.1.

GFP_U9_01_018 clause 9.3.2
Ensure that the IUT, in the call state <cstate>, on receipt of a NOTIFY message where it does not recognize extension contents of the Notification indicator information element,
sends a STATUS message with cause #100

or sends no message.

Selection: IUT supports notification parameters. PICS: SCu 3.2.

GFP_U9_01_019 clause 9.3.2
Ensure that the IUT, in the call state <cstate>, on receipt of a <PDU1> message where it does not recognize a new code point in a Notification indicator information element,
sends a STATUS message with cause #100

or sends no message.

Selection: IUT supports notification indicators. PICS: SCu 3.1.

NOTE: <PDU1> message = any message other than NOTIFY which can contain a Notification indicator information element.

GFP_U9_01_020 clause 9.3.2
Ensure that the IUT, in the call state <cstate>, on receipt of a <PDU1> message where it does not recognize extension contents of the Notification indicator information element,
sends a STATUS message with cause #100

or sends no message.

Selection: IUT supports notification parameters. PICS: SCu 3.2.

NOTE: <PDU1> message = any message other than NOTIFY which can contain a Notification indicator information element.

6.2.4.2.3 Bearer-independent notifications (clause 9.4)

Selection: IUT supports the transport of Bearer-independent notifications? PICS: MCu 3.2.

GFP_U9_02_001 clause 9.4.1
Ensure that the IUT on receipt of a valid NOTIFY message with the dummy call reference and sent using DL-DATA-REQUEST primitive,
sends no message.

Selection: IUT supports point-to-point configuration. PICS: [9] R 7.1.

GFP_U9_02_002 clause 9.4.1
Ensure that the IUT on receipt of a valid NOTIFY message with the dummy call reference and sent using DL-UNIT DATA-REQUEST primitive,
sends no message.

Selection: IUT supports basic access, point-to-multipoint configuration. PICS: [9] MC 2.5.

GFP_U9_02_003 clause 9.4.2
Ensure that the IUT on receipt of a NOTIFY message with the dummy call reference, where it does not recognize the information,
sends no message.

GFP_U9_02_004 clause 9.4.2
Ensure that the IUT on receipt of a message, other than NOTIFY, using the dummy call reference, and which does not apply to some other application of the dummy call reference,
sends no message.

6.2.5 TSS&TP for clause 10

6.2.5.1 TSS for clause 10

Network-side channel reservation function ..... (Group number)

- Implicit reservation
- Explicit reservation
  - Explicit reservation control (clause 10.1.2.1) ..... (01)
  - Explicit reservation management (clause 10.1.2.2) ..... (02)
  - Explicit reservation cancellation (clause 10.1.2.3) ..... (03)
- Generic procedures for supplementary service management
  - Activation ..... (04)
  - Deactivation ..... (05)
  - Interrogation ..... (06)
- Generic status request procedure ..... (07)

NOTE 1: Numbers in brackets represent group numbers and are used in TP identifiers.
NOTE 2: The above TSS is hierarchically structured from left to right rather than the more usual top-down approach. This allows the TSS to be consistent with the network TSS for clause 10.

Figure 5: TSS

6.2.5.2 TPs for clause 10

How to apply these TPs:

Some of these TPs are generic and so are not useable on their own. They should be parameterized and inserted into the appropriate supplementary service TSS&TP documents. Each occurrence of a word enclosed in "<" and ">" should be replaced by the appropriate expression for the applicable supplementary service.

TPs not containing words enclosed in "<"and">" are testable on their own.

6.2.5.2.1 Network-side channel reservation function

6.2.5.2.1.1 Implicit reservation

NOTE: There are no user requirements for implicit reservation. Implicit reservation is controlled by the user by use of existing functions which are specified elsewhere along with their related TSS&TP specification (e.g. Hold and Retrieve).

6.2.5.2.1.2 Explicit reservation

Selection: IUT supports explicit reservation. PICS: MCu 4.2.

