Final draft ETSI EN 300 138-5 V3.1.1 (2001-12)

**Integrated Services Digital Network (ISDN);
Digital Subscriber Signalling System No. one (DSS1) protocol;
Close User Group (CUG) supplementary service;
Part 5: Test Suite Structure and Test Purposes (TSS&TP)
specification for the network**

Reference

REN/SPAN-130257-5

Keywords

CUG, DSS1, ISDN, network,
supplementary service, TSS&TP

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Foreword

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

The present document is part 5 of a multi-part deliverable covering the Digital Subscriber Signalling System No. one (DSS1) protocol specification for the Integrated Services Digital Network (ISDN) Closed User Group (CUG) supplementary service, as identified 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".

The present version updates the references to the basic call specifications.

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

1   Scope

The present document specifies the Test Suite Structure and Test Purposes (TSS&TP) for the Network side of the T reference point or coincident S and T reference point (as defined in ITU-T Recommendation I.411 [6]) of implementations conforming to the stage three standard for the Closed User Group (CUG) supplementary service for the pan-European Integrated Services Digital Network (ISDN) by means of the Digital Subscriber Signalling System No. one (DSS1) protocol, EN 300 138-1 [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 User side of the T reference point or coincident S and T reference point of implementations conforming to EN 300 138-1 [1].

2   References

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

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   ETSI EN 300 138-1 (V1.3.4): "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

[2]   ETSI EN 300 138-2 (V1.3.4): "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

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

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

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

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

[7]   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]".

[8]   ITU-T Recommendation I.112: "Vocabulary and terms for ISDNs".

[9]   ITU-T Recommendation E.164: "Numbering plan for the ISDN era".

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

3 Definitions and abbreviations

3.1 Definitions

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

3.1.1 Definitions related to conformance testing

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

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

active test: test case where the IUT is required to send a particular message, but not in reaction to a received message

> NOTE: This would usually involve the use of PIXIT information to see how this message can be generated and quite often is specified in an ATS using an implicit send event.

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

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

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

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

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

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

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

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

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

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

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

3.1.2 Definitions related to EN 300 138-1

Integrated Services Digital Network (ISDN): See ITU-T Recommendation I.112 [8], definition 308.

ISDN number: number conforming to the numbering and structure specified in ITU-T Recommendation E.164

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

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

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

service; telecommunication service: See ITU-T Recommendation I.112 [8], definition 201.

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

3.2   Abbreviations

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

ATM	Abstract Test Method
ATS	Abstract Test Suite
CUG	Closed User Group
DNF	call at Destination Network Failed
DSS1	Digital Subscriber Signalling No1
IA	Incoming Access
ICB	Incoming Calls Barred
ISDN	Integrated Services Digital Network
IUT	Implementation Under Test
N00	Null call state
N01	Call Initiated call state
N03	Outgoing Call Proceeding call state
N04	Call Delivered call state
N06	Call Present call state
N07	Call Received call state
N08	Connect Request call state
N09	Incoming Call Proceeding call state
N12	Disconnect Indication call state
N19	Release Request call state
OA	Outgoing Access
OCB	Outgoing Calls Barred
ODNS	call at Originating and at Destination Network Successful
ONF	call at Originating Network Failed
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
TP	Test Purpose
TSS	Test Suite Structure

4   Test Suite Structure (TSS)
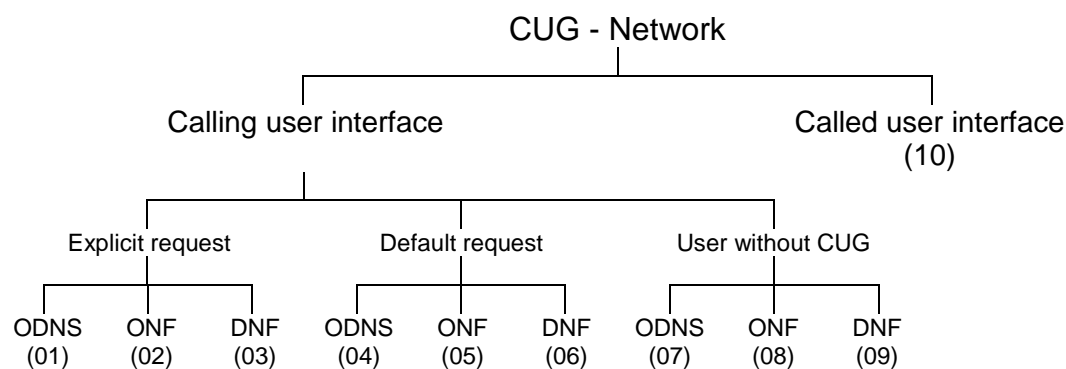
NOTE: Numbers in brackets represent group numbers and are used in TP identifiers.

