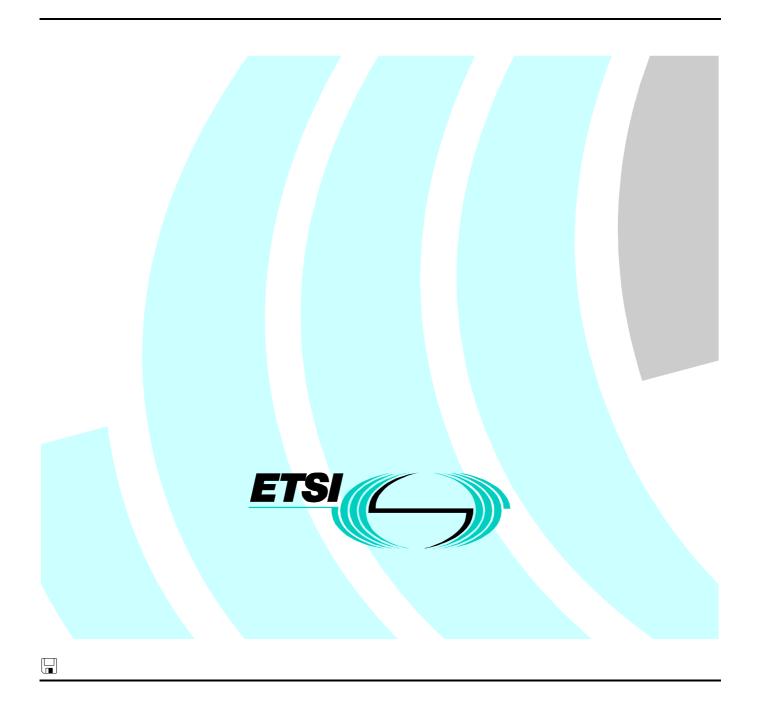
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Integrated Services Digital Network (ISDN);
Signalling System No.7;
ISDN User Part (ISUP) version 3 for the international interface;
Part 36: Abstract Test Suite (ATS)
and partial Protocol Implementation eXtra Information
for Testing (PIXIT) proforma specification
for supplementary services



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ETSI

Postal address

F-06921 Sophia Antipolis Cedex - FRANCE

Office address

650 Route des Lucioles - Sophia Antipolis Valbonne - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16 Siret N° 348 623 562 00017 - NAF 742 C Association à but non lucratif enregistrée à la Sous-Préfecture de Grasse (06) N° 7803/88

Internet

secretariat@etsi.fr
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Contents

Intelle	ectual Property Rights	6
Forew	vord	ε
Introd	luction	7
1	Scope	8
2	References	8
3	Definitions	10
4	Abbreviations	11
5	Implementation under test and test methods	13
5.1	Identification of the system and implementation under test	
5.2	ATM and testing configuration for ISUP '97	
5.2.1	Intermediate exchanges.	
5.2.2	Local exchanges	
5.2.3	Master-slave aspects in the test configuration	
5.2.5	Test Suite Structure (TSS)	
7	Test purposes (TP)	
, 7.1	Introduction	
7.2	Test purpose (TP) naming convention.	
7.2.1	Source of test purpose definition	
7.2.2	Test purpose structure	
7.3	Test purposes for the Supplementary Services	
7.3.1	Calling line identification presentation (CLIP)	
7.3.2	Calling line identification restriction (CLIR)	
7.3.3	Connected line identification presentation (COLP)	
7.3.4	Connected line identification restriction (COLR)	
7.3.5	Terminal portability (TP)	
7.3.6	User-to-user signalling (UUS)	78
7.3.6.1	User-to-user signalling service 1 (UUS1)	78
7.3.6.2	User-to-user signalling service 2 (UUS2)	102
7.3.6.3	3 User-to-user signalling service 3 (UUS3)	115
7.3.7	Closed user group (CUG)	129
7.3.8	Sub-addressing (SUB)	
7.3.9	Malicious call identification (MCID)	
7.3.10	,	
7.3.11		
7.3.12	1 ' '	
7.3.13		
7.3.14		
7.3.14		
7.3.16		
	1 1	
7.3.17		
8	Test Coverage	
9	Conformance to the PICS proforma specification	319
Anne	x A (normative): PICS proforma for ISDN User Part (ISUP) '97 - supplementary services	320
A 1		
A.1	Instructions for completing the PICS proforma	
A.1.1	Purposes and structure	
A.1.2	Abbreviations and conventions.	320

A.2	Identification of the implementation	322
A.2.1	Date of the statement	
A.2.2	Implementation under test (IUT) identification	
A.2.3	System under test (SUT) identification	
A.2.4	Product supplier	
A.2.5	Client	
A.2.6	ICS contact person.	
A.3	Identification of the reference specification	322
A.4	PICS proforma tables	323
A.4.1	Global statement of conformance	
A.4.2	Roles	
A.4.3	Capabilities	323
Anne	ex B (normative): PIXIT proforma for ISDN User Part (ISUP) '97 supplementary	
	services	332
B.1	Identification summary	332
B.2	Abstract test suite summary	332
B.3	Test laboratory	332
B.4	Client identification	333
B.5	System under test	333
B.6	Ancillary protocols	333
B.7	Protocol information for ISUP	333
B.7.1	Protocol identification	
B.7.2	IUT information - PIXIT proforma tables	
B.7.2.		
B.7.2.	2 Parameter values	334
B.7.2.		
B.7.2.	4 Other information	336
Anne	ex C (normative): Protocol Conformance Test Report (PCTR) Proforma for ISDN	
	User Part (ISUP) '97 supplementary services	337
C.1	Identification summary	337
C.1.1	Protocol conformance test report	337
C.1.2	IUT identification	
C.1.3	Testing environment	
C.1.4	Limits and reservation	
C.1.5	Comments	
C.2	IUT Conformance status	
C.3	Static conformance summary	
C.4	Dynamic conformance summary	
C.5	Static conformance review report	
C.6	Test campaign report	340
C.7	Observations	352
Anne	ex D (normative): ATS ISDN User Part (ISUP) '97 Supplementary Services	353
D.1	ATS code	353
D.2	Conventions used within the ATS	353
D.2.1	Test suite parameters, constants and variables	353
D.2.2	Test case variables	353

D.2.3	ASP constraints	353
D.2.4	Timers	353
D.2.5	Test suite operations	354
	Aliases	
D.2.7	Test case and step identifiers	354
D.2.8	Constraints	354
D.2.9	Dynamic behaviour part	355
D.2.10	Pre-test conditions	355
History	·	356

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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 Public Enquiry phase of the ETSI standards Two-step Approval Procedure.

The present document is part 36 of a multi-part EN covering the Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 3 for the international interface, as identified below:

Part 1:	"Basic services";
Part 2:	"ISDN supplementary services";
Part 3:	"Calling Line Identification Presentation (CLIP) supplementary service Part 3";
Part 4:	"Calling Line Identification Restriction (CLIR) supplementary service";
Part 5:	"Connected Line Identification Presentation (COLP) supplementary service";
Part 6:	"Connected Line Identification Restriction (COLR) supplementary service";
Part 7:	"Terminal Portability (TP) supplementary service";
Part 8:	"User-to-User Signalling (UUS) supplementary service";
Part 9:	"Closed User Group (CUG) supplementary service";
Part 10:	"Subaddressing (SUB) supplementary service";
Part 11:	"Malicious Call Identification (MCID) supplementary service";
Part 12:	"Conference call, add-on (CONF) supplementary service";
Part 14:	"Explicit Call Transfer (ECT) supplementary service";
Part 15:	"Diversion supplementary services";
Part 16:	"Call Hold (HOLD) supplementary service";
Part 17:	"Call Waiting (CW) supplementary service";
Part 18:	"Completion of Calls to Busy Subscriber (CCBS) supplementary service";
Part 19:	"Three party (3PTY) supplementary service";
Part 20:	"Completion of Calls on No Reply (CCNR) supplementary service";
Part 31:	"Protocol Implementation Conformance Statement (PICS) proforma specification for basic services";

Part 32: "Test Suite Structure and Test Purposes (TSS&TP) specification for basic services";

Part 33: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing

(PIXIT) proforma specification for basic services";

Part 34: "Protocol Implementation Conformance Statement (PICS) proforma specification for

supplementary services";

Part 35: "Test Suite Structure and Test Purposes (TSS&TP) specification for supplementary services";

Part 36: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for

Testing (PIXIT) proforma specification for supplementary services".

NOTE: Part 13 and 21 to 30 have not been issued.

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Introduction

The present document contains the conformance test specification for ISUP '97 supplementary services. The present document presents an Abstract Test Suite (ATS), written in Tree And Tabular Combined Notation (TTCN). The main body of the present document presents the requirements regarding the chosen test method, conventions used within the ATS, the test suite structure and the test purposes. The annexes present the Protocol Implementation Conformance Statements (PICS), the Protocol Implementation eXtra Information for Testing (PIXIT), Protocol Conformance Test Report (PCTR) and the ATS for ISUP '97 supplementary services, the last one being available on electronic media.

1 Scope

The present document contains the validation (conformance) test specification for ISUP '97 supplementary services defined in ITU-T Recommendation Q.730 [1]. The present document presents an Abstract Test Suite (ATS) for ISUP '97 supplementary services, written in TTCN, see ISO/IEC9646-5 [31]. The present document applies only to exchanges having implemented the ISUP '97 protocol specification. It is applicable for validation testing of all types of exchanges as defined in the ISUP '97 protocol specification. The present document does not deal with compatibility testing.

The main text part of the present document presents the requirements regarding the chosen test method, conventions used within the ATS, the Test Suite Structure and Test Purposes (TSS&TP) for ISUP'97 supplementary services.

The annexes present the Protocol Implementation Conformance Statements (PICS), the Protocol Implementation eXtra Information for Testing (PIXIT), Protocol Conformance Test Report (PCTR) and the ATS for ISUP '97 supplementary services, the last one being available on electronic media.

Annex A provides the Protocol Implementation Conformance Statement (PICS) proforma for the ISUP'97 supplementary services defined in compliance with the relevant requirements and in accordance with the guidance given in ISO/IEC 9646-7 [32]. This statement, of which capabilities and options of a telecommunication specification have been implemented, is necessary for evaluating the conformance of a particular implementation.

The supplier of an implementation that is claimed to conform to the ISUP'97 supplementary services reference specification ITU-T Recommendation Q.730 [1] is required to complete a copy of the PICS proforma provided in annex A.

Annex B provides the Protocol Implementation eXtra Information for Test (PIXIT) proforma, needed as a preparation for testing.

Annex C provides the Protocol Conformance Test Report (PCTR) proforma, used for evaluating the results of the testing campaign.

Annex D explains how to get hold of the actual ATS, which is delivered in electronic form only.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same umber.
- [1] ITU-T Recommendation Q.730 (1997): "ISDN User Part supplementary services".
- [2] ITU-T Recommendation Q.731.1 (1997): "Direct-dialling-In (DDI)".
- [3] ITU-T Recommendation Q.731: "Stage 3 description for number identification supplementary services using Signalling System No. 7".
- [4] ITU-T Recommendation Q.731.3 (1993): "Calling line identification presentation (CLIP)".
- [5] ITU-T Recommendation Q.731.4 (1993): "Calling line identification restriction (CLIR)".
- [6] ITU-T Recommendation Q.731.5 (1993): "Connected line identification presentation (COLP)".
- [7] ITU-T Recommendation Q.731.6 (1993): "Connected line identification restriction (COLR)".

- [8] ITU-T Recommendation Q.731.7 (1997): "Malicious call identification (MCID)". [9] ITU-T Recommendation Q.731.8 (1992): "Sub-addressing (SUB)". [10] ITU-T Recommendation Q.732 Parts 2 to 5 (1997): "Stage 3 description for call offering supplementary services using Signalling System No. 7". ITU-T Recommendation Q.732.7 (1997): "Explicit Call Transfer". [11] ITU-T Recommendation Q.733.1 (1992): "Call waiting (CW)". [12] ITU-T Recommendation Q.733.2 (1993): "Call hold (HOLD)". [13] [14] ITU-T Recommendation Q.733.3 (1997): "Completion of calls to busy subscriber (CCBS)". [15] ITU-T Recommendation Q.733.4 (1993): "Terminal portability (TP)". ITU-T Recommendation Q.734.1 (1993): "Conference calling". [16] [17] ITU-T Recommendation Q.734.2 (1997): "Stage 3 description for multiparty supplementary services using Signalling System No. 7: Three-party service". [18] ITU-T Recommendation Q.735.1(1993): "Closed user group (CUG)". ITU-T Recommendation Q.735.3 (1993): "Multi-level precedence and preemption". [19] [20] ITU-T Recommendation Q.735.6 (1993): "Stage 3 description for community of interest supplementary services using Signalling System No. 7: Global Virtual Network Service (GVNS)". [21] ITU-T Recommendation Q.737.1 (1997): "User-to-user signalling (UUS)". ITU-T Recommendation Q.761 (1997): "Signalling System No. 7 - ISDN User Part functional [22] description". ITU-T Recommendation Q.762 (1997): "Signalling System No. 7 - ISDN user part general [23] functions of messages and signals". [24] ITU-T Recommendation Q.763 (1997): "Signalling System No. 7 - ISDN user part formats and codes". [25] ITU-T Recommendation Q.764 (1997): "Signalling System No. 7 - ISDN user part signalling procedures". ITU-T Recommendation Q.850 (1998): "Usage of cause and location in the Digital Subscriber [26] Signalling System No. 1 and the Signalling System No. 7 ISDN User Part".
- [27] ITU-T Recommendation Q.767 (1991): "Application of the ISDN user part of CCITT signalling system No. 7 for international ISDN interconnections".
- [28] ISO/IEC 9646-1 (1994): "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 1: General concepts".
- [29] ISO/IEC 9646-2 (1994): "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 2: Abstract test suite specification".
- [30] ISO/IEC 9646-3 (1993): "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [31] ISO/IEC 9646-5 (1996): "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 5: Requirements on test laboratories and clients for the conformance assessment process".
- [32] ISO/IEC 9646-7 (1995): "Information technology Open Systems Interconnection Conformance testing methodology and framework Part 7: Implementation Conformance Statements".

[33]	ITU-T Recommendation Q.784.1 (1996): "ISUP basic call test specification: Validation and compatibility for ISUP'92 and Q.767 protocols".
[34]	ITU-T Recommendation Q.788 (1996): "User-network-interface to user-network-interface compatibility test specifications for ISDN, non-ISDN and undetermined accesses interworking over international ISUP".
[35]	ITU-T Recommendation E.164 (1997): "The international public telecommunication numbering plan".
[36]	ITU-T Recommendation Q.701: "Functional description of the message transfer part (MTP) of Signalling System No. 7".
[37]	ITU-T Recommendation Q.707: "Testing and maintenance".
[38]	ITU-T Recommendation Q.733: "Stage 3 description for call completion supplementary services using Signalling System No. 7".
[39]	ITU-T Recommendation Q.737: "Stage 3 description for additional information transfer supplementary services using Signalling System No. 7".
[40]	ITU-T Recommendation Q.735: "Stage 3 description for community of interest supplementary services using Signalling System No. 7".
[41]	ITU-T Recommendation Q.734: "Stage 3 description for multiparty supplementary services using Signalling System No. 7".
[42]	ITU-T Recommendation Q.732: "Stage 3 description for call offering supplementary services using Signalling System No. 7".
[43]	ITU-T Recommendation Q.732.2: "Call diversion services: - Call forwarding busy - Call forwarding no reply - Call forwarding unconditional - Call deflection".