6.2.5.2.1.2.1 Explicit reservation control

NOTE: In the following TPs the following messages (with appropriate call states) should be used: <messages> = FACILITY, HOLD, HOLD ACKNOWLEDGE, HOLD REJECT, RETRIEVE, RETRIEVE ACKNOWLEDGE, RETRIEVE REJECT, INFORMATION, PROGRESS, ALERTING, CALL PROCEEDING, CONNECT, CONNECT ACKNOWLEDGE, DISCONNECT, RELEASE, RELEASE COMPLETE, RESUME, RESUME ACKNOWLEDGE, RESUME REJECT, SETUP, SETUP ACKNOWLEDGE, SUSPEND, SUSPEND ACKNOWLEDGE, SUSPEND REJECT.

GFP_U10_01_001 clause 10.1.2.1, 1st paragraph

Ensure that the IUT, while in the <cstate>, to request an explicit reservation of the type "no reservation required",

sends a <PDU1> message containing a Facility information element with an ExplicitReservationCreationControl invoke component including the argument "no reservation required".

GFP_U10_01_002 clause 10.1.2.1, 1st paragraph

Ensure that the IUT, while in the <cstate>, to request an explicit reservation of the type "reservation required without reservation indicator",

sends a <PDU1> message containing a Facility information element with an ExplicitReservationCreationControl invoke component including the argument "reservation required without reservation indicator", or including no argument.

GFP_U10_01_003 clause 10.1.2.1, 1st paragraph

Ensure that the IUT, while in the <cstate>, to request an explicit reservation of the type "reservation required with reservation indicator",

sends a <PDU1> message containing a Facility information element with an ExplicitReservationCreationControl invoke component including the argument "reservation required with reservation indicator".

6.2.5.2.1.2.2 Explicit reservation management

NOTE: In the following TPs the following messages (with appropriate call states) should be used: <messages> = SETUP, SETUP ACKNOWLEDGE, ALERTING, CALL PROCEEDING, CONNECT, RETRIEVE, RETRIEVE ACKNOWLEDGE.

GFP_U10_02_001 clause 10.1.2.2

Ensure that the IUT, while in the <cstate> <and Call Held auxiliary state (if relevant)> to manage an explicit reservation with reservation indicator,

sends a <PDU1> message containing a Facility information element with an ExplicitReservationManagement invoke component including a reservation indicator.

Selection: the IUT is able to handle a reservation with reservation indicator.

GFP_U10_02_002 clause 10.1.2.2

Ensure that the IUT, while in the <cstate> <and Call Held auxiliary state (if relevant)> to manage an explicit reservation without reservation indicator,

sends a <PDU1> message containing a Facility information element with an ExplicitReservationManagement invoke component not including a reservation indicator.

Selection: The IUT is able to handle a reservation without reservation indicator.

6.2.5.2.1.2.3 Explicit reservation cancellation

NOTE: In the following TPs the following messages (with appropriate call states) should be used: <messages> = FACILITY, HOLD, HOLD ACKNOWLEDGE, HOLD REJECT, RETRIEVE, RETRIEVE ACKNOWLEDGE, RETRIEVE REJECT, INFORMATION, PROGRESS, ALERTING, CALL PROCEEDING, CONNECT, CONNECT ACKNOWLEDGE, DISCONNECT, RELEASE, RELEASE COMPLETE, RESUME, RESUME ACKNOWLEDGE, RESUME REJECT, SETUP, SETUP ACKNOWLEDGE, SUSPEND, SUSPEND ACKNOWLEDGE, SUSPEND REJECT.

GFP_U10_03_001 clause 10.1.2.3, 1st paragraph

Ensure that the IUT, in the <cstate>, to cancel an explicit channel reservation,
sends a <PDU1> message containing a Facility information element with an ExplicitReservationCancel invoke component.

6.2.5.2.2 Generic procedures for supplementary service management

Selection: IUT supports the generic procedures for supplementary service management. PICS: MCu 5.

NOTE: The states referred to in the following clauses, and defined in clause 10.2.6 of EN300 196-1 [1] refer only to the state of a specific supplementary service management request. The state of the service as seen by the user or network is covered by the individual supplementary services referencing these procedures, e.g. the Idle state indicates that no request is in progress, but the service may be activated, or deactivated.