Figure 1: Test suite structure

5   Test Purposes (TP)

5.1   Introduction

For each test requirement a TP is defined.

5.1.1   Test purpose naming convention

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

Table 1: TP identifier naming convention scheme

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

5.1.2   Source of TP definition

The TPs are based on EN 300 138-1 [1].

5.1.3   TP structure

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

Table 2: Structure of a single TP

TP part	Text	Example
Header	<Identifier> *tab* <paragraph number in base ETS> *CR*	see table 1 clause X.X.X
Stimulus	Ensure that the IUT in the <basic call state> <trigger> *see below for message structure* *or* <goal>	N00, N10, etc. receiving a XXXX message to request a...
Reaction	<action> <conditions> *if the action is sending* *see below for message structure* <next action>, *etc.* and enters <supplementary service state> *and/or* and remains in the same state(s) *or* and enters state <state> with CR<number(s)>	sends, saves, does, etc. using en bloc sending,...

Message structure	<message type>
	message containing a
	   a) <info element>
	information element with
	   b) a <field name>
	encoded as *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.	

5.1.4   Test strategy

As the base standard EN 300 138-1 [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 300 138-2 [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.

5.1.5   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 [7]. 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.

5.2   Network TPs for CUG

All PICS items referred to in this clause are as specified in EN 300 138-2 [2] unless indicated otherwise by another numbered reference.

5.2.1   Calling user interface

5.2.1.1   Explicit request

5.2.1.1.1   CUG call successful at originating network side and at destination network side

NOTE: For all TPs in this clause, the network (IUT) is to be configured so that the called user has subscribed to the CUG service and has the options Incoming Access (IA) set to allowed and not Incoming Calls Barred (ICB). This combination is only tested in this clause as the "normal call" output is the subject of the TPs in clause 5.2.1.2 (Default request).

CUG_N01_001   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03, and the calling user has subscribed to the CUG supplementary service and has the options Outgoing Access (OA) is not allowed, not Outgoing Calls Barred (OCB) and not preferential CUG, and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and there is a match between CUG index and CUG interlock code, to indicate that the called user has entered the alerting phase,

-    responds with an ALERTING message and enters call state N04.

CUG_N01_002   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, and there is a match between CUG index and CUG interlock code, to indicate that the called user has entered the alerting phase,

-    responds with an ALERTING message and enters call state N04.

CUG_N01_003   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and there is a match between CUG index and CUG interlock code, to indicate that the called user has entered the alerting phase,

-    responds with an ALERTING message and enters call state N04.

CUG_N01_004   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, and there is a match between CUG index and CUG interlock code, to indicate that the called user has entered the alerting phase,

-    responds with an ALERTING message and enters call state N04.

CUG_N01_005   clause 9.2.1.1 and tables 5 and 6

Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex is not included, to indicate that the called user has entered the alerting phase,

-   responds with an ALERTING message and enters call state N04.

CUG_N01_006   clause 9.2.1.1 and tables 5 and 6

Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex is not included, to indicate that the called user has entered the alerting phase,

-   responds with an ALERTING message and enters call state N04.

CUG_N01_007   clause 9.2.1.1 and tables 5 and 6

Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and not preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex is not included, to indicate that the called user has entered the alerting phase,

-   responds with an ALERTING message and enters call state N04.

CUG_N01_008   clause 9.2.1.1 and tables 5 and 6

Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and not preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex is not included, to indicate that the called user has entered the alerting phase,

-   responds with an ALERTING message and enters call state N04.