3 Definitions

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

- terms defined in ISDN User Part (ISUP) reference specification ITU-T Recommendation Q.730 [1];
- terms defined in ISO/IEC 9646-1 [28], ISO/IEC 9646-3 [30] and in ISO/IEC 9646-7 [32].

In particular, the following terms apply:

Abstract Test Case (ATC): complete and independent specification of the actions required to achieve a specific test purpose, defined at the level of abstraction of a particular Abstract Test Method, starting in a stable testing state and ending in a stable testing state (see ISO/IEC 9646-2 [29], subclause 3.3.3).

Abstract Test Method (ATM): description of how an IUT is to be tested, given at an appropriate level of abstraction to make the description independent of any particular realization of a Means of Testing, but with enough detail to enable abstract test cases to be specified for this method (see ISO/IEC 9646-2 [29], subclause 3.3.5).

Abstract Test Suite (ATS): test suite composed of abstract test cases (see ISO/IEC 9646-2 [29], subclause 3.3.6).

Implementation Under Test (IUT): implementation of one or more OSI protocols in an adjacent user/provider relationship, being part of a real open system which is to be studied by testing (see ISO/IEC 9646-2 [29], subclause 3.3.43).

ISDN number: number conforming to the numbering and structure specified in ITU-T Recommendation E.164 [35].

Means of Testing (MOT): combination of equipment and procedures that can perform the derivation, selection, parameterization and execution of test cases, in conformance with a reference standardized ATS, and can produce a conformance log (see ISO/IEC 9646-2 [29], subclause 3.3.54).

PICS proforma: document, in the form of a questionnaire, which when completed for an implementation or system becomes the PICS.

PIXIT proforma: document, in the form of a questionnaire, which when completed for the IUT becomes the PIXIT.

point of Control and Observation: point within a testing environment where the occurrence of test events is to be controlled and observed, as defined in an Abstract Test Method (see ISO/IEC 9646-2 [29], subclause 3.3.64).

pre-test condition: setting or state in the IUT which cannot be achieved by providing stimulus from the test environment.

Protocol Implementation Conformance Statement (PICS): statement made by the supplier of a protocol claimed to conform to a given specification, stating which capabilities have been implemented (see ISO/IEC 9646-2 [29], subclause 3.3.39 and subclause 3.3.80).

Protocol Implementation eXtra Information for Testing (PIXIT): statement made by a supplier or implementor of an IUT (protocol) which contains or references all of the information related to the IUT and its testing environment, which will enable the test laboratory to run an appropriate test suite against the IUT (see ISO/IEC 9646-2 [29], subclause 3.3.41 and subclause 3.3.81).

System Under Test (SUT): real open system in which the IUT resides (see ISO/IEC 9646-2 [29], subclause 3.3.103).

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

4 Abbreviations

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

3PTY Three Party service
ASE Application Service Entity
ASP Abstract Service Primitive
ATC Abstract Test Case
ATM Abstract Test Method
ATS Abstract Test Suite

CIC Circuit Identification Code

CCBS Completion of Calls to Busy Subscriber

CD Call Deflection
CDIV Call DIVersion
CFB Call Forwarding Busy
CFNR Call Forwarding No Reply
CFU Call Forwarding Unconditional

CLI Calling Line Identity

CLIP Calling Line Identification Presentation
CLIR Calling Line Identification Restriction

Controlling Exchange
COL
Connected Line Identity

COLP Connected Line Identification Presentation
COLR Connected Line Identification Restriction

CONF Conference call, add-on
CUG Closed User Group
CW Call Waiting
DDI Direct Dialling-In

DLE Destination Local Exchange
DSS 1 Digital Subscriber System No. 1

ECT Explicit Call Transfer

HOLD Call Hold

ICS Implementation Conformance Statement

InatE International Exchange

IncIE Incoming International Exchange

12

IntermE Intermediate Exchange
IWorkE Interworking Exchange
ISC International Switching Centre
ISDN Integrated Services Digital Network

ISUP ISDN User Part

IUTImplementation Under TestITEInternational Transit ExchangeOLEOriginating Local ExchangeOutIEOutgoing International ExchangeLAPDLink Access Protocol for the D-channel

LT Lower Tester

MCID Malicious Call Identification

MOT Means Of Testing
MTC Main Test Component
MTP Message Transfer Part
MSN Multiple Subscriber Number

NE National exchange

NNI Network-Network Interface
NTE National Transit Exchange
PCM Pulse Code Modulation

PCO Point of Control and Observation

PCT Parallel Test Component

PCTR Protocol Conformance Test Report

PDU Protocol Data Unit

PICS Protocol Implementation Conformance Statement
PIXIT Protocol Implementation eXtra Information for Testing

PSTN Public Switched Telephone Network SCCP Signalling Connection Control Part SCS System Conformance Statement

SP Signalling Point
SUB Sub-addressing
SUT System Under Test

TCAP Transaction Capabilities Application Part

TP Terminal Portability

TP Test Purpose (context dependent)
TCP Test Coordination Procedures

TSS Test Suite Structure

TSS and TP Test Suite Structure and Test Purposes
TTCN Tree and Tabular Combined Notation

UNI User-Network interface

UT Upper Tester

UUS User-to-User Signalling

UUS1 User-to-User Signalling service 1 UUS2 User-to-User Signalling service 2 UUS3 User-to-User Signalling service 3

The ISUP message acronyms can be found in table 2 of ITU-T Recommendation Q.762 [23].

The following abbreviations apply for ISUP parameters and parameter values:

addCgPN additional Calling Party Number addConNb additional Connected Number

AdSg Address Signals

APRI Address Presentation Restricted Indicator

ATP Access Transport Parameter BCI Backward Call Indicators

CC Country Code CCBSpar CCBS parameter

CdPSI Called Party's Status Indicator
CDInf Call Diversion Information
CDmo Call Diversion may occur

CgPN Calling Party Number **Call History Information** CHInf ConNb Connected Number **CTNb** Call Transfer Number Call Transfer Reference **CTRef CUGIC** CUG Interlock Code Forward Call Indicators FCI GenNb Generic Number GenNot Generic Notification **Incoming Access** IΑ **ICB** Incoming Calls Barred IPI ISUP Preference Indicator LOPInd **LOop Prevention Indicators**

NoInd No Indication

NSO Notification Subscription Option

OA Outgoing Access

OBCI Optional Backward Call Indicators
OFCI Optional Forward Call Indicators

OriCdNb Original Called Number **PDC Propagation Delay Counter** RgInd Redirecting Indicator Redirecting Number RgNb RnCnt Redirection Counter **Redirection Information** RnInf RnReas Redirection Reason RnNb Redirection Number

RnNbRes Redirection Number Restriction

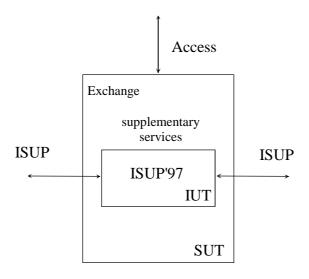
ScrI Screening Indicator
ServAct Service Activation
USI User Service Information
USIp User Service Information prime
UUInd User-to-User Indicators

UUInf User-to-User Information

5 Implementation under test and test methods

5.1 Identification of the system and implementation under test

The system under test (SUT) is an exchange. The implementation under test (IUT) is the ISUP '97 implementation in this exchange, mainly the part responsible for the supplementary services functionality, as shown in figure 1.



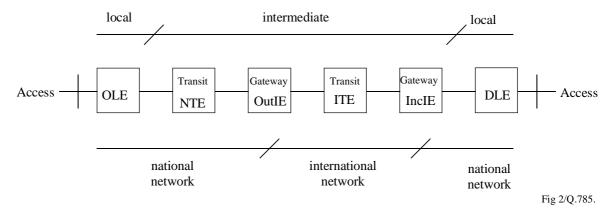
ISUP - ISDN User Part IUT - Implemenattion Under Test SUT - System Under Test

Figure 1

The ISUP signalling protocol can be observed on the SS No.7 link on the network-network interface (NNI). The effects of signalling procedures of the ISDN User Part can be observed on the circuits controlled by the ISUP on the NNI.

The ISUP implementation will in some exchanges have to interwork with the Access signalling system on the user-network interface (UNI) and involve call handling in order to establish end-to-end connections.

From the ISUP reference standard several types of exchanges (or roles) can be identified as presented in figure 2.



OLE - Original Local Exchange

NTE - National Transit Exchange

OutIE - Outgoing International Exchange

ITE - International Transit Exchange

IncIE - Incoming International Exchange

DLE - Destination Local Exchange

Figure 2: roles of exchanges

The exchanges can be divided in two main groups according to their functionality: local exchanges, where calls originate and terminate, and intermediate exchanges, with transit functionality. Local exchanges are national, i.e. belong to a national network. Intermediate exchanges are national or international. The international intermediate exchanges which permit access to the international network are the gateway exchanges (incoming and outgoing), also called ISCs - international switching centers. A particularity for some supplementary services, e.g. call diversion services, is that a local exchange is not only originator/terminator of the call but also mediator between two far-end local exchanges.

The roles of the exchanges are summarized in table 1.

Table 1: roles of exchanges

	Local	Intermediate Exchange	
	Exchange	National	International
Originating Local Exchange	OLE		
Transit Exchange		NTE	ITE
Incoming/Gateway Exchange			InclE
Outgoing/Gateway Exchange		_	OutlE
Destination Local Exchange	DLE		

5.2 ATM and testing configuration for ISUP '97

The Abstract Test Method (ATM) chosen for the ISUP '97 supplementary services testing specification is the distributed multi-party test method. The ATM is defined at an appropriate level of abstraction so that the test cases may be specified appropriately, without adding restrictions to the implementation under test. The testing architectures are described in the following subclauses.

The ATS is written in concurrent TTCN.

5.2.1 Intermediate exchanges

The configuration proposed for testing intermediate exchanges is shown in figure 3. In order to test the protocol and functionality of transit and gateway exchanges one needs to consider the incoming and outgoing side of the SUT.

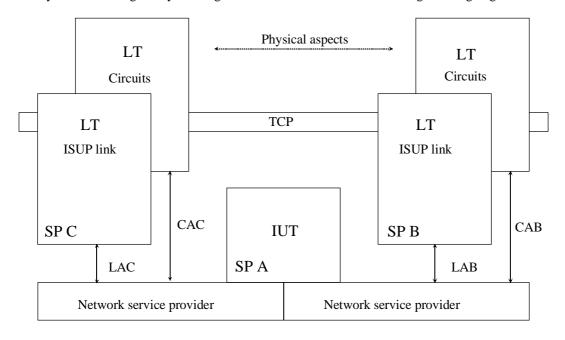


Fig 3/Q.785.2

IUT - Implementation Under Test

LT - Lower Tester

PCO - Point of Control and Observation

SP - Signalling Point

TCP - Test Coordination Procedures

LAB - PCO for signalling link AB

CAB - PCO for AB circuits

LAC - PCO for signalling link AC

CAC - PCO for AC circuits

Figure 3: ISUP test method for intermediate exchanges

The IUT is observed and controlled from two signalling links with ISUP associated circuits. The Points of Control and Observation (PCO) are labelled LAB and CAB on one side, and LAC and CAC on the other.

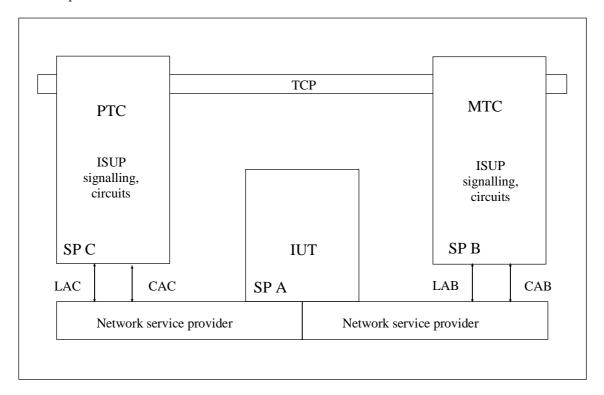
The LAB and LAC PCOs are used by the Lower Testers (LT) for controlling the ISUP signalling link, whereas the CAB and CAC PCOs are used by the lower testers for observing circuit related events, such as connectivity, echo control check, alerting tone, etc.

The ISUP PDUs to be sent and observed on the LAB PCO side allow for PDU constraints to be specified and coded down to the bit-level.

The underlying network service provider is the Message Transfer Part (MTP) protocol as specified in the ITU-T Recommendations Q.701 [36] and Q.707 [37].

Figure 4 shows the actual used configuration for intermediate exchanges, with a main testing component (MTC), responsible for the A-B interface and a slave parallel testing component (PTC), responsible for the C-A interface.

The test coordination procedures (TCP) allow for communication between the testers. The test components are mostly implicitly coordinated (asynchronously); the TCPs are only used when it is necessary to obtain the verdict from the parallel test component.



IUT - Implementation Under Test LAB - PCO for signalling link AB Fig 4/Q.785.2 MTC - Main Test Component CAB - Circuit PCO on AB interface

PCO - Point of Control and Observation

LAC - PCO for signalling link AC

PTC - Parallel Test Component

CAC - Circuit PCO on AC interface

SP - Signalling Point TCP - Test Coordination Procedures

Figure 4: ISUP test configuration for intermediate exchanges

5.2.2 Local exchanges

When testing a local exchange as specified in the reference standard, it is difficult, if not impossible, to observe only ISUP PDUs, if functionality such as connectivity, tones and announcements etc. associated with protocol events is to be considered and used to assign verdicts. The reference standard often refers to actions or events initiated by or to be observed by the calling or called user.

A Point of Control of Observation (PCO) from ISUP (IUT) to the access side is needed, e.g. for stimulating the local exchange to originate a call (send an IAM). Another PCO is needed to check connectivity or generated tones by the local exchange.

There is no exposed interface from ISUP (the IUT) towards the access side. For practical testing purposes the natural choice is the access interface. It is therefore reasonable to make use of the access interface (e.g. the user access interface DSS1) as a PCO and to use existing naming conventions for the abstract service primitives (ASPs) to be used on this PCO.

Figure 5 presents a multi-party testing configuration for local exchanges. In this figure each tester has a single PCO. The PCO for the access uses the underlying access service provider (e.g. LAPD, in case of DSS1) for observing access events and stimulating the ISUP via the access. The ISUP implementation (IUT) cannot be tested without involving the user-network interface (UNI).