6.2.5.2.2.1 Activation

Selection: IUT supports activation. PICS: MCu 5.1.

GFP_U10_04_001 clause 10.2.2.1, 1st paragraph

Ensure that the IUT, in the Idle state, to activate an instance of a service,
sends a FACILITY message with a Facility information element containing a <service> activate invoke component and enters the <service> Activate Request state.

GFP_U10_04_002 clause 10.2.2.1, 2nd paragraph

Ensure that the IUT, in the <service> Activate Request state, on receipt of a FACILITY message with a Facility information element containing a <service> activate return result component,
does not respond and enters the Idle state.

GFP_U10_04_003 clause 10.2.2.2, 2nd paragraph

Ensure that the IUT, in the <service> Activate Request state, on receipt of a FACILITY message with a Facility information element containing a <service> activate return error component,
does not respond and enters the Idle state.

GFP_U10_04_004 clause 10.2.2.2, 3rd paragraph

Ensure that the IUT, in the <service> Activate Request state, on expiry of the timer T-ACTIVATE,
enters the Idle state.

GFP_U10_04_005 clause 10.2.2.2, 5th paragraph

Ensure that the IUT, in the <service> Activate Request state, on receipt of a DL-RELEASE-INDICATION primitive,
aborts the activation and enters the Idle state.

GFP_U10_04_006 clause 10.2.2.2, 6th paragraph

Ensure that the IUT, in the <service> Activate Request state, on receipt of a DL-ESTABLISH-INDICATION primitive,
ignores the indication and remains in the current state.

6.2.5.2.2.2 Deactivation

Selection: IUT supports deactivation. PICS: MCu 5.2.

GFP_U10_05_001 clause 10.2.3.1, 1st paragraph
Ensure that the IUT, in the Idle state to deactivate a previously activated service,
sends a FACILITY message with a Facility information element containing a <service> deactivate invoke component and enters the <service> Deactivate Request state.

GFP_U10_05_002 clause 10.2.3.2, 2nd paragraph
Ensure that the IUT, in the <service> Deactivate Request state, on receipt of a FACILITY message with a Facility information element containing a <service> deactivate return result component,
does not respond and enters the Idle state.

GFP_U10_05_003 clause 10.2.3.2, 2nd paragraph
Ensure that the IUT, in the <service> Deactivate Request state, on receipt of a FACILITY message with a Facility information element containing a <service> deactivate return error component,
does not respond and enters the Idle state.

GFP_U10_05_004 clause 10.2.3.2, 3rd paragraph
Ensure that the IUT, in the <service> Deactivate Request state, on expiry of the timer T-DEACTIVATE,
enters the Idle state.

GFP_U10_05_005 clause 10.2.3.2, 5th paragraph
Ensure that the IUT, in the <service> Deactivate Request state, on receipt of a DL-RELEASE-INDICATION primitive,
aborts the deactivation and enters the Idle state.

GFP_U10_05_006 clause 10.2.3.2, 6th paragraph
Ensure that the IUT, in the <service> Deactivate Request state, on receipt of a DL-ESTABLISH-INDICATION primitive,
ignores the indication and remains in the current state.

6.2.5.2.2.3 Interrogation

Selection: IUT supports interrogation. PICS: MCu 5.3.

GFP_U10_06_001 clause 10.2.4.1, 1st paragraph
Ensure that the IUT, in the Idle state, to interrogate an instance of a supplementary service,
sends a FACILITY message with a Facility information element containing a <service> interrogate invoke component and enters the <service> Interrogate Request state.

GFP_U10_06_002 clause 10.2.4.1, 7th paragraph
Ensure that the IUT, in the <service> Interrogate Request state, on receipt of a FACILITY message with an interrogate return result component,
does not respond and returns to the Idle state.