CUG_N01_009   clause 9.2.1.1 and tables 5 and 6

Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and there is a match between CUG index and CUG interlock code, to indicate that the called user has entered the alerting phase,

-   responds with an ALERTING message and enters call state N04.

CUG_N01_010   clause 9.2.1.1 and tables 5 and 6

Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, and there is a match between CUG index and CUG interlock code, to indicate that the called user has entered the alerting phase,

-   responds with an ALERTING message and enters call state N04.

CUG_N01_011   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex not included, the CUG interlock code is set to preferential CUG, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N01_012   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and there is a match between CUG index and CUG interlock code, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N01_013   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, and there is a match between CUG index and CUG interlock code, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N01_014   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex not included, the CUG interlock code is set to preferential CUG, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N01_015   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex not included, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N01_016   clause 9.2.1.1 and tables 5 and 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and preferential CUG and the called user has subscribed to the CUG service and has the options IA set to allowed and not ICB, after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex not included, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

5.2.1.1.2   CUG call failed at originating network side

NOTE: For all the TPs in this clause, the CUG has the options IA set to allowed and not ICB.

CUG_N02_001   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index is not appropriate to the requested basic service, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG,

-     rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "requestedBasicServiceViolatesCUGConstraints".

CUG_N02_002   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG,

-     rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

CUG_N02_003   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, but the CUG index is not appropriate to the requested basic service, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG,

-     rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "requestedBasicServiceViolatesCUGConstraints".

CUG_N02_004   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG,

-     rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

CUG_N02_005   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex is not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG,

-     rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "inconsistencyInDesignatedFacilityAndSubscriberClass".

CUG_N02_006   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex is not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG,

-     rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "inconsistencyInDesignatedFacilityAndSubscriberClass".

CUG_N02_007   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and not preferential CUG,

-   rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_008   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and not preferential CUG,

-   rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_009   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex is not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and not preferential CUG,

-   rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "inconsistencyInDesignatedFacilityAndSubscriberClass".

CUG_N02_010   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex is not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and not preferential CUG,

-   rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "inconsistencyInDesignatedFacilityAndSubscriberClass".

CUG_N02_011   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index is not appropriate to the requested basic service, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG,

-   rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "requestedBasicServiceViolatesCUGConstraints".

CUG_N02_012   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG,

-   rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

CUG_N02_013   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, but the CUG index is not appropriate to the requested basic service, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG,

-   rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "requestedBasicServiceViolatesCUGConstraints".

CUG_N02_014   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

CUG_N02_015   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and not preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_016   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and not preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_017   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index is not appropriate to the requested basic service, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "requestedBasicServiceViolatesCUGConstraints".

CUG_N02_018   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

CUG_N02_019   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, but the CUG index is not appropriate to the requested basic service, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "requestedBasicServiceViolatesCUGConstraints".

CUG_N02_020   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

CUG_N02_021   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "notSubscribed".

CUG_N02_022   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex is included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_023   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex is included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_024   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_025   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "notSubscribed".

CUG_N02_026   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index is not appropriate to the requested basic service, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "requestedBasicServiceViolatesCUGConstraints".

CUG_N02_027   clause 9.2.1.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG,

- rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

CUG_N02_028   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, but the CUG index is not appropriate to the requested basic service, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG,

-    rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "requestedBasicServiceViolatesCUGConstraints".

CUG_N02_029   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG,

-    rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

CUG_N02_030   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex is included, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and preferential CUG,

-    rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_031   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex is included, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and preferential CUG,

-    rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_032   clause 9.2.1.2 and table 5
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex is not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and preferential CUG,

-    rejects the call with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "outgoingCallsBarredWithinCUG".

CUG_N02_033   clause 9.2.1.2 last paragraph
Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Channel identification information element coded as "B1 exclusive" and B1-channel is already occupied, and a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, but the CUG index does not exist, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG,

-    rejects the call with Cause #44 "requested circuit/channel not available", and with a Facility information element containing a cUGCall return error component indicating "invalidOrUnregisteredCUGIndex".