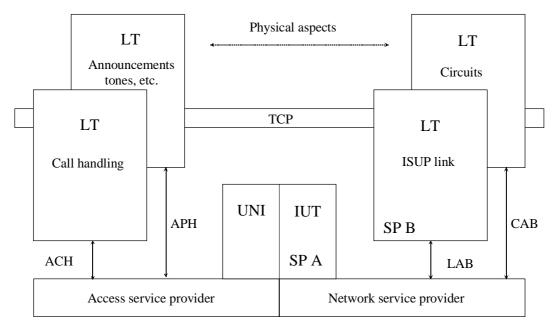


Fig 5/Q.785.2

IUT - Implementation Under Test

LT - Lower Tester

PCO - Point of Control and Observation

TCP - Test Coordination Procedures

SP - Signalling Point

USI -User-Network Interface

LAB - PCO for signalling link AB

CAB - PCO for AB circuits

ACH - Access signalling PCO (D-channel)

APH - Access physical circuit PCO (B-channel)

Figure 5: ISUP test method for originating / destination exchanges

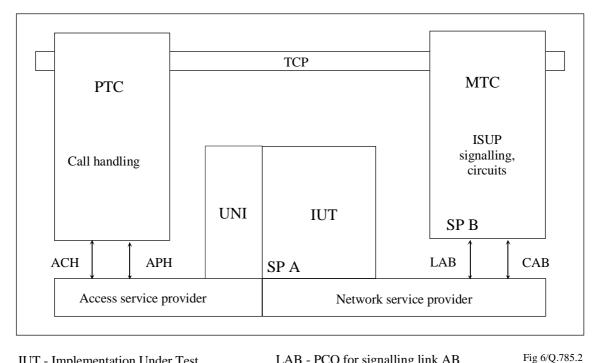
On the right side there are two PCOs as in the test configuration presented in the previous subclause. The LAB PCO is used by the LT controlling the ISUP signalling link, whereas the CAB PCO is used by another LT controlling the traffic channels (for observing circuit related events, such as connectivity, alerting tone, etc.).

The ISUP PDUs to be sent and observed on the LAB PCO side allow for PDU constraints to be specified and coded down to the bit-level.

On the access side there are two PCOs and two LTs similar to the ones on network side. The ACH PCO is used to observe and control the Call Handling events, whereas the APH is used to control and observe physical aspects (e.g. tones and announcements).

The access PDUs to be sent and observed on the ACH PCO are chosen at an appropriate level of abstraction. For the access ASPs DSS1-like primitive names have been used, whereas access PDU constraints have not been coded to the bit level. The access aspects cannot be left out for local exchanges, widening in this respect to some extent the scope of the ISUP testing.

Figure 6 shows the actual used configuration for local exchanges, with a master testing component (MTC), responsible for the A-B interface and a slave parallel testing component (PTC), responsible for the UNI access interface. The maintenance PCO is integrated in the MTC, for simplifying reasons.



IUT - Implementation Under Test

MTC - Main Test Component

PCO - Point of Control and Observation

PTC - Parallel Test Component

SP - Signalling Point

UNI - User-Network Interface

LAB - PCO for signalling link AB

CAB - Circuit PCO on AB interface

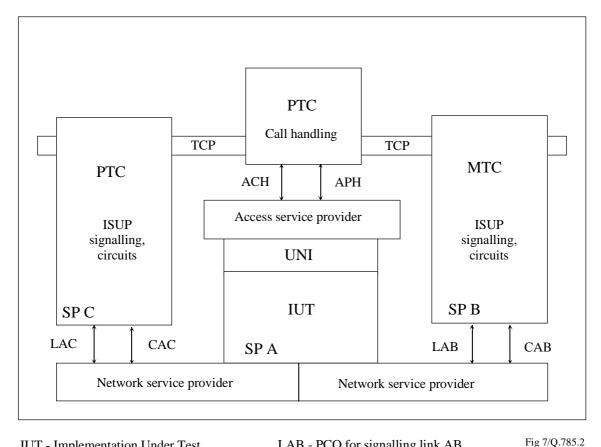
ACH - Access call handling PCO (D-channel)

APH - Access physical circuit PCO (B-channel)

TCP - Test Coordination Procedures

Figure 6: ISUP test configuration for local exchanges

There are test cases for local exchanges for some supplementary services where a mixed configuration is used. This configuration is presented in figure 7 of ITU-T Recommendation Q.785.4 and it may be deduced from the configurations presented in figures 4 and 6.



IUT - Implementation Under Test MTC - Main Test Component

PCO - Point of Control and Observation

PTC - Parallel Test Component

SP - Signalling Point

UNI - User-Network Interface

LAB - PCO for signalling link AB

CAB - Circuit PCO on AB interface

LAC - PCO for signalling link AC

CAC - Circuit PCO on AC interface

ACH - Access call handling PCO (D-channel)

APH - Access physical circuit PCO (B-channel)

TCP - Test Coordination Procedures

Figure 7: ISUP mixed test configuration for local exchanges

In this configuration the main test component located on the right side supervises two parallel test components: one ISUP PTC and one access PTC. The local exchange in this case is the exchange serving the user who activated the supplementary service.

5.2.3 Master-slave aspects in the test configuration

The figures 4, 6 and 7 show the logical test components of the adopted test configuration. The main test component is located on the right side of the IUT, whereas on the left side there are different parallel test components: ISUP (figure 4), access (figure 6) or both (figure 7).

The ATS is written so that the appropriate configuration is chosen - depending on the exchange's role to be tested.

The right side main test component may be international or national ISUP and is configurable so that any two of these may be run - based on the answers given to PIXIT questions.

The left side parallel test component may be of any kind: it may be international or national ISUP, an access signalling system or a non-ISUP user part. At test execution exactly one of these configurations will be chosen - based on the information provided in the PICS and PIXIT.

For the gateway exchanges it is assumed by default that the call is set up from the left PTC to the right MTC. So for outgoing international exchange the national network is located on the left side and the international network on the right side. For incoming international exchanges the international network is located on the left side and the national network on the right side.

The message flow in the test cases is designed in such a way that the verdict is assigned based on observing the behaviour on the right side. The left side will in this case mainly act as a slave stimulus/acceptor. There are, however, test cases where the expected behaviour of both sides is needed to assign the verdict.

6 Test Suite Structure (TSS)

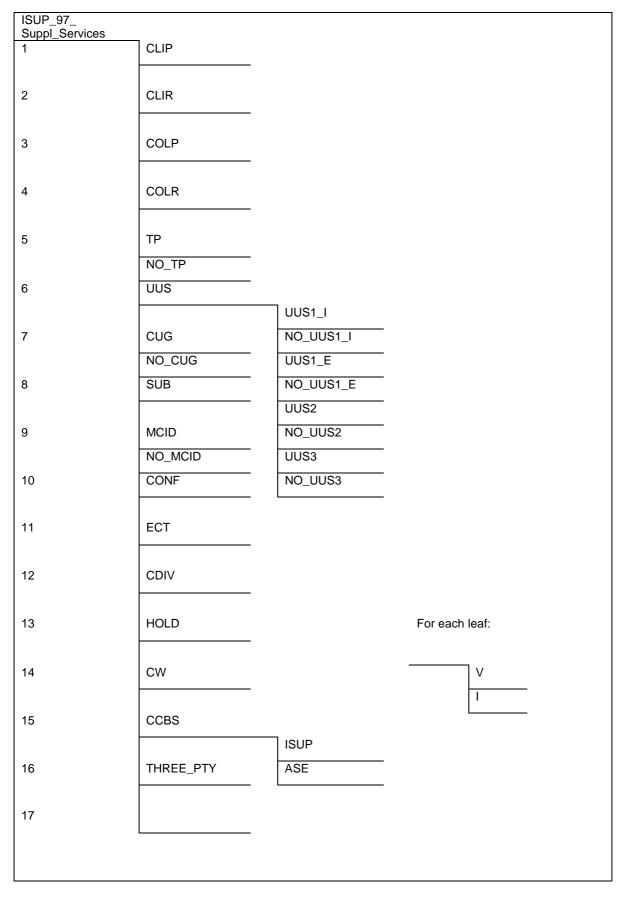


Figure 8: Test suite structure

Test suite structure (TSS) naming conventions are:

CLIP Calling Line Identification Presentation;

CLIR Calling Line Identification Restriction;

COLP Connected Line Identification Presentation;

COLR Connected Line Identification Restriction;

TP Terminal Portability;

NO_TP Terminal Portability not supported;

UUS User-to-User Signalling;

UUS1_I User-to-User Signalling service 1 implicit;

NO_UUS1_I User-to-User Signalling service 1 implicit not supported;

UUS1_E User-to-User Signalling service 1 explicit;

NO_UUS1_E User-to-User Signalling service 1 explicit not supported;

UUS2 User-to-User Signalling service 2;

NO_UUS2 User-to-User Signalling service 2 not supported;

UUS3 User-to-User Signalling service 3;

NO_UUS3 User-to-User Signalling service 3 not supported;

CUG Closed User Group;

NO_CUG Closed User Group not supported;

SUB Sub-addressing;

MCID Malicious Call Identification;

NO_MCID Malicious Call Identification not supported;

CONF Conference Call, add-on;

ECT Explicit Call Transfer;

CDIV Call Diversion Services;

CFB Call Forwarding Busy;

CFNR Call Forwarding No Reply;

CFU Call Forwarding Unconditional;

CD Call Deflection;

HOLD Call Hold;

CW Call Waiting;

CCBS Completion of Calls to Busy Subscriber;

CCBS_ASE CCBS - Application Service Element;

THREE_PTY Three Party service;

V Valid behaviour stimulus;

I Inopportune stimulus.

7 Test purposes (TP)

7.1 Introduction

For each test requirement a Test Purpose (TP) is defined.

7.2 Test purpose (TP) naming convention

Test Purposes are numbered ascending within each group. Groups are organized according to the TSS down to the last but one level. The classification in the V/I groups is done by the inclusion of V or I in the test case name. Additional qualifiers, in form of lower case letters, are added to identify variants within one generic test case, see table 2.

Table 2: TP Identifier naming convention scheme

Identifier:	ISS_{ <tc>}_<group>_<n>_<n>_{<a>}</n></n></group></tc>		
ISS	= ISUP '97 Supplementary Services		
{ <tc>}</tc>	 Designation used for ASE test cases (e.g. CCBS): TC: Transaction Capabilities 		
<group></group>	 One character representing the test group: V: Valid stimulus I: Inopportune stimulus 		
<n></n>	= Sequence number for supplementary services according to the test suite structure		
<n></n>	= Sequence number used within the group		
{ <n>}</n>	= Optional additional number used (e.g. for UUS)		
{ <a>}	= Optional lower-case character distinguishing tests with same reference number		

7.2.1 Source of test purpose definition

The test purposes cover validation testing aspects and were developed within ETSI.

7.2.2 Test purpose structure

The test purpose structure overlaps with the Test Suite Structure (TSS).

Test purposes that test normal behaviour have been grouped in the V - valid behaviour group.

Test purposes that test the IUT behaviour in situations that are not normal operation have been grouped in the I - Inopportune stimulus group.

Test purposes for the Application Service Entity (ASE) defined for some supplementary services (e.g. CCBS) have been marked with the **TC** designation - Transaction capabilities.

7.3 Test purposes for the Supplementary Services

All of the following test purposes belong to the main group ISUP_97_Suppl_Services. Each test purpose is presented in a separate table. The first row of the table contains the following items:

TSS: Identifier in the test suite structure (test group/subgroup identifier).

TP: Identifier of the test purpose.

ISUP '97 reference: The reference to the requirement in the ISUP standard ITU-T Recommendation Q.730 [1],

which led to the test purpose.

Selection expression: Selection criterion for the test purpose taking into account the exchange's role and the

answers to the specified PICS questions. If the PICS questions refer to features of the Basic call control procedures (see ITU-T Recommendation Q.788 [34]) they are preceded by the identifier "BCall". All other PICS questions refer to supplementary services specific features (see annex A/Q785.2). If there is no selection expression specified, the TP is valid

for all roles of exchanges.

Q.788 [34] reference: If there is a test purpose defined in the ITU-T Recommendation Q.788 [34] which covers

the expected behaviour of the below defined test purpose, then the reference to that test is given here. Because the test purposes defined in ITU-T Recommendation Q.788 [34] describe UNI (user-network interface) to UNI end-to-end tests it is possible that one single ITU-T Recommendation Q.788 [34] test is referenced by several test purposes in this test specification. Besides that, some defined test purposes do not have any reference to ITU-T Recommendation Q.788 [34] and therefore the word "None" is used in the ITU-T

Recommendation Q.788 [34] reference box.

The next row defines the test purpose itself, each having a title in italics and a text body.

The ISUP **messages** and **parameter** names are highlighted **bold** to ease the readability.

In order to check the specified behaviour for some test purposes, a special prerequisite test condition has to be fulfilled. If such a condition is needed, it is presented after the test purpose under the heading "Pre-test conditions".

For each test purpose the essential part of the message sequence chart is presented. If there are several scenarios of message sequence charts implied by the test purpose, the variants are presented distinguishing the different cases. These message sequence charts are presented using a non-proportional font for the proper alignment of the arrows in the diagram. Inside the message sequence charts comments are included for clarification purposes.

Additional information of interest while executing/implementing the test cases is presented below a continuous line after the message sequence charts.

7.3.1 Calling line identification presentation (CLIP)

TSS CLIP/	TP ISS_V_1_1	ISUP '97 reference 3.5.2.1.1; table 3.1/Q.731 [3]	Selection expression OLE	Q.788 [34] reference 2.1.1		
Test purpose						
Calling party number (network provided).						
To verify that the IUT can successfully originate a call having a calling party number with the screening indicator set						
to "network provided" and the presentation restricted indicator set to "presentation allowed".						

-----setup----> -----IAM----->

SPA

1. Set up a call from the access without calling party number or invalid calling party number (not accepted by the network).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_2	3.5.2.1.1; table 3.1/Q.731 [3]	expression OLE AND	reference 2.1.2
			PICS A.3/8 (SUB)	

Test purpose

access

Calling party number (network provided) with calling sub-address.

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "network provided" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions.

Arrange the data in the IUT so that the calling party has subscribed to the sub-addressing supplementary service.

1. Set up a call from the access without calling party number or wrong calling party number (not accepted by the network) and with a calling sub-address.

TSS TP CLIP/ ISS_V_1_3	ISUP '97 reference	Selection	Q.788 [34]
	3.5.2.1.1;	expression	reference
	table 3.1/Q.731 [3]	OLE	None

Calling party number (user provided, verified and passed).

To verify that the IUT can successfully originate a call having the **calling party number** with the screening indicator set to "user provided, verified and passed".

access SPA SPB
----setup----> ----IAM---->

1. Set up a call from the access with a correct calling party number (within range).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_4	3.5.2.1.1;	expression	reference
		table 3.1/Q.731 [3]	OLE AND	2.1.3
			PICS A.3/8 (SUB)	

Test purpose

Calling party number (user provided, verified and passed) with calling sub-address.

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "user provided, verified and passed" and an **access transport** parameter containing the calling sub-address. Pre-test conditions.

Arrange the data in the IUT so that the calling party has subscribed to the sub-addressing supplementary service.

1. Set up a call from the access with a correct calling party number (within range) and with a calling sub-address.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_5	3.5.2.1.1;	expression	reference
		table 3.1/Q.731 [3]	OLE	None

Calling party number (user provided, not verified).