GFP_U10_06_003 clause 10.2.4.2, 2nd paragraph
Ensure that the IUT, in the <service> Interrogate Request state, on receipt of a FACILITY message with an interrogate return error component,
does not respond and returns to the previous state.

GFP_U10_06_004 clause 10.2.4.2, 3rd paragraph
Ensure that the IUT, in the <service> Interrogate Request state, on expiry of the timer T-INTERROGATE,
enters the Idle state.

GFP_U10_06_005 clause 10.2.4.2, 5th paragraph
Ensure that the IUT, in the <service> Interrogate Request state, on receipt of a DL-RELEASE-INDICATION primitive,
aborts the interrogation and enters the Idle state.

GFP_U10_06_006 clause 10.2.4.2, 6th paragraph
Ensure that the IUT, in the <service> Interrogate Request state, on receipt of a DL-ESTABLISH-INDICATION primitive,
ignores the indication and remains in the current state.

6.2.5.2.3 Generic status request procedure

Selection: IUT supports generic status request procedure. PICS: MCu 6.

GFP_U10_07_001 clause 10.3.2, 13th paragraph
Ensure that the IUT, on receipt of a FACILITY message with a Facility information element containing a <service> StatusRequest invoke component, which contains a compatibilityMode parameter indicating "allBasicServices", and the IUT is compatible with all basic services, and is free to accept a call for all of these basic services,
responds with a FACILITY message with a Facility information element containing a <service> StatusRequest return result component which contains a StatusResult parameter indicating "compatibleAndFree".

GFP_U10_07_002 clause 10.3.2, 13th paragraph
Ensure that the IUT, on receipt of a FACILITY message with a Facility information element containing a <service> StatusRequest invoke component, which contains a compatibilityMode parameter indicating "oneOrMoreBasicServices", and the IUT is compatible with at least one of the indicated basic services, and is free to accept a call for at least one of these basic services,
responds with a FACILITY message with a Facility information element containing a <service> StatusRequest return result component which contains a StatusResult parameter indicating "compatibleAndFree".

GFP_U10_07_003 clause 10.3.2, 13th paragraph
Ensure that the IUT, on receipt of a FACILITY message with a Facility information element containing a <service> StatusRequest invoke component, which contains a compatibilityMode parameter indicating "allBasicServices", and the IUT is compatible with all basic services but is not free to accept calls for all of these basic services,
responds with a FACILITY message with a Facility information element containing a <service> StatusRequest return result component which contains a StatusResult parameter indicating "compatibleAndBusy".

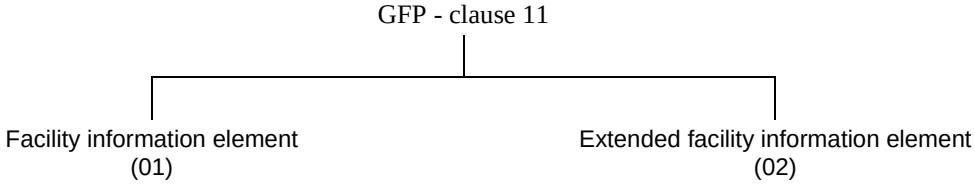
GFP_U10_07_004 clause 10.3.2, 13th paragraph
Ensure that the IUT, on receipt of a FACILITY message with a Facility information element containing a <service> StatusRequest invoke component, which contains a compatibilityMode parameter indicating "oneOrMoreBasicServices", and the IUT is compatible with at least one of the indicated basic services, but is not free to accept a call for any of these basic services,
responds with a FACILITY message with a Facility information element containing a <service> StatusRequest return result component which contains a StatusResult parameter indicating "compatibleAndBusy".

GFP_U10_07_005 clause 10.3.2, 13th paragraph
Ensure that the IUT, on receipt of a FACILITY message with a Facility information element containing a <service> StatusRequest invoke component, which contains a compatibilityMode parameter indicating "allBasicServices", and the IUT is not compatible with all the indicated basic services,
responds with a FACILITY message with a Facility information element containing a <service> StatusRequest return result component which contains a StatusResult parameter indicating "incompatible".