5.2.1.1.3   CUG call failed at destination network side

CUG_N03_001   clause 9.2.1.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after receiving a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and there is a match between CUG index and CUG interlock code and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "IncomingCallsBarredWithinCUG" and enters call state N12 or N00, respectively.

     Selection: IUT supports option to offer ICB. PICS: MC 3.

CUG_N03_002   clause 9.2.1.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after receiving a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and there is a match between CUG index and CUG interlock code and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" and a Facility information element containing a cUGCall return error component indicating "IncomingCallsBarredWithinCUG" and enters call state N12 or N00, respectively.

CUG_N03_003   clause 9.2.1.2 and table 6
Ensure that the IUT in the Call Initiated call state N01, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, ICB, after receiving a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex is not included, and allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not member of CUG" and enters call state N12 or N00, respectively.

CUG_N03_004   clause 9.2.1.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after receiving a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex is not included, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, not ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "user not member of CUG" and enters call state N12 or N00, respectively.

CUG_N03_005   clause 9.2.1.2, 2nd last paragraph
Ensure that the IUT in the Call Initiated call state N01 and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, not ICB after the receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and there is a match between CUG index and CUG interlock code, on the second expiry of timer T303, and allowing for the possibility of a CALL PROCEEDING message being received,

- sends a DISCONNECT or RELEASE COMPLETE message with Cause #18 "no user responding" and with a Facility information element containing a cUGCall return error component indicating "basicServiceNotProvided" and enters call state N12 or N00, respectively.

5.2.1.2 Default request

5.2.1.2.1 CUG call successful at originating network side and at destination network side

CUG_N04_001 clause 9.2.2.1 and table 5
Ensure that the IUT in the Outgoing Call Proceeding call state N03 after receiving a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, not ICB, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N04_002 clause 9.2.2.1 and table 5
Ensure that the IUT in the Outgoing Call Proceeding call state N03 after receiving a SETUP message without a Facility information element containing a cUGCall invoke component and the CUG interlock code is set to preferential CUG, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, not ICB, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N04_003 clause 9.2.2.1 and table 5
Ensure that the IUT in the Outgoing Call Proceeding call state N03 after receiving a SETUP message without a Facility information element containing a cUGCall invoke component and the CUG interlock code is set to preferential CUG, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, not ICB, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N04_004 clause 9.2.2.1 and table 5
Ensure that the IUT in the Outgoing Call Proceeding call state N03 after receiving a SETUP message without a Facility information element containing a cUGCall invoke component and the CUG interlock code is set to preferential CUG, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, not ICB, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N04_005 clause 9.2.2.1 and table 5
Ensure that the IUT in the Outgoing Call Proceeding call state N03 after receiving a SETUP message without a Facility information element containing a cUGCall invoke component and the CUG interlock code is set to preferential CUG, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, not ICB, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N04_006 clause 9.2.2.1 and table 6
Ensure that the IUT in the Outgoing Call Proceeding call state N03 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has not subscribed to the CUG supplementary service, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

5.2.1.2.2   CUG call failed at originating network side

CUG_N05_001   clause 9.2.2.2 and table 5
Ensure that the IUT in the Call Initiated call state N01, after receiving a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and not preferential CUG, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" and enters call state N12 or N00, respectively.

CUG_N05_002   clause 9.2.2.2 and table 5
Ensure that the IUT in the Call Initiated call state N01, after receiving a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and not preferential CUG, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" and enters call state N12 or N00, respectively.

CUG_N05_003   clause 9.2.2.2 and table 5
Ensure that the IUT in the Call Initiated call state N01, after receiving a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, OCB and preferential CUG, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" enters call state N12 or N00, respectively.

CUG_N05_004   clause 9.2.2.2 and table 5
Ensure that the IUT in the Call Initiated call state N01, after receiving a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and preferential CUG, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" and enters call state N12 or N00, respectively.

CUG_N05_005   clause 9.2.2.1 and table 5
Ensure that the IUT in the Call Initiated call state N01 after receiving a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, not ICB, allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with cause #18 "no user responding" and enters call state N12 or N00, respectively.

CUG_N05_006   clause 9.2.2.1 and table 5
Ensure that the IUT in the Call Initiated call state N01 after receiving a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with cause #18 "no user responding" and enters call state N12 or N00, respectively.