To verify that the IUT can successfully originate a call having a default **calling party number** with the screening indicator set to "network provided" and a **generic number** containing the additional calling party number with the screening indicator set to "user provided, not verified".

Pre-test conditions.

Arrange the data in the IUT so that there is a special arrangement from the access signalling system regarding an additional calling party number.

1. Set up a call from the access with a special calling party number.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_6	3.5.2.1.1;	expression	reference
		table 3.1/Q.731 [3]	OLE AND	2.1.4
			PICS A.3/8 (SUB)	

Test purpose

Calling party number (user provided, not verified) with calling sub-address.

To verify that the IUT can successfully originate a call having a default **calling party number** with the screening indicator set to "network provided", a **generic number** containing the additional calling party number with the screening indicator set to "user provided, not verified" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions.

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional calling party number and that the calling party has subscribed to the sub-addressing supplementary service.

1. Set up a call from the access with a special calling party number and a calling sub-address.

TSS CLIP/	TP ISS_V_1_7	ISUP '97 reference 3.4; 3.5.2.2.1/Q.731 [3]	Selection expression Transit	Q.788 [34] reference None
To verify that a calling	party number and the generi party number and additiona d to the succeeding exchang	al calling party number in	the generic number o	an be
SPC	SPA	SPB		
IAM:	>IAM	->		
1. The PTC will 2. CgPN only.	initiate a call se	t up with the exp	ected parameter	s.
Case b)				
SPC	SPA	SPB		
IAM	>IAM	->		
:				
1. The PTC will	initiate a call se	t up with the exp	ected parameter	s.

TSS CLIP/	TP ISS_V_1_8	ISUP '97 reference 3.5.2.3.1/Q.731 [3]	Selection expression OutIE AND PICS A.4/1	Q.788 [34] reference None
--------------	-----------------	---	--	---------------------------------

Discarding the calling party number in case of bilateral agreements.

To verify that the **calling party number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation allowed".

NOTE: This bilateral agreement prohibits the transferral of the calling party number in any case. The test with the address presentation restricted indicator set to "presentation restricted" is a CLIR test.

Pre-test conditions.

Arrange the data in IUT so that the calling party number is discarded.

-----IAM----->

2. CgPN and addCgPN in GenNb.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_9	3.5.2.3.1/Q.731 [3]	expression	reference
			OutlE AND	None
			PICS A.4/2	

Discarding the additional calling party number in case of bilateral agreements.

To verify that the additional calling party number in the **generic number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation allowed".

NOTE: This bilateral agreement prohibits the transferral of the calling party number in any case. The test with the address presentation restricted indicator set to "presentation restricted" is a CLIR test.

Pre-test conditions.

Arrange the data in IUT so that the additional calling party number in the generic number is discarded. \mbox{SPC} \mbox{SPA} \mbox{SPB}

SPC SPA SE

-----IAM----->

1. The PTC will initiate a call set up with the expected parameters.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_10	3.5.2.3.1/Q.731 [3]	expression	reference
			OutlE	None

Test purpose

Discarding the calling party number, if the address is marked not available.

To verify that the **calling party number** is omitted, if the address presentation restricted indicator is set to "address not available".

SPC SPA SPB

-----IAM----->

:

1. The PTC will initiate a call set up with the expected parameters.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_11	3.5.2.3.1/Q.731 [3]	expression	reference
			OutlE	None

Test purpose

Discarding the additional calling party number, if no calling party number is received.

To verify that if the **calling party number** is not sent, then an additional calling party number in a **generic number** will be omitted.

SPC SPA SPB

TSS CLIP/	TP ISS_V_1_12	ISUP '97 reference 3.5.2.3.1/Q.731 [3]	Selection expression OutIE	Q.788 [34] reference None	
Test purpose Converting the calling party number to international format. To verify that the IUT can convert the calling party number into an international number, setting the nature of address indicator to "international number" and can pass on the address presentation restricted indicator and the					

screening indicator transparently. SPB SPC SPA -----IAM----->

1. The PTC will initiate a call set up with the expected parameters.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_13	3.5.2.3.1/Q.731 [3]	expression	reference
			OutlE	None

Test purpose

Converting the additional calling party number to international format.

To verify that the IUT can convert the additional calling party number in the **generic number** into an international number, if the numbering plan indicator is "ISDN Telephony", setting the nature of address indicator to "international number" and can pass on the address presentation restricted indicator and the screening indicator transparently. SPC

-----IAM-----> -----IAM----->

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS I 1 14	ISUP '97 reference 3.5.2.3.2/Q.731 [3]	Selection expression	Q.788 [34] reference
			OutlE	None

Discarding an incomplete calling party number.

To verify that the calling party number is discarded, if it is received with the calling party number incomplete indicator set to "incomplete".

SPB SPC

-----IAM----->

TSS CLIP/	TP ISS_V_1_15	ISUP '97 reference 3.5.2.4.1/Q.731 [3]	Selection expression InclE	Q.788 [34] reference None		
Test purpose	Test purpose					
Converting the calling party number to national format, if necessary. To verify that the country code in the address signals of the calling party number is removed if it is the network's						

own country code. The nature of address indicator shall be set to "national (significant) number". The address

SPC International SPA National SPB

presentation restricted indicator shall be transferred transparently.

-----IAM-----> ----IAM----->

1. The PTC will initiate a call set up with the expected parameters.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_16	3.5.2.4.1/Q.731 [3]	expression	reference
			InclE	None

Test purpose

Converting the additional calling party number to national format, if necessary.

To verify that the country code in the address signals of the **generic number** coded as an "additional calling party number", if the numbering plan indicator is "ISDN Telephony" is removed if it is the network's own country code. The nature of address indicator shall be set to "national (significant) number". The address presentation restricted indicator shall be transferred transparently.

1. The PTC will initiate a call set up with the expected parameters.

TSS CLIP/	TP ISS_I_1_17	ISUP '97 reference 3.5.2.4.1/Q.731 [3]	Selection expression IncIE AND	Q.788 [34] reference None
			PICS A.4/4	

Test purpose

Adding a prefix to an international calling party number.

To verify that a prefix is added to the **calling party number** and the nature of address indicator is set to "unknown". NOTE: The coding "unknown" is a national option (@).

TSS CLIP/	TP ISS_I_1_18	ISUP '97 reference 3.5.2.4.2/Q.731 [3]	Selection expression IncIE AND PICS A.4/5	Q.788 [34] reference None
To verify that the scree in calling party number NOTE: The coding SPC	esentation restricted indicate ining indicator shall be set to ining indicator shall be set to indicator shall be set to indicator is set to indicator in its set in i	"network provided" if the a lable." national option (@). SPB		restricted indicator
: The PTC will	initiate a call se	t up with the expe	ected parameter	

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIP/	ISS_V_1_19	3.6.10.1/Q.731 [3]	expression	reference
			DLE AND	None
			(PICS A.3/12 OR	
			PICS A.3/13 OR	
			PICS A.3/14 OR	
			PICS A.3/15)	

Test purpose CLIP - interaction with call diversions.

To verify that a call diverting exchange shall also forward the calling party number and the generic number containing the additional calling party number.

Pre-test conditions.

Arrange the data in the IUT such that the called user has subscribed to CLIP and has activated a call diversion service (CFB, CFNR, CFU or CD).

SPB SPC -----IAM----->

7.3.2 Calling line identification restriction (CLIR)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_1	4.5.2.1.1/Q.731 [3]	expression	reference
			OLE	2.1.5

Test purpose

Restricted calling party number (network provided).

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "network provided" and the address presentation restricted indicator set to "presentation restricted".

Pre-test conditions.

Arrange the data in the IUT so that the calling party has subscribed CLIR.

access SPA SPB

-----setup----> -----IAM----->

1. Set up a call from the access without calling party number or wrong calling party number (not accepted by the network).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_2	4.5.2.1.1/Q.731 [3]	expression	reference
			OLE AND	2.1.6
			PICS A.3/8 (SUB)	

Test purpose

Restricted calling party number (network provided) with calling sub-address.

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "network provided", the address presentation restricted indicator set to "presentation restricted" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions.

Arrange the data in the IUT so that the calling party has subscribed to CLIR and SUB.

access SPA SPB

-----setup----> -----IAM----->

1. Set up a call from the access without calling party number or wrong calling party number (not accepted by the network) and with a calling sub-address.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_3	4.5.2.1.1/Q.731 [3]	expression	reference
			OLE	None

Restricted calling party number (user provided, verified and passed).

To verify that the IUT can successfully originate a call having the **calling party number** with the screening indicator set to "user provided, verified and passed" and the address presentation restricted indicator set to "presentation restricted".

Pre-test conditions.

Arrange the data in the IUT so that the calling party has subscribed CLIR. access $$\operatorname{\mathtt{SPA}}$$

-----setup----> -----IAM----->

1. Set up a call from the access with a correct calling party number (within range).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_4	4.5.2.1.1/Q.731 [3]	expression	reference
			OLE AND	2.1.7
			PICS A.3/8 (SUB)	

Test purpose

Restricted calling party number (user provided, verified and passed) with calling sub-address.

To verify that the IUT can successfully originate a call having a **calling party number** with the screening indicator set to "user provided, verified and passed", the address presentation restricted indicator set to "presentation restricted" and an **access transport** parameter containing the calling sub-address.

Pre-test conditions.

Arrange the data in the IUT so that the calling party has subscribed to CLIR and SUB. access $$\tt SPA$$ ${\tt SPB}$

-----setup---->

1. Set up a call from the access with a correct calling party number (within range) and with a calling sub-address.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_5	4.5.2.1.1/Q.731 [3]	expression	reference
			OLE	None

Restricted calling party number (user provided, not verified).

To verify that the IUT can successfully originate a call having a default **calling party number** with the screening indicator set to "network provided" and a **generic number** containing the additional calling party number with the screening indicator set to "user provided, not verified", both having the address presentation restricted indicator set to "presentation restricted".

Pre-test conditions.

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional calling party number and that the calling party has subscribed to CLIR.

access SPA SPB

-----setup----> -----IAM----->

1. Set up a call from the access with a special calling party number.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_6	4.5.2.1.1/Q.731 [3]	expression	reference
			OLE AND	2.1.8
			PICS A.3/8 (SUB)	

Test purpose

Restricted calling party number (user provided, not verified) with calling sub-address.

To verify that the IUT can successfully originate a call having a default **calling party number** with the screening indicator set to "network provided", a **generic number** containing the additional calling party number with the screening indicator set to "user provided, not verified", both having the address presentation restricted indicator set to "presentation restricted" and an **access transport** parameter containing the calling sub-address. Pre-test conditions.

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional calling party number and that the calling party has subscribed to CLIR and SUB.

-----setup----> -----IAM----->

1. Set up a call from the access with a special calling party number and a calling sub-address.

TSS CLIR/	TP ISS_V_2_7	ISUP '97 reference 4.5.2.2.1/Q.731 [3]	Selection expression Transit	Q.788 [34] reference None
	tion relating to CLIR. The second income stricted income stricted income stricted income stricted income in the succeeding exch		y number and in the g	eneric number
SPC	SPA	SPB		
IAM	>IAM	->		
:				
1. The PTC will	initiate a call set	t up with the exp	ected parameter:	s.
2. CgPN only.				
Case b)				
SPC	SPA	SPB		
IAM	>IAM	->		
:				
-				
1. The PTC will 2. CgPN and addo	initiate a call se	t up with the exp	ected parameters	S.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_8	3.5.2.3.1;	expression	reference
		4.5.2.3.2; 4.6.5/Q.731 [3]	OutIE AND PICS A.5/1	None
		110107 Q11 01 [0]	1 100 7 1107 1	

Discarding the calling party number if the presentation is restricted.

To verify that the **calling party number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation restricted".

Pre-test conditions

Arrange the data in IUT so that the calling party number is discarded. ${\tt SPC} {\tt SPA} {\tt SPB}$

-----IAM----->

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_9	3.5.2.3.1;	expression	reference
		4.5.2.3.2;	OutlE AND	None
		4.6.5/Q.731 [3]	PICS A.5/2	

Discarding the additional calling party number if the presentation is restricted.

To verify that the additional calling party number in the **generic number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation restricted".

Pre-test conditions.

Arrange the data in IUT so that the additional calling party number is discarded. ${\tt SPC} {\tt SPB}$

-----IAM----->

1. The PTC will initiate a call set up with the expected parameters.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CLIR/	ISS_V_2_10	4.6.20/Q.731 [3]	expression	reference
			DLE AND PICS	None
			A.3/9 (MCID)	

Test purpose

Presentation of the address - interaction with MCID.

To verify that the information conveyed in an incoming call (especially the **calling party number** and the additional calling party number in the **generic number**) is registered in the network regardless of whether the calling user has activated the CLIR service or not, if the called user has MCID activated.

Pre-test conditions.

Arrange the data in the IUT such that the called user has activated the MCID supplementary service on a permanent basis.

access SPA SPB <----setup---- <----IAM-----

1. Set up a call to the access with CgPN and addCgPN in the GenNb.

TSS CLIR/	TP ISS_V_2_11	ISUP '97 reference 4.2.1/Q.731 [3]	Selection expression DLE	Q.788 [34] reference None	
Test purpose					

Presentation of the address - called party has override category .

To verify that the **calling party number** and the additional calling party number in the **generic number** are passed to the access regardless of whether the calling user has activated the CLIR service or not if the called user has the override category.

Pre-test conditions.

Arrange the data in the IUT such that the called user has the override category. ${\tt access}$ SPA SPB

<----IAM-----

1. Set up a call to the access with CgPN and addCgPN in the GenNb.

7.3.3 Connected line identification presentation (COLP)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_1	5.5.2.1.1/Q.731 [3]	expression	reference
			OLE	2.3.1

Test purpose

Initiate COLP request.

To verify that the exchange can initiate successfully a call requesting the COLP service in the **optional forward call indicators**.

Pre-test conditions.

Arrange the data in the IUT such that the calling party subscribes to COLP.

access SPA SPA

-----setup----> -----IAM----->

1. Set up a call from the access with a COLP request.

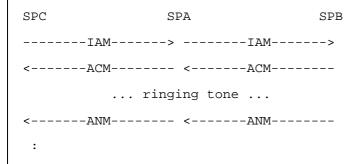
optional forward call in Case a) SPCIAM <acm< th=""><th>relating to COLP. asses on transparently the ndicators (forward direction SPA <acm ringing="" th="" tone<=""><th>on) and the connected nur SPB ></th><th></th><th></th></acm></th></acm<>	relating to COLP. asses on transparently the ndicators (forward direction SPA <acm ringing="" th="" tone<=""><th>on) and the connected nur SPB ></th><th></th><th></th></acm>	on) and the connected nur SPB >		
IAM <acm r<="" td=""><td>>IAM</td><td>></td><td></td><td></td></acm>	>IAM	>		
<acm< td=""><td>ringing tone</td><td></td><td></td><td></td></acm<>	ringing tone			
r	ringing tone			
<anm< td=""><td></td><td></td><td></td><td></td></anm<>				
	<anm< td=""><td></td><td></td><td></td></anm<>			
:				
Case b)				
SPC	SPA	SPB		
<iam< td=""><td> <iam< td=""><td></td><td></td><td></td></iam<></td></iam<>	<iam< td=""><td></td><td></td><td></td></iam<>			
ACM	>ACM	>		
r	ringing tone			
ANM	>ANM	>		
:				
1. The PTC will	assist a call set	up with the expec	ted parameters.	
Case c)				
SPC	SPA	SPB		
<iam< td=""><td> <iam< td=""><td></td><td></td><td></td></iam<></td></iam<>	<iam< td=""><td></td><td></td><td></td></iam<>			
CON	>CON	>		
:				

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_3	5.5.2.3.1/Q.731 [3]	expression	reference
			OutlE	None

Converting the connected number to national format, if necessary.