GFP_U10_07_006 clause 10.3.2, 13th paragraph
Ensure that the IUT, on receipt of a FACILITY message with a Facility information element containing a <service> StatusRequest invoke component, which contains a compatibilityMode parameter indicating "oneOrMoreBasicServices", and the IUT is not compatible with any of the indicated basic services,
responds with a FACILITY message with a Facility information element containing a <service> StatusRequest return result component which contains a StatusResult parameter indicating "incompatible".

6.2.6 TSS&TP for clause 11

6.2.6.1 TSS for clause 11



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

Figure 6: TSS

6.2.6.2 TPs for clause 11

6.2.6.2.1 Facility information element

GFP_U11_01_001 clause 11.2.2.1

Ensure that the IUT, while in the <cstate>, to send one or more components to control a supplementary service,
sends a <PDU1> message containing a Facility information element with one or more components encoded according to the Basic Encoding Rules (BER) as specified in ITU-T Recommendation X.209 [10] or ITU-T Recommendation X.690 [13].

GFP_U11_01_002 clause 11.2.2.1

Ensure that the IUT, while in the <cstate>, on receipt of a <PDU1> message containing a Facility information element with one or more components encoded according to the BER as specified in ITU-T Recommendation X.209 [10] or ITU-T Recommendation X.690 [13] and using a combination of the short, long and indefinite length formats,
accepts the message and its contents as valid and responds appropriately for the supplementary service.

6.2.6.2.2 Extended facility information element

GFP_U11_02_001 clause 11.2.2.4

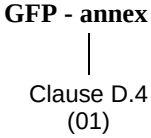
Ensure that the IUT, while in the <cstate>, to send one or more components to control a supplementary service where these components would be too long to be included in a Facility information element,
sends a <PDU1> message (possibly segmented) containing an Extended facility information element with one or more components encoded according to the BER as specified in ITU-T Recommendation X.209 [10] or ITU-T Recommendation X.690 [13].

GFP_U11_02_002 clause 11.2.2.4

Ensure that the IUT, while in the <cstate>, on receipt of a <PDU1> message (possibly segmented) containing an Extended facility information element with one or more components encoded according to the BER as specified in I TU-T Recommendation X.209 [10] or ITU-T Recommendation X.690 [13] and using a combination of the short, long and indefinite length formats,
accepts the message and its contents as valid and responds appropriately for the supplementary service.

6.2.7 TSS&TP for annex D

6.2.7.1 TSS for annex D



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

Figure 7: TSS

6.2.7.2 TPs for annex D

6.2.7.2.1 Definition of Q.931 information elements

GFP_UD_01_001 clause D.4

Ensure that the IUT, while in the <cstate>, on receipt of a <message> containing a Facility information element with a <component> containing a parameter of type "Q931InformationElement" including two or more Q.931 information elements whose order of appearance is not in ascending order of their information element identifier,
accepts the message and its contents as valid and responds appropriately for the supplementary service.

NOTE: When generating a specific TP from this TP and repeated Bearer capability or High layer compatibility information elements are to be used, the semantic attached to their order of appearance should be taken into account.

6.2.8 TSS&TP for Annex E

Clause 6.2.7 applies replacing "annex D" by "annex E".

7 Compliance

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

a) consist of a set of test cases corresponding to the set or to a subset of the TPs specified in clause 6;

b) use a TSS which is an appropriate subset of the whole of the TSS specified in clause 5;

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

d) maintain the relationship specified in clause 6 between the test groups and TPs and the entries in the PICS proforma to be used for test case deselection;

e) comply with ISO/IEC 9646-2 [4].

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

8 Requirements for a comprehensive testing service

As a minimum the Remote test method, as specified in ISO/IEC 9646-2 [4], shall be used by any organization claiming to provide a comprehensive testing service for user equipment claiming conformance to EN300 196-1 [1].

History

Document history		
Edition 1	January 1997	Publication as ETS 300 196-3
V1.2.1	July 2001	One-step Approval Procedure OAP 20011109: 2001-07-11 to 2001-11-09
V1.2.1	November 2001	Publication