5.2.1.2.3   CUG call failed at destination network side

CUG_N06_001   clause 9.2.2.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, not ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not a member of CUG" and enters call state N12 or N00, respectively.

CUG_N06_002   clause 9.2.2.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, ICB and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not a member of CUG" and enters call state N12 or N00, respectively.

CUG_N06_003   clause 9.2.2.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, not ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not a member of CUG" and enters call state N12 or N00, respectively.

CUG_N06_004   clause 9.2.2.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not a member of CUG" and enters call state N12 or N00, respectively.

CUG_N06_005   clause 9.2.2.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and there is a match between the CUG index and interlock code, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" and enters call state N12 or N00, respectively.

CUG_N06_006   clause 9.2.2.2 and table 6
Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and there is a match between the CUG index and interlock code, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

-   responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" enters call state N12 or N00, respectively.

CUG_N06_007   **clause 9.2.2.2 and table 6**

Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and there is a match between the CUG index and interlock code, and the calling user has subscribed to the CUG supplementary service and has the options OA is not allowed, not OCB and preferential CUG, and the called user has not subscribed to the CUG supplementary service, and allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not a member of CUG" and enters call state N12 or N00, respectively.

CUG_N06_008   **clause 9.2.2.2 and table 6**

Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and there is a match between the CUG index and interlock code, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" and enters call state N12 or N00, respectively.

CUG_N06_009   **clause 9.2.2.2 and table 6**

Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and there is a match between the CUG index and interlock code, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, ICB, and allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #29 "facility rejected" and enters call state N12 or N00, respectively.

CUG_N06_010   **clause 9.2.2.2 and table 6**

Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and there is a match between the CUG index and interlock code, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and preferential CUG, and the called user has not subscribed to the CUG supplementary service, and allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not a member of CUG" and enters call state N12 or N00, respectively.

CUG_N06_011   **clause 9.2.2.1 and table 5**

Ensure that the IUT in the Call Initiated call state N01 after receiving a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has subscribed to the CUG supplementary service and has the options OA is allowed, not OCB and not preferential CUG, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, ICB, allowing for the possibility of a CALL PROCEEDING message being received,

- responds with a DISCONNECT or RELEASE COMPLETE message with cause #18 "no user responding" and enters call state N12 or N00, respectively.

5.2.1.3   User without CUG

5.2.1.3.1   CUG call successful at originating network side and at destination network side

CUG_N07_001   **clause 9.2.3.1 and table 6**

Ensure that the IUT in the Outgoing Call Proceeding call state N03 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has not subscribed to the CUG supplementary service, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, ICB, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

CUG_N07_002   clause 9.2.3.1 and table 6

Ensure that the IUT in the Outgoing Call Proceeding call state N03 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the calling user has not subscribed to the CUG supplementary service, and the called user has subscribed to the CUG supplementary service and has the options IA is allowed, not ICB, to indicate that the called user has entered the alerting phase,

- responds with an ALERTING message and enters call state N04.

5.2.1.3.2   CUG call failed at originating network side

CUG_N08_001   clause 9.2.3.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex included, and the calling user has not subscribed to the CUG supplementary service,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #50 "requested facility not subscribed" and a Facility information element containing a cUGCall return error component indicating "notSubscribed" and enters call state N12 or N00, respectively.

CUG_N08_002   clause 9.2.3.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex included, and the calling user has not subscribed to the CUG supplementary service,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #50 "requested facility not subscribed" and a Facility information element containing a cUGCall return error component indicating "notSubscribed" and enters call state N12 or N00, respectively.

CUG_N08_003   clause 9.2.3.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to FALSE and CUGIndex not included, and the calling user has not subscribed to the CUG supplementary service,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #50 "requested facility not subscribed" and a Facility information element containing a cUGCall return error component indicating "notSubscribed" and enters call state N12 or N00, respectively.

CUG_N08_004   clause 9.2.3.2 and table 5

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component with OARequested set to TRUE and CUGIndex not included, and the calling user has not subscribed to the CUG supplementary service,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #50 "requested facility not subscribed" and a Facility information element containing a cUGCall return error component indicating "notSubscribed" and enters call state N12 or N00, respectively.