To verify that the country code in the address signals of the **connected number** is removed if it is the network's own country code. The nature of address indicator shall be set to "national (significant) number", the address presentation restricted indicator and the screening indicator shall be transferred transparently.

Case a)



1. The PTC will initiate a call set up with the expected parameters.

2. Provide ConNb to be passed on having AdSg: TSP_Nb_B with own country code.

Case b)

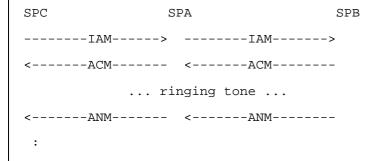


- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide ConNb to be passed on having AdSg: TSP_Nb_B with own country code.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_4	5.5.2.3.1/Q.731 [3]	expression	reference
			OutlE	None

Converting the additional connected number to national format, if necessary.

To verify that the country code in the address signals of the generic number coded as an "additional connected number", if the numbering plan indicator is "ISDN Telephony" is removed if it is the network's own country code. The nature of address indicator shall be set to "national (significant) number", the address presentation restricted indicator and the screening indicator shall be transferred transparently. Case a)



1. The PTC will initiate a call set up with the expected parameters.

2. Provide ConNb: TSP_Nb_B_default and addConNb in GenNb: TSP_GenNb_B to be passed on, both international numbers with the network's own country code.

Case b)

```
SPC
   National SPA International SPB
-----IAM----->
<-----CON------
```

- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide ConNb: TSP Nb B default and addConNb in GenNb: TSP GenNb B to be passed on, both international numbers with the network's own country code.

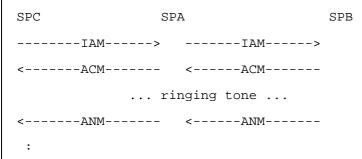
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_I_3_5	5.5.2.3.1/Q.731 [3]	expression	reference
			OutlE AND	None
			PICS A.6/1	

Adding a prefix to an international connected number.

To verify that a prefix is added to the **connected number** and the nature of address indicator is set to "unknown".

The coding "unknown" is a national option (@).

Case a)



- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide an international ConNb with a different country code than the incoming network (foreign CC).

Case b)

SPC SPA SPB -----IAM-----> ----IAM-----> <-----CON------

- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide an international ConNb with a different country code than the incoming network (foreign CC).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_6	5.5.2.4.1/Q.731 [3]	expression	reference
			InclE AND	None
			PICS A.6/2	

Discarding the connected number in case of bilateral agreements.

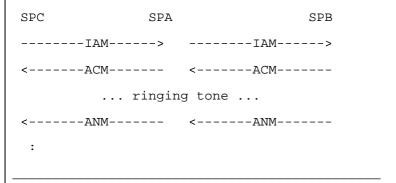
To verify that the **connected number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation allowed".

NOTE: This bilateral agreement prohibits the transferral of the connected number in any case. The test with the address presentation restricted indicator set to "presentation restricted" is a COLR test.

Pre-test conditions.

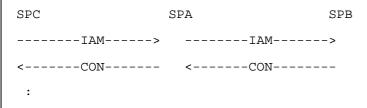
Arrange the data in the IUT so that the connected number is discarded.

Case a)



- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide ConNb to be discarded.

Case b)



- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide ConNb to be discarded.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_7	5.5.2.4.1/Q.731 [3]	expression	reference
		1	InclE AND	None
			PICS A.6/3	

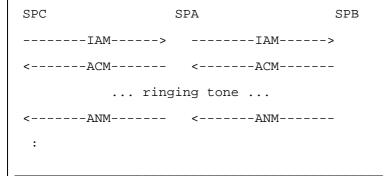
Discarding the additional connected number in case of bilateral agreements.

To verify that the additional connected number in the **generic number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation allowed".

NOTE: This bilateral agreement prohibits the transferral of the additional connected number in the generic number in any case. The test with the address presentation restricted indicator set to "presentation restricted" is a COLR test.

Pre-test conditions.

Arrange the data in the IUT so that the additional connected number in the generic number is discarded. Case a)



- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide ConNb and addConNb in the GenNb to be discarded.

Case b)

 SPC
 SPA
 SPB

 -----IAM----->
 ----IAM----->

 <----CON------</td>
 <----CON------</td>

 :
 ------CON------

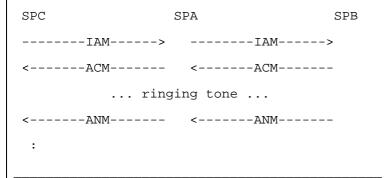
- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide ConNb and addConNb in the GenNb to be discarded.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_8	5.5.2.4.1/Q.731 [3]	expression	reference
			InclE AND	2.3.9
			PICS A.6/4	

Resetting the address signals of the connected number, if they are not to be sent.

To verify that for a **connected number** which is not to be released to the originating network the setting of the address presentation restricted indicator can be changed from "presentation allowed" to "address not available", and that the address signals are reset.

Case a)



- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide ConNb to be reset ("address not available").

Case b)

 SPC
 SPA
 SPB

 -----IAM----->
 <-----CON------</td>

 :
 :

1. The PTC will initiate a call set up with the expected parameters.

2. Provide ConNb to be reset ("address not available").

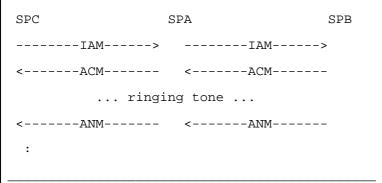
ETSI

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_9	5.5.2.4.1/Q.731 [3]	expression	reference
			InclE	None

Converting the connected number to international format.

To verify that the exchange can convert the connected number into an international number, setting the nature of address indicator to "international number" and can pass on the address presentation restricted indicator and the screening indicator transparently.

Case a)



- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide national (significant) ConNb.

Case b)

SPC SPA SPB -----IAM-----> -----IAM-----> <-----CON------ <-----CON------

- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide national (significant) ConNb.

TSS COLP/	TP ISS_I_3_10	ISUP '97 reference 5.5.2.5.1/Q.731 [3]	Selection expression	Q.788 [34] reference 2.3.8
Test purpose	COI			2.0.0
		f the IUT receives an unsolid	cited COL.	
Case a)	GD.	ann.		
access	SPA	SPB		
_	>IAN			
	<acm< td=""><td>1</td><td></td><td></td></acm<>	1		
• • •	ringing tone			
<connect< td=""><td> <ann< td=""><td>1</td><td></td><td></td></ann<></td></connect<>	<ann< td=""><td>1</td><td></td><td></td></ann<>	1		
:				
1. Set up a cal	ll from the access	s without a COLP red	quest.	
2. No COL reque	est is issued.			
3. Verdict is	"pass" if the call	is correctly set u	ıp.	
Case b)				
access	SPA	SPB		
setup-	>1	TAM>		
<connect< td=""><td>(</td><td>CON</td><td></td><td></td></connect<>	(CON		
:				
1. Set up a cal	l from the access	without a COLP requ	ıest.	
2. No COL reque	st is issued.			
3. Verdict is "]	pass" if the call	is correctly set up	o.	
Case c)				
SPC	SPA	SPB		
<iam< td=""><td> <iam< td=""><td>1</td><td></td><td></td></iam<></td></iam<>	<iam< td=""><td>1</td><td></td><td></td></iam<>	1		
ACM	>ACM	1>		
	ringing tone	-		
	>ANN	1 >		
	, ———AIVIV			
:				
1 mb c pmc 133				
		up with the expect	ted parameters	•
2. No COL reques				
3. Verdict is "	pass" if the call	set up continues.		

TSS COLP/	TP ISS_I_3_10	ISUP '97 reference 5.5.2.5.1/Q.731 [3]	Selection expression	Q.788 [34] reference 2.3.8		
Case d)						
SPC	SPA	SPB				
<iam< td=""><td> <iam-< td=""><td></td><th></th><td></td></iam-<></td></iam<>	<iam-< td=""><td></td><th></th><td></td></iam-<>					
CON	>CON-	>				
:						
1. The PTC will	assist a call set	up with the expect	ted parameters.			
2. No COL reque	2. No COL request is sent.					
3. Verdict is "	pass" if the call s	set up continues.				

TSS COLP/	TP ISS_V_3_11	ISUP '97 reference 5.5.2.5.1 i)/Q.731 [3]	Selection expression DLE	Q.788 [34] reference None
To verify that the IUT c	er provided, verified and pa an provide a connected nu r provided COL is valid.		ndicator set to "user pr	rovided, verified
access	SPA	SPB		
<setup< td=""><td> <iam< td=""><td></td><td></td><td></td></iam<></td></setup<>	<iam< td=""><td></td><td></td><td></td></iam<>			
alert	>ACM	>		
r	inging tone			
connect-	>ANM	>		
:				
- 				
1. Set up a cal	l to the access wit	th a COLP request,	access provide	es valid COL.
Case b)				
access	SPA	SPB		
<setup< td=""><td> <iam< td=""><td></td><td></td><td></td></iam<></td></setup<>	<iam< td=""><td></td><td></td><td></td></iam<>			
connect-	>CON	>		
:				
1. Set up a cal	l to the access wit	th a COLP request,	access provide	es valid COL.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_12	5.5.2.5.1 i)/Q.731 [3]	expression	reference
			DLE AND	2.3.3
			PICS A.3/8 (SUB)	
_				

Connected number (user provided, verified and passed) with connected sub-address.

To verify that the IUT can provide a **connected number** with the screening indicator set to "user provided, verified and passed", if the user provided COL is valid and an **access transport** parameter containing the connected sub-address.

Pre-test conditions.

Arrange the data in the IUT so that the connected party has subscribed to SUB.

Case a)

```
        access
        SPA
        SPB

        <-----setup-----</td>
        <-----IAM------</td>

        -----alert---->
        -----ACM----->

        ... ringing tone ...

        -----connect---->
        ------ANM----->

        :
```

1. Set up a call to the access with a COLP request, access provides valid COL with $\operatorname{sub-address}$.

Case b)

```
        access
        SPA
        SPB

        <-----setup-----</td>
        <----IAM------</td>

        -----connect---->
        :
```

1. Set up a call to the access with a COLP request, access provides valid COL with sub-address.

TSS COLP/	TP ISS_V_3_13	ISUP '97 reference 5.5.2.5.1 ii)/Q.731 [3]	Selection expression DLE	Q.788 [34 reference None
		nected number with the scree	ening indicator set to	"network
access	SPA	SPB		
<setup< td=""><td>> <ian< td=""><td>VI</td><td></td><td></td></ian<></td></setup<>	> <ian< td=""><td>VI</td><td></td><td></td></ian<>	V I		
alert	>ACN	√>		
	ringing tone	• •		
connec	t>ANN	vI>		
connec	t>ANN	V I>		
	t>ANN	M>		
: L. Set up a ca		With a COLP request,	access provid	es invalid
: L. Set up a ca		with a COLP request,	access provid	es invalid
: L. Set up a ca	all to the access v	with a COLP request,	access provid	es invalid
: 1. Set up a ca COL. 2. ScrI set to	all to the access v	with a COLP request,	access provid	es invalid
: L. Set up a ca COL. L. ScrI set to	all to the access v	with a COLP request,	access provid	es invalid
: 1. Set up a ca COL. 2. ScrI set to Case b) access	all to the access we network provided	with a COLP request, d" is implicit. SPB	access provid	es invalid
: 1. Set up a ca COL. 2. ScrI set to Case b) access <setup< td=""><td>all to the access we network provided</td><td>with a COLP request, d" is implicit. SPB</td><td>access provid</td><td>es invalid</td></setup<>	all to the access we network provided	with a COLP request, d" is implicit. SPB	access provid	es invalid
: 1. Set up a cance. 2. ScrI set to Case b) access <setup< td=""><td>all to the access we network provided SPA</td><td>with a COLP request, d" is implicit. SPB</td><td>access provid</td><td>es invalid</td></setup<>	all to the access we network provided SPA	with a COLP request, d" is implicit. SPB	access provid	es invalid

- 2. ScrI set to "network provided" is implicit.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_14	5.5.2.5.1 ii)/Q.731 [3]	expression	reference
			DLE AND	2.3.2
			PICS A.3/8 (SUB)	

Connected number (network provided) with connected sub-address.

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided", if the user provided COL is not valid and an **access transport** parameter containing the connected sub-address.

Pre-test conditions.

Arrange the data in the IUT so that the connected party has subscribed to SUB.

Case a)



1. Set up a call to the access with a COLP request, access provides invalid COL with sub-address.

```
Case b)
```

```
        access
        SPA
        SPB

        <----setup-----</td>
        <----IAM------</td>

        -----connect---->
        :
```

1. Set up a call to the access with a COLP request, access provides valid COL with $\operatorname{sub-address}$.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_15	5.5.2.5.1	expression	reference
		iii)/Q.731 [3]	DLE	None

Connected number (user provided, not verified).

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided" and a **generic number** containing the additional connected number with the screening indicator set to "user provided, not verified".

Pre-test conditions.

Arrange the data in the IUT so that there is a special arrangement from the access signalling system regarding an additional connected number.

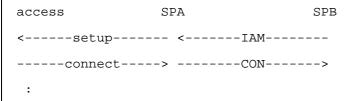
Case a)



1 Set up a call to the access with a COLD request access provides specia

1. Set up a call to the access with a COLP request, access provides special ${\tt COL}$.

Case b)



1. Set up a call to the access with a COLP request, access provides special ${\tt COL}$.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_16	5.5.2.5.1	expression	reference
		iii)/Q.731 [3]	DLE AND	2.3.4
			PICS A.3/8 (SUB)	

Connected number (user provided, not verified) with connected sub-address.

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided", a **generic number** containing the additional connected number with the screening indicator set to "user provided, not verified" and an **access transport** parameter containing the connected sub-address. Pre-test conditions.

Arrange the data in the IUT so that there is a special arrangement from the access signalling system regarding an additional connected number and that the connected party has subscribed to the sub-addressing supplementary service.

Case a)

1. Set up a call to the access with a COLP request, access provides special COL with sub-address.

```
Case b)
```

```
        access
        SPA
        SPB

        <-----setup-----</td>
        <-----IAM------</td>

        -----connect---->
        :
```

1. Set up a call to the access with a COLP request, access provides special COL with sub-address.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLP/	ISS_V_3_17	5.5.2.5.1/Q.731 [3]	expression	reference
			DLE AND	None
			NOT PICS A.6/5	

COL cannot be transferred.

To verify that the address presentation restricted indicator in the **connected number** in **ANM** or in **CON** is set to "presentation restricted" or "address not available" and that the screening indicator shall be set to "network provided" if the COL cannot be transferred.

Pre-test conditions.

Arrange the data in the IUT so that no COL can be transferred.

Case a)

- 1. Set up a call to the access with a COLP request, access doesn't provide the ${\tt COL}$.
- 2. "address not available" ConNb.
- 3. restricted ConNb.

Case b)

 access
 SPA
 SPB

 <-----setup-----</td>
 <-----IAM------</td>

 -----connect---->
 :

- 1. Set up a call to the access with a COLP request, access doesn't provide the ${\tt COL}$.
- 2. "address not available" ConNb.
- 3. restricted ConNb.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]	
COLP/	ISS_V_3_18	5.6.14/Q.731 [3]	expression	reference	
			DLE	None	
T /					

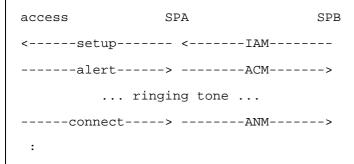
COLP - interaction with MSN.

To verify that an exchange with MSN can provide the connected party multiple subscriber number or full ISDN number as the **connected number** on call answer.

Pre-test conditions.

Arrange the data in the IUT such that the called user has activated the Multiple Subscriber Number (MSN) supplementary service.

Case a)



1. Set up a call to the access with a COLP request.

2. ConNb - full ISDN number; ConNb.AdSg: TSP_Nb_A

ConNb2 - multiple subscriber number; ConNb2.AdSg: TSP_Nb_A_MSN

Case b)



1. Set up a call to the access with a COLP request.

2. ConNb - full ISDN number; ConNb.AdSg: TSP_Nb_A

ConNb2 - multiple subscriber number; ConNb2.AdSg: TSP_Nb_A_MSN

7.3.4 Connected line identification restriction (COLR)

TSS COLR/	ISS V 4 1	ISUP '97 reference 6.5.2.1.1/Q.731 [3]	Selection expression	Q.788 [34] reference
		0.0.2, 0.1 [0]	OLE	None

Test purpose

Presentation of restricted COL.

To verify that a local exchange will not pass the information on to the access signalling system when a **connected number** is received in the ANM or CON and its address presentation restricted indicator is set to "presentation restricted", i.e. that presentation is denied on the user-network interface (UNI). Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to COLP. Case $\,$ a)

access SPA SPB
-----setup-----> -----IAM----->
<-----alert------ <-----ACM-----... ringing tone ...
<-----connect---- <-----ANM-----:

- 1. Set up a call from the access with a COLP request.
- 2. The possible verdicts from observations on access are "failed" or "inconclusive".

Case b)

- 1. Set up a call from the access with a COLP request.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_I_4_2	6.5.2.1.2/Q.731 [3]	expression	reference
			OLE	None

Presentation of restricted COL to "override category" calling user.

To verify that the received **connected number** and optionally the additional connected number in the **generic number** can be conveyed successfully to an "override category" calling user, if the called user has activated the Connected Line Presentation Restriction (COLR) supplementary service.

Pre-test conditions.

Arrange the data in the IUT such that the calling user has an "override category". Case a)

access SPA SPB
-----setup-----> -----IAM----->
<-----alert------ <-----ACM-----... ringing tone ...
<----connect----- <-----ANM-----:

- 1. Set up a call from the access with a COLP request.
- 2. ConNb and addConNb in GenNb.
- 3. The possible verdicts from observations on access are "failed" or "inconclusive"

Case b)

- 1. Set up a call from the access with a COLP request.
- 2. The possible verdicts from observations on access are "failed" or "inconclusive".

TSS COLR/	TP ISS_V_4_3	ISUP '97 reference 6.5.2.2.1/Q.731 [3]	Selection expression Transit	Q.788 [34] reference None
	all pass transparently all	information related to the Connected number and option	OLR supplementary s	ervice in the
SPC	SPA	SPB		
<iam< td=""><td> <iam< td=""><td>1</td><td></td><td></td></iam<></td></iam<>	<iam< td=""><td>1</td><td></td><td></td></iam<>	1		
ACM	>ACM	1>		
	nging tone			
ANM	>ANM	I>		
1. The PTC will 2. ConNb.	assist a call set	up with the expec	ted parameters.	
Case b)				
SPC	SPA	SPB		
CON	>CON	I>		
1. The PTC will 2. ConNb.	assist a call set	up with the expec	ted parameters.	
Case c)				
SPC	SPA	SPB		
<tam< td=""><td> <iam< td=""><td>1</td><td></td><td></td></iam<></td></tam<>	<iam< td=""><td>1</td><td></td><td></td></iam<>	1		
	>ACM	I>		
	ringing tone			
ANM	>ANM	I>		
1. The PTC will 2. ConNb and add		up with the expec	ted parameters.	
Case d)				

TSS COLR/	TP ISS_V_4_3	ISUP '97 reference 6.5.2.2.1/Q.731 [3]	Selection expression Transit	Q.788 [34] reference None
SPC	SPA	SPB		
<iam< td=""><td> <iam-< td=""><td></td><td></td><td></td></iam-<></td></iam<>	<iam-< td=""><td></td><td></td><td></td></iam-<>			
CON	>CON-	>		
:				
1. The PTC will	assist a call set	up with the expec	ted parameters.	
2. ConNb and add	dConNb in GenNb.			

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_V_4_4	6.5.2.4.1/Q.731 [3]	expression	reference
			InclE AND	None
			PICS A.7/1	

Discarding the connected number if the presentation is restricted.

To verify that the **connected number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation restricted".

Pre-test conditions.

Arrange the data in IUT so that the connected number is discarded.

Case a)

1. The PTC will initiate a call set up with the expected parameters.

2. Provide restricted ConNb to be discarded.

Case b)

1. The PTC will initiate a call set up with the expected parameters.

- 2. Provide restricted ConNb to be discarded.

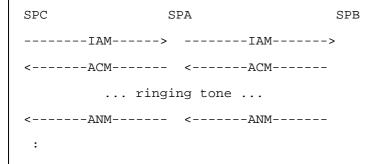
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_V_4_5	6.5.2.4.1/Q.731 [3]	expression	reference
			InclE AND	None
			PICS A.7/2	

Discarding the additional connected number in the generic number if the presentation is restricted.

To verify that the additional connected number in the **generic number** is discarded in case of bilateral agreements, if the address presentation restricted indicator is set to "presentation restricted".

Pre-test conditions.

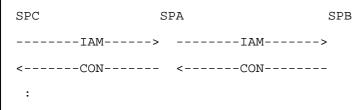
Arrange the data in IUT so that the additional connected number in the generic number is discarded. Case $\,$ a)



1. The PTC will initiate a call set up with the expected parameters.

2. Provide restricted ConNb and restricted addConNb in GenNb to be discarded.

Case b)



1. The PTC will initiate a call set up with the expected parameters.

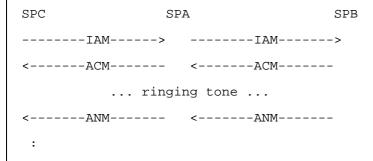
2. Provide restricted ConNb and restricted addConNb in GenNb to be discarded.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_I_4_6	6.5.2.4.1/Q.731 [3]	expression	reference
	i – –		InclE AND	None
			PICS A.7/3	

Resetting the address signals of the connected number, whose release is forbidden.

To verify that for a connected number which is not to be released to the originating network the setting of the address presentation restricted indicator can be changed from "presentation restricted" to "address not available" and that the address signals are reset.

Case a)



1. The PTC will initiate a call set up with the expected parameters.

- 2. Provide restricted ConNb to be reset.

Case b)

SPC SPA SPB -----IAM-----> -----IAM-----> <-----CON------ <-----CON------

- 1. The PTC will initiate a call set up with the expected parameters.
- 2. Provide restricted ConNb to be reset.

TSS COLR/	TP ISS_V_4_7	ISUP '97 reference 6.5.2.5.1/Q.731 [3]	Selection expression DLE	Q.788 [34] reference None
To verify that the IUT and passed" and with provided COL is valid Pre-test conditions.	the address presentation r l.	rified and passed). number with the screening in restricted indicator set to "predicted indicator set to be a party has subscribed to CC	sentation restricted",	
access	SPA	SPB		
<setup-< td=""><td> <iam< td=""><td></td><td></td><td></td></iam<></td></setup-<>	<iam< td=""><td></td><td></td><td></td></iam<>			
alert-	>ACM	>		
	. ringing tone			
connect	>ANM	>		
:				
1. Set up a ca	ll to the access w	ith a COLP request,	access provide	es valid COI
Case b)				

1. Set up a call to the access with a COLP request, access provides valid COL.

SPB

access SPA

<-----IAM------>

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_V_4_8	6.5.2.5.1/Q.731 [3]	expression	reference
			DLE AND	2.3.6
			PICS A.3/8 (SUB)	

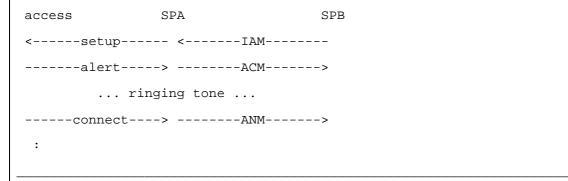
Restricted connected number (user provided, verified and passed) with connected sub-address.

To verify that the IUT can provide a **connected number** with the screening indicator set to "user provided, verified and passed" and with the address presentation restricted indicator set to "presentation restricted", if the user provided COL is valid. Additionally, an **access transport** parameter containing the connected sub-address shall also be provided.

Pre-test conditions.

Arrange the data in the IUT so that the connected party has subscribed to COLR and SUB.

Case a)



1. Set up a call to the access with a COLP request, access provides valid COL with $\operatorname{sub-address}$.

```
Case b)

access SPA SPB

<----setup----- <----IAM------
----connect---->
```

1. Set up a call to the access with a COLP request, access provides valid COL with $\operatorname{sub-address}$.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_V_4_9	6.5.2.5.1/Q.731 [3]	expression DLE	reterence None
Test purpose			DEL	HOHE

Restricted connected number (network provided).

To verify that the IUT can provide a default connected number with the screening indicator set to "network provided" and with the address presentation restricted indicator set to "presentation restricted", if the user provided COL is not

Pre-test conditions.

Arrange the data in the IUT so that the connected party has subscribed to the COLR.

Case a)

```
SPA
                          SPB
access
<-----IAM-----
------alert-----> ------ACM----->
       ... ringing tone ...
-----> ------> ------>
```

1. Set up a call to the access with a COLP request, access provides invalid

COL.

Case b)

```
SPA
                  SPB
access
<-----IAM-----
-----connect---->
```

1. Set up a call to the access with a COLP request, access provides invalid COL.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_V_4_10	6.5.2.5.1/Q.731 [3]	expression	reference
		1	DLE AND	2.3.5
			PICS A.3/8 (SUB)	

Restricted connected number (network provided) with connected sub-address.

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided" and with the address presentation restricted indicator set to "presentation restricted", if the user provided COL is not valid. Additionally, an **access transport** parameter containing the connected sub-address shall also be provided. Pre-test conditions.

Arrange the data in the IUT so that the connected party has subscribed COLR and SUB. Case a)

```
        access
        SPA
        SPB

        <-----setup-----</td>
        <----IAM------</td>

        -----alert----->
        -----ACM----->

        ... ringing tone
        ...

        -----connect----->
        -----ANM----->

        :
```

1 Cot up a call to the aggoes with a COLD magnest aggoes provides invalid

- 1. Set up a call to the access with a COLP request, access provides invalid ${\hbox{\footnotesize COL}}$ with sub-address.
- 2. ScrI "network provided" is implicit.

Case b)

 access
 SPA
 SPB

 <-----setup-----</td>
 <-----IAM------</td>

 -----connect---->
 :

- 1. Set up a call to the access with a COLP request, access provides invalid ${\tt COL}$ with ${\tt sub-address}$.
- 2. ScrI "network provided" is implicit.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_V_4_11	6.5.2.5.1/Q.731 [3]	expression	reference
			DLE	None

Restricted connected number (user provided, not verified).

To verify that the IUT can provide a default **connected number** with the screening indicator set to "network provided" and a **generic number** containing the additional connected number with the screening indicator set to "user provided, not verified" - both having the address presentation restricted indicator set to "presentation restricted". Pre-test conditions.

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional connected number and that the connected party has subscribed to COLR.

Case a)

```
        access
        SPA
        SPB

        <-----setup-----</td>
        <-----IAM------>

        -----alert---->
        ... ringing tone ...

        -----connect---->
        ------ANM----->

        :
        ...
```

1. Set up a call to the access with a COLP request, access provides special $_{\rm COL}$

```
      Case b)

      access
      SPA
      SPB

      <----setup-----</td>
      <----IAM------</td>

      -----connect---->
      <------</td>
```

1. Set up a call to the access with a COLP request, access provides special ${\tt COL}$.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
COLR/	ISS_V_4_12	6.5.2.5.1/Q.731 [3]	expression	reference
			DLE AND	2.3.5
			PICS A.3/8 (SUB)	

Restricted connected number (user provided, not verified) with connected sub-address.

To verify that the IUT can provide a default **calling party number** with the screening indicator set to "network provided", a **generic number** containing the additional connected number with the screening indicator set to "user provided, not verified" - both having the address presentation restricted indicator set to "presentation restricted" and additionally an **access transport** parameter containing the connected sub-address.

Pre-test conditions.

Arrange the data in IUT so that there is a special arrangement from the access signalling system regarding an additional connected number and that the connected party has subscribed to COLR and SUB.

Case a)

```
        access
        SPA
        SPB

        <-----setup-----</td>
        <----IAM------</td>

        -----alert---->
        ... ringing tone ...

        -----connect---->
        -----ANM----->

        :
```

1. Set up a call to the access with a COLP request, access provides special COL with sub-address.

1. Set up a call to the access with a COLP request, access provides special COL with sub-address.

7.3.5 Terminal portability (TP)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
TP/	ISS_V_5_1	4.5.2.1.1	expression	reference
		a)/Q.733 [38]	OLE	2.12.1

Test purpose

Terminal portability, requested by the calling party.

To verify that the calling party can suspend and resume an outgoing call and that user initiated **SUS** and **RES** messages are sent to the succeeding exchange.

Pre-test conditions.

Arrange the data in the IUT so that the calling party subscribes to the Terminal portability service. access SPA SPB

1. Set up a call from SPA to SPB.

- 2. Suspend the call by the calling party (ISDN subscriber).
- 3. Resume the call by the calling party (ISDN subscriber).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
TP/	ISS_V_5_2	4.5.2.1.1	expression	reference
		b)/Q.733 [38]	OLE	2.12.1

Terminal portability, requested by the called party.

To verify that IUT informs the calling party that a suspend and a resume have been requested by the called party upon receipt of user initiated **SUS** and **RES** messages.

- 1. Set up a call from SPA to SPB.
- 2. Suspend the call by the called party (ISDN subscriber).
- 3. Resume the call by the called party (ISDN subscriber).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
TP/	ISS_I_5_3	4.5.2.1.2/Q.733 [38]	expression	reference
			Local	2.12.2

Terminal portability, requested by local served user, no Resume after Suspend.

To verify that the call is released with cause #102 (recovery on timer expiry) by the IUT if timer T2 expires because the local served user does not resume the call.

Pre-test conditions.

Arrange the data in the IUT so that the local user subscribes to the Terminal portability service.



- 1. Set up a call from SPA to SPB.
- 2. Suspend the call by the calling party (ISDN subscriber).
- 3. Check if the call is released with cause #102.

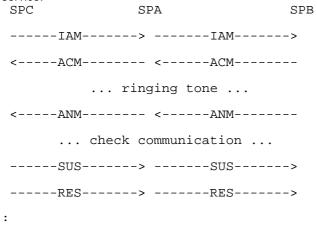
TSS TP/	TP ISS_V_5_4	ISUP '97 reference 4.5.2.1.1/Q.733 [38]	Selection expression Local	Q.788 [34] reference None
Test purpose Terminal portability, rele To verify that a suspend Case a)	ease suspended call. ded call can be released by	the IUT, if the local user o	r the remote user rele	eases the call.
access	SPA	SPB		
setup	>IAM	>		
<alert< td=""><td> <acm< td=""><td></td><td></td><td></td></acm<></td></alert<>	<acm< td=""><td></td><td></td><td></td></acm<>			
1	ringing tone			
<connect< td=""><td> <anm< td=""><td></td><td></td><td></td></anm<></td></connect<>	<anm< td=""><td></td><td></td><td></td></anm<>			
chec	ck communication			
tp-suspend	d>SUS	>		
disconnect	>REL	>		
1. Set up a call	l from SPA to SPB.			
2. Suspend the	call by the calling	g party (ISDN subs	criber).	
3. Release the s	suspended call by t	the local user.		
Case b)				
access	SPA	SPB		
setup	>IAM	>		
<alert< td=""><td> <acm< td=""><td></td><td></td><td></td></acm<></td></alert<>	<acm< td=""><td></td><td></td><td></td></acm<>			
	ringing tone			
<connect-< td=""><td> <anm< td=""><td></td><td></td><td></td></anm<></td></connect-<>	<anm< td=""><td></td><td></td><td></td></anm<>			
che	eck communication .			
tp-suspend	d>SUS	>		
<disconnect< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></disconnect<>	<rel< td=""><td></td><td></td><td></td></rel<>			
:				
1. Set up a call	l from SPA to SPB.			

- 2. Suspend the call by the calling party (ISDN subscriber).
- 3. Release the suspended call by the remote user.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
TP/	ISS_V_5_5	4.5.2.2.1 a);	expression	reference
		4.5.2.3.1;	IntermE	None
		4.5.2.4.1/Q.733 [38]		

Terminal portability, requested by the calling party (transit call).

To verify that the **SUS** and **RES** messages are passed on transparently by the IUT, if the calling party requests the service.

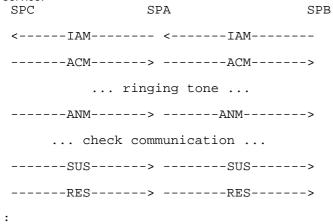


- 1. Set up a call from SPA to SPB.
- 2. Suspend the call by the calling party (ISDN subscriber).
- 3. Resume the call by the calling party (ISDN subscriber).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
TP/	ISS_V_5_6	4.5.2.2.1 b);	expression	reference
		4.5.2.3.1;	IntermE	None
		4.5.2.4.1/Q.733 [38]		

Terminal portability, requested by the called party (transit call).

To verify that the **SUS** and **RES** messages are passed on transparently by the IUT, if the called party requests the service.



- 1. Set up a call from the UNI at SPB.
- 2. The called party at UNI at SPC suspends the call (ISDN subscriber).
- 3. The called party at UNI at SPC resumes the call (ISDN subscriber).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
TP/	ISS_V_5_7	4.5.2.5.1	expression	reference
		a)/Q.733 [38]	DLE	2.12.1

access

Terminal portability, requested by the calling party.

To verify that the IUT informs the called party that suspend and resume have been requested by the calling party upon receipt of user initiated SUS and RES messages. SPB

```
<----setup----- <----IAM-----
----alert----> -----ACM----->
       ... ringing tone ...
----connect---->
     ... check communication ...
<---tp-suspend--- <----SUS-----
<---tp-resume---- <----RES-----
```

- 1. Set up a call from the UNI at SPB.
- 2. The calling party at SPB suspends the call (ISDN subscriber).
- 3. The calling party at SPB resumes the call (ISDN subscriber).

TSS TP TP/ ISS_V_5_8	ISUP '97 reference	Selection	Q.788 [34]
	4.5.2.5.1	expression	reference
	b)/Q.733 [38]	DLE	2.12.1

Terminal portability, requested by the called party.

To verify that the called party can suspend and resume an incoming call and that user initiated **SUS** and **RES** messages are sent to the preceding exchange.

Pre-test conditions.

Arrange the data in the IUT so that the called party subscribes to the Terminal portability service. access SPA SPB

```
<----setup----- <----IAM------->
-----alert-----> -----ACM------>
... ringing tone ...
-----connect----> -----ANM----->
... check communication ...
----tp-suspend--> -----SUS----->
----tp-resume---> -----RES----->
.
```

1. Set up a call from the UNI at SPB.

- 2. The called party at UNI at SPA suspends the call (ISDN subscriber).
- 3. The called party at UNI at SPA resumes the call (ISDN subscriber).

TSS NO_TP/	TP ISS_I_5_9	ISUP '97 reference 4.5.2.3.2; 4.5.2.4.2/Q.733 [38]	Selection expression Gateway AND NOT PICS A.3/5 AND PICS A.8/1	Q.788 [34] reference None

Terminal portability, national network does not support the service.

To verify that the **SUS** and **RES** messages are discarded by the IUT without notification if the served user requests suspend and resume, but the national network does not support the Terminal portability service.

SPC	Ç	SPA	Ą			SPB
<	-IAM	-	<i< td=""><td>\M−-</td><td></td><td></td></i<>	\M−-		
	-ACM	>	A(CM-		->
	rin	ngi	ing tone		•	
	-ANM	>	A1	JM		->
	check	CC	ommunicat	ioi	n	
	-SUS	>				
			Nothing	is	obsei	cved
	-RES	>				
:						

1. Set up a call from the UNI at SPB.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
TP/	ISS_V_5_10	4.6.13.3/Q.733 [38]	expression	reference
			Local AND	None
			PICS A.9/8	

Terminal portability, request for UUS3 while call is suspended.

To verify that a request for User-to-user signalling service 3 is rejected by the IUT if the call is currently suspended and if the IUT is the suspend controlling exchange.

Pre-test conditions.

Arrange the data in the IUT so that the local user subscribes both to the Terminal portability service and to the User-to-user signalling service 3.

- 1. Set up a call from the UNI at SPB.
- 2. The called party suspends the call (ISDN subscriber).
- 3. The called party resumes the call (ISDN subscriber).

7.3.6 User-to-user signalling (UUS)

7.3.6.1 User-to-user signalling service 1 (UUS1)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_I/	ISS_V_6_1_1	1.1.2.1/Q.737 [39]	expression	reference
			OLE AND PICS	None
			A.9/1	

Test purpose

32 octets user-to-user information.

To verify that the IUT can successfully initiate a call having 32 octets of **user-to-user information** in the messages related to the set up or the release of the call.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. ${\tt access}$ SPA SPB

1. Set up a call from UNI at SPA to SPB with 32 octets of user-to-user information.

---->

TSS UUS/UUS1_I/	TP ISS_V_6_1_2	ISUP '97 reference 1.1.5.2.1.1.1; 1.1.5.2.1.1.3;	Selection expression OLE OR IntermE	Q.788 [34] reference 2.15.1
		1.1.5.2.2-		
		4.1/Q.737 [39]		

UUS1 implicit - request.

To verify that the IUT can successfully initiate/transit a call with an UUS 1 implicit request, having the **user-to-user information** parameter in the **IAM**, without the **user-to-user indicators** parameter.

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)

1. Set up a call from UNI at SPA to SPB with user-to-user information.

Case b)

1. Set up a call from UNI at SPA to SPB with user-to-user information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_I/	ISS_I_6_1_3	1.1.5.2.5.2.3;	expression	reference
		1.1.5.2.2-	OLE OR IntermE	2.15.2
		4.2/Q.737 [39]		

UUS1 implicit - discarded with indication received.

To verify that the IUT can, after successfully initiating/transiting a call with an UUS1 implicit request, continue normal call set up if the first backward message is received with the **user-to-user indicators** set to "user-to-user information discarded by the network".

NOTE: The user-to-user information is discarded because the following network does not support it. Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)

- 1. Set up a call from UNI at SPA to SPB with user-to-user information.
- 2. First backward message with user-to-user indicators set to "UUInf discarded by the network".

- 1. Set up a call from UNI at SPA to SPB with user-to-user information.
- 2. First backward message with user-to-user indicators set to "UUInf discarded by the network".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_I/	ISS_I_6_1_4	1.1.5.2.5.2.3;	expression	reference
		1.1.5.2.3-5.2	OLE OR IntermE	None
		/Q.737 [39]		

UUS1 implicit - discarded but no indication received.

To verify that the IUT can successfully initiate/transit a call with an UUS1 implicit request, and complete the call if no indication is provided in the backward direction.

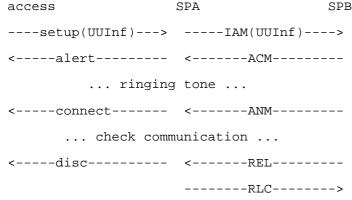
NOTE: The user-to-user information is discarded because:

- 1) the remote network is unable to pass the service 1 in any message.
- 2) the remote user may not be able to interpret incoming UUS information.

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

Case a)



- 1. Set up a call from UNI at SPA to SPB with user-to-user information.
- 2. No indication in the first backward message.

Case b)

- 1. Set up a call from UNI at SPA to SPB with user-to-user information.
- 2. No indication regarding UUS1 in the first backward message.

TSS UUS/UUS1_I/	TP ISS_V_6_1_5	ISUP '97 reference 1.1.5.2.1.1.1; 1.1.5.2.1.1.3; 1.1.5.2.3-	Selection expression IntermE OR DLE	Q.788 [34] reference 2.15.1
!		5.1/Q.737 [39]	ļ	

UUS1 implicit - acceptance.

To verify that the IUT can successfully transit/accept a call with an UUS1 implicit request, and transfer/include the user-to-user information parameter in the ACM, CPG, ANM, CON, SGM or REL as implicit acceptance (no user-to-user indicators).

Pre-test conditions (in case of DLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)

1. Set up a call from UNI at SPB to SPA with user-to-user information.

Case b)

1. Set up a call from UNI at SPB to SPA with user-to-user information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/NO_UUS1_I/	ISS_I_6_1_6	1.1.5.2.5.2.3;	expression	reference
		1.1.5.2.3-	IntermE OR DLE	2.15.2
		5.2/Q.737 [39]		

UUS1 implicit - discard with indication generated.

To verify that the IUT can successfully transit/accept a call with an UUS1 implicit request and set the **user-to-user indicators** to "user-to-user information discarded by the network" in the first backward message, if the network is unable to support it.

NOTE: The user-to-user information is discarded because the network does not support it.

Pre-test conditions.

Arrange the data in the IUT such that the network does not support the UUS1 service.

Case a)

1. Set up a call from UNI at SPB to SPA with user-to-user information.

2. Check "user-to-user information discarded by the network" in the first backward message (ACM).

Case b)

1. Set up a call from UNI at SPB to SPC with user-to-user information.

2. Check "user-to-user information discarded by the network" in the first backward message (ACM).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_7	1.1.5.2.1.1.2;	expression	reference
		1.1.5.2.2-	OLE OR IntermE	2.15.3
		4.1/Q.737 [39]		

UUS1 explicit non-essential - request.

To verify that the IUT can successfully initiate/transit a call with an UUS1 explicit non-essential request, by including/transferring the **user-to-user information** parameter and the **user-to-user indicators** in the **IAM** set to "request, not essential".

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)

- 1. Set up a call from UNI at SPA to SPB with user-to-user information.
- 2. Check that the Service 1 field in the UUInd is set to "request, not essential".

Case b)

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1 field in the UUInd is set to "request, not essential".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_I_6_1_8	1.1.5.2.5.2.3;	expression	reference
		1.1.5.2.2-	OLE OR IntermE	2.15.5
		4.2/Q.737 [39]		

UUS1 explicit non-essential - explicit rejection received.

To verify that the IUT can successfully initiate/transit a call with an UUS1 explicit non-essential request, and continue normal call set up if the UUS1 service is explicitly rejected (the **user-to-user indicators** parameter is received as "service not provided" in the **ACM** or **CPG** or **ANM** or **CON** or **REL**).

NOTE: The user-to-user information is discarded because:

- 1) the network is unable to pass the explicit service 1 in any message.
- 2) the remote user may not be able to interpret incoming UUS information.

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service.

Case a)

access	SPA	SPB	
setup(UUInf)	IAM(UUInf)	-> UUS1 explicit request	
<alert(uuind)< td=""><td>- <acm(uuind)< td=""><td> UUS1 explicit response</td></acm(uuind)<></td></alert(uuind)<>	- <acm(uuind)< td=""><td> UUS1 explicit response</td></acm(uuind)<>	UUS1 explicit response	
ringing	g tone		
<anm< td=""></anm<>			
check comm			
<disc< td=""><td>- <rel< td=""><td></td></rel<></td></disc<>	- <rel< td=""><td></td></rel<>		
	RLC	->	

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check the Service 1 field in the UUInd is set to "request, not essential".
- 3. Send the response "Service not provided" in the ACM.

 Case b)
 SPB

 -----IAM(UUInf)---->
 -----IAM(UUInf)---->
 UUS1 explicit request

 <-----ACM(UUInd)-----</td>
 UUS1 explicit response

 ... ringing tone ...
 ------ANM------

 ... check communication ...
 ------REL------

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check the Service 1 field in the UUInd is set to "request, not essential".
- 3. Send the response "Service not provided" in the ACM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_I_6_1_9	1.1.5.2.5.2.3;	expression	reference
		1.1.5.2.2-	OLE OR IntermE	2.15.4
		4.2/Q.737 [39]		

UUS1 explicit non-essential - implicit (no explicit) rejection received.

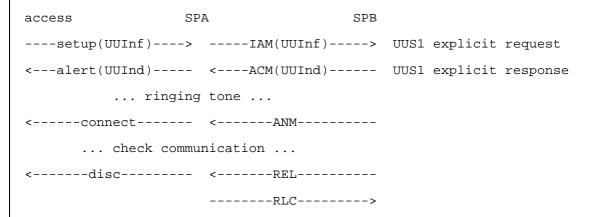
To verify that the IUT can successfully initiate/transit a call with an UUS1 explicit non-essential request, and continue normal call set up if no indication is provided in the backward direction.

NOTE: The user-to-user information is discarded because:

- 1) the network is unable to pass the explicit service 1 in any message.
- 2) the remote user may not be able to interpret incoming UUS information.

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)



- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check the Service 1 field in the UUInd is set to "request, not essential".
- 3. Send the response "no information" in the ACM.

 Case b)

 SPC
 SPA
 SPB

 -----IAM(UUInf)---->
 UUS1 explicit request

 <-----ACM(UUInd)-----</td>
 UUS1 explicit response

 ... ringing tone ...
 ...

 <-----CON-------</td>
 <-----ANM-------</td>

 ... check communication ...
 <------REL-------</td>

 <------REL--------</td>
 -------REL--------

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check the Service 1 field in the UUInd is set to "request, not essential".
- 3. Send the response "no information" in the ACM.

UUS/UUS1_E/ ISS_I_6_1_10

UUS1 explicit non-essential rejection in Gateway.

To verify that the UUS1 explicit non-essential service can be rejected and the **user-to-user indicators** are in the **ACM** or **CON** set to "service 1 not provided".

NOTE: The user-to-user service is rejected because:

- 1) the gateway received a **CFN** from the succeeding network (note 3 table 1-1).
- 2) the gateway has received **user-to-user information** in the **SGM** (Basic call PICS A.13/7) and the succeeding network does not support the segmentation procedure (note 2 table 1-1).

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The Service 1 field in the UUInd is set to "request, not essential".
- 3. Check the response "Service not provided" in the ACM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_11	1.1.5.2.1.1.2;	expression	reference
		1.1.5.2.3-	IntermE OR DLE	2.15.3
		5.1/Q.737 [39]		

UUS1 explicit non-essential - acceptance.

To verify that the IUT can successfully transit/accept a call with an UUS1 explicit non-essential request, by transferring/including the **user-to-user indicators** parameter in the **ACM, CPG, ANM, CON** or **REL** set to "service provided".

Pre-test conditions (in case of DLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)

```
      access
      SPA
      SPB

      <-----setup(UUInf)----</td>
      <----IAM(UUInf)-----</td>
      UUS1 explicit request

      -----alert(UUInf)---->
      -----ACM(UUInf)---->
      UUS1 explicit response

      ... ringing tone ...

      -----connect(UUInf)---->
      ------ANM(UUInf)---->

      ... check communication ...

      <-----disc(UUInf)-----</td>
      <-----REL(UUInf)-----</td>

      -------RLC------>
```

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The Service 1 field in the UUInd is set to "request, not essential".
- 3. Check the response "Service provided" in the ACM.

Case b)

SPC	SPA	SPB
<iam(uuinf)< td=""><td> <iam(uuinf)< td=""><td> UUS1 explicit request</td></iam(uuinf)<></td></iam(uuinf)<>	<iam(uuinf)< td=""><td> UUS1 explicit request</td></iam(uuinf)<>	UUS1 explicit request
ACM(UUInd)	->ACM(UUInd)	> UUS1 explicit response
rir	nging tone	
CON(UUInf)	->ANM(UUInf)	>
check co	ommunication	
<rel(uuinf)< td=""><td> <rel(uuinf)< td=""><td></td></rel(uuinf)<></td></rel(uuinf)<>	<rel(uuinf)< td=""><td></td></rel(uuinf)<>	
	RLC	>

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The Service 1 field in the UUInd is set to "request, not essential".
- 3. Check the response "Service provided" in the ACM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/NO_UUS1_E/	ISS_I_6_1_12	1.1.5.2.5.2.2;	expression	reference
		1.1.5.2.2-	IntermE OR DLE	2.15.4
		5.2/Q.737 [39]		

UUS1 explicit non-essential - implicit (no explicit) rejection sent.

To verify that the IUT can transfer/accept a call with an UUS1 explicit non-essential request, and reject the service by not providing any **user-to-user indicators** parameter in the **ACM**, **CPG**, **ANM**, **CON** or **REL**.

NOTE: The network or the user cannot support UUS1.

Pre-test conditions (in case of DLE).

Arrange the data in the IUT so that the network cannot support UUS1.

Case a)

access	SPA	SPB	
<setup(uuin< td=""><td>f) <ia< td=""><td>M(UUInf) UUS</td><td>1 explicit request</td></ia<></td></setup(uuin<>	f) <ia< td=""><td>M(UUInf) UUS</td><td>1 explicit request</td></ia<>	M(UUInf) UUS	1 explicit request
alert	>	ACM>	
	ringing tone		
connect-	>	ANM>	
che	ck communication	•••	
<disc< td=""><td></td><td>REL</td><td></td></disc<>		REL	
		RLC>	

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The Service 1 field in the UUInd is set to "request, not essential".
- 3. Check that there is no user-to-user indicators parameter in the ACM.

Case b)

SPC	SPA	SPB
<iam(uuinf)< td=""><td>- <iam(uuinf)< td=""><td> UUS1 explicit request</td></iam(uuinf)<></td></iam(uuinf)<>	- <iam(uuinf)< td=""><td> UUS1 explicit request</td></iam(uuinf)<>	UUS1 explicit request
ACM	>ACM	>
rin	ging tone	
CON	>ANM	>
check c	ommunication	
<rel< td=""><td>- <rel< td=""><td></td></rel<></td></rel<>	- <rel< td=""><td></td></rel<>	
	RLC	>

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The Service 1 field in the UUInd is set to "request, not essential".
- 3. Check that there is no user-to-user indicators parameter in the ACM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_13	1.1.5.2.1.1.2;	expression	reference
		1.1.5.2.2-	OLE OR IntermE	2.15.3
		5.1/Q.737 [39]		

Case b)

UUS1 explicit essential - request.

To verify that the IUT can successfully originate/transit a call having an UUS1 explicit essential request, by including/transferring in the **IAM** the **user-to-user information** parameter, the **user-to-user indicators** set to "request, essential" and the ISDN user part preference indicator in the **forward call indicators** set to "ISUP required all the way".

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1 field in UUInd is set to "request, essential" and the ISDN user part preference indicator in FCI is set to "ISUP required all the way".

```
SPC SPA SPB

----IAM(UUInf)----> ----IAM(UUInf)----> UUS1 explicit request

<---ACM(UUInf)---- <----ACM(UUInf)----- UUS1 explicit response
... ringing tone ...
```

```
... check communication ...
<---REL(UUInf)----- <----REL(UUInf)----
------RLC----->
```

<---CON(UUInf)----- <---ANM(UUInf)----

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1 field in UUInd is set to "request, essential" and the ISDN user part preference indicator in FCI is set to "ISUP required all the way".

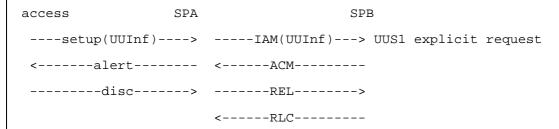
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_I_6_1_14	1.1.5.2.5.2.2;	expression	reference
		1.1.5.2.2-	OLE OR Gateway	None
		5.2/Q.737 [39]		

UUS1 explicit essential - implicit rejection (no explicit acceptance received).

To verify that the service can be rejected if no indication (no **user-to-user indicators** parameter or the service 1 field in the **user-to-user indicators** set to "no information" or "not provided") is received in the first backward message (implicit rejection of service 1).

NOTE: The network does not understand the service 1 request. In this case the call should be released. Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)



- 1. Set up a call UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1 field in UUInd is set to "request, essential" and the ISDN user part preference indicator in FCI is set to "ISUP required all the way".
- 3. The call should be released with cause #29 or #69, because the user-to-user indicators parameter in the ACM is received with "no information" about the service 1.

Case b)

 SPC
 SPA
 SPB

 -----IAM(UUInf)-->
 ----IAM(UUInf)-->
 UUS1 explicit request

 <-----ACM------</td>
 <-----ACM------</td>

 <-----REL------>
 <-----REL----->

 ------RLC------>
 <------RLC------</td>

- 1. Set up a call UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1 field in UUInd is set to "request, essential" and the ISDN user part preference indicator in FCI is set to "ISUP required all the way".
- 3. The call should be released with cause #29 or #69, because the user-to-user indicators parameter in the ACM is received with "no information" about the service 1.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_15	1.1.5.2.1.1.2;	expression	reference
		1.1.5.2.2-	DLE OR IntermE	2.15.3
		5.1/Q.737 [39]		

UUS1 explicit essential - acceptance.

To verify that the IUT can successfully complete a call with an UUS1 explicit essential request having the **user-to-user indicators** parameter in the **ACM**, **CPG**, **ANM**, **CON** or **REL** set to "service provided". Pre-test conditions (in case of DLE).

Arrange the data in the IUT so that the user has subscribed to the UUS1 supplementary service. Case a)

```
      access
      SPA
      SPB

      <----setup(UUInf)----</td>
      <----IAM(UUInf)-----</td>
      UUS1 explicit request

      ----alert(UUInf)--->
      ----ACM(UUInf)---->
      UUS1 explicit response

      ... ringing tone ...

      ----connect(UUInf)--->
      -----ANM(UUInf)----->

      ... check communication ...

      <----disc(UUInf)-----</td>
      <-----REL(UUInf)------</td>
```

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The Service 1 field in the UUInd is set to "request, essential".
- 3. Check the response "Service provided" in the ACM.

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The Service 1 field in the UUInd is set to "request, essential".
- 3. Check the response "Service provided" in the ACM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/NO_UUS1_E/	ISS_I_6_1_16	1.1.5.2.5.2.2;	expression	reference
		1.1.5.2.2-	DLE OR IntermE	2.15.6;
		5.2/Q.737 [39]		2.15.7

UUS1 explicit essential - rejection.

To verify that the service can be rejected with a **REL** having the **Cause value** 29 "facility rejected" or 69 "requested facility not implemented", either with diagnostics (specifying the name of the user-to-user indicator parameter).

NOTE: The network or the called user cannot support the service.

Case a)

 access
 SPA
 SPB

 <----setup(UUInf)---</td>
 <---IAM(UUInf)----</td>
 UUS1 explicit request

 ----disc------>
 <-----REL------>

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The call should be released with cause #29 or #69.

Case b)

 SPC
 SPA
 SPB

 <----IAM(UUInf)----</td>
 <----IAM(UUInf)----</td>
 UUS1 explicit request

 ------REL------>
 <-----REL----->

 <-----RLC-------</td>
 <------RLC-------</td>

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The call should be released with cause #29.

Case c)

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The call should be released with cause #69.

TSS UUS/UUS1_E/	TP ISS_V_6_1_17	ISUP '97 reference 1.1.6.13.2; 1.1.6.13.3/Q.737 [39]	Selection expression Local AND (PICS A.9/6 OR PICS A.9/8)	Q.788 [34] reference None	
Test purpose UUS1 interaction with UUS2 (or UUS3) - successful request.					

To verify that more than one UUS supplementary service may be requested at call set up.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.

Case a)

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1, 2 fields in UUInd are set each to "request, not essential".
- 3. Support of Service 2

1. Set up a call from UNI at SPB to SPA with user-to-user information and

TSS TP UUS/UUS1_E/ ISS_V_6_1_17	ISUP '97 reference 1.1.6.13.2; 1.1.6.13.3/Q.737 [39]	Selection expression Local AND (PICS A.9/6 OR PICS A.9/8)	Q.788 [34] reference None
---------------------------------	--	---	---------------------------------

user-to-user service indicators.

- 2. The Service 1, 3 fields in UUInd are set each to "request, not essential"
- 3. Support of Service 3.

TSS UUS/UUS1_E/	TP ISS_V_6_1_18	ISUP '97 reference 1.1.6.13.2; 1.1.6.13.3/Q.737 [39]	Selection expression DLE AND (PICS A.9/6 OR	Q.788 [34] reference None
			PICS A.9/8)	

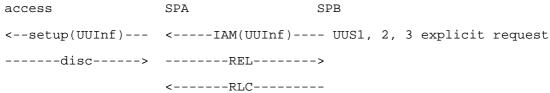
Test purpose

UUS1 interaction with UUS2 (or UUS3) - unsuccessful request.

To verify that the services can be rejected with a **REL** having the **Cause value** # 29 "facility rejected" or # 69 "requested facility not implemented", either with diagnostics (**user-to-user indicators** name), if more services are requested, one of them is essential and it cannot be provided.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.



- 1. Set up a call UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The call should be released with cause #29 or #69, because the service 2 cannot be provided.

TSS UUS/UUS1_E/	TP ISS_V_6_1_19	ISUP '97 reference 1.1.6.13.2; 1.1.6.13.3/Q.737 [39]	Selection expression Local AND (PICS A.9/6 OR PICS A.9/8)	Q.788 [34] reference None
		dent acceptance or rejectio		having the

To verify that the IUT can successfully complete a call with an UUS1 explicit non-essential request, having the **user-to-user indicators** parameter in the **ACM**, **CPG**, **ANM**, **CON** or **REL** set to "service provided". At the same time the UUS2 (or UUS3) service can be rejected and the **user-to-user indicators** in the **ACM**, **CPG**, **ANM**, **CON** or **REL** are set to "service 2 (or 3) not provided".

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.

Case a)

```
      access
      SPA
      SPB

      ----setup(UUInf)--->
      ----IAM(UUInf)--->
      UUS1, 2, 3 explicit request

      <----alert(UUInf)----</td>
      <----ACM(UUInf)----</td>
      UUS1, 2 explicit response

      ... ringing tone ...
      -----USR-------

      <----user info----->
      <-----USR-------</td>

      <----user info-----</td>
      <-----ANM(UUInf)----</td>
      UUS 3 explicit response

      ... check communication ...

      <-----disc(UUInf)----</td>
      <-----REL(UUInf)----</td>

      -------RLC------>
```

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1, 2, 3 fields in UUInd are set each to "request, not essential".
- 3. Support of Service 2.

Case b)

```
      access
      SPA
      SPB

      <----setup(UUInf)----</td>
      <---IAM(UUInf)----</td>
      UUS1, 2, 3 explicit request

      ----alert(UUInf)---->
      ----ACM(UUInf)---->
      UUS1, 2 explicit response

      ... ringing tone ...
      -----USR-------------

      -----user info----->
      ------USR------>

      -----connect(UUInf)--->
      -----ANM(UUInf)---->
      UUS 3 explicit response

      ... check communication ...

      <-----disc(UUInf)----</td>
      <----REL(UUInf)----</td>

      ------RLC------>
```

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. The Service 1, 2, 3 fields in UUInd are set each to "request, not essential".
- 3. Support of Service 2.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_20	1.1.6.13.3;	expression	reference
		1.1.6.13.1/Q.737 [39]	Local AND	None
			PICS A.9/8	

UUS1 interaction with UUS3 requested after call set up.

To verify that the IUT can successfully originate/complete a call with UUS1, having requested UUS3 after call set up. The Service 1 field in the **user-to-user indicators** in the **FAR, FAA** or **FRJ** for UUS1 is then set to "no information". Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS3 supplementary services. Case a)

- 1. Set up a call from UNI at SPA to SPB with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1 fields in UUInd is set to "request, not essential".
- 3. Check request of service 3 in FAR