CUG_N08_005   clause 9.2.3.2, 2nd paragraph

Ensure that the IUT in the Null call state N00 on receipt of a SETUP message with a Facility information element containing a cUGCall invoke component but the network cannot recognize this supplementary service request, and the calling user has not subscribed to the CUG supplementary service,

- responds with a FACILITY, SETUP ACKNOWLEDGE or CALL PROCEEDING message with a Facility information element containing a reject component and continues normal call handling.

5.2.1.3.3   CUG call failed at destination network side

CUG_N09_001   clause 9.2.3.1 and table 6

Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, not ICB, and allowing for receipt of a CALL PROCEEDING message,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not a member of CUG" and enters call state N12 or N00, respectively.

CUG_N09_002   clause 9.2.3.1 and table 6

Ensure that the IUT in the Call Initiated call state N01 after the receipt of a SETUP message without a Facility information element containing a cUGCall invoke component, and the called user has subscribed to the CUG supplementary service and has the options IA is not allowed, ICB, and allowing for receipt of a CALL PROCEEDING message,

- responds with a DISCONNECT or RELEASE COMPLETE message with Cause #87 "user not a member of CUG" and enters call state N12 or N00, respectively.

5.2.2   Called user interface

CUG_N10_001   clause 9.2.4.1

Ensure that the IUT in the Null call state N00, and both the calling user and the called user have subscribed to the CUG supplementary service,

- is able to send a SETUP message with a Facility information element containing a cUGCall invoke component to the called user and enters call state N06.

CUG_N10_002   clause 9.2.4.1

Ensure that the IUT in the Incoming Call Proceeding call state N09, after sending a SETUP message with a Facility information element containing a cUGCall invoke component, and both the calling user and the called user have subscribed to the CUG supplementary service, on receipt of an ALERTING message,

- continues normal call handling and enters call state N07.

CUG_N10_003   clause 9.2.4.1

Ensure that the IUT in the Incoming Call Proceeding call state N09, after sending a SETUP message with a Facility information element containing a cUGCall invoke component, and both the calling user and the called user have subscribed to the CUG supplementary service, on receipt of a CONNECT message,

- continues normal call handling and enters call state N08.

CUG_N10_004   clause 9.2.4.1 b

Ensure that the IUT in the Incoming Call Proceeding call state N09, after sending a SETUP message with a Facility information element containing a cUGCall invoke component, on receipt of a DISCONNECT message containing a Facility information element with a cUGCall return error,

- responds with a RELEASE message and enters call state N19.

6   Compliance

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

   a) consist of a set of test cases corresponding to the set or to a subset of the TPs specified in clause 5;

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

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

   d) maintain the relationship specified in clause 5 between the test groups and TPs and the entries in the PICS proforma to be used for test case deselection;

   e) comply with ISO/IEC 9646-2 [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 5 shall be included in a compliant ATS.

7   Requirements for a comprehensive testing service

As a minimum the Remote test method, as specified in ISO/IEC 9646-2 [4], shall be used by any organization claiming to provide a comprehensive testing service for network equipment claiming conformance to EN 300 138-1 [1].

Annex A (informative):
Change record

A.1   Changes with respect to EN 300 138-5 V2.1.4

Update of ATS to correct errors, the modifications are based on comments received in document 4DT174 (for the Plenary Meeting 11-2000).

A.2   Changes with respect to EN 300 138-5 V1.3.4

Update of ATS to correct errors.

A.3   Changes with respect to ETS 300 138-5 ed. 1

The following changes have been done:

- conversion to EN layout;

- replacement of references to ETS 300 102 with EN 300 403-1 [7];

- substitution of non-specific references to basic standards where the intention is to refer to the latest version.

Annex B (informative):
Bibliography

ETSI ETS 300 102: "Integrated Services Digital Network (ISDN); User-network interface layer 3".

History

<table>
<tr><th colspan="3">Document history</th></tr>
<tr><td>Edition 1</td><td>May 1997</td><td>Publication as ETS 300 138-5</td></tr>
<tr><td>V1.3.4</td><td>June 1998</td><td>Publication</td></tr>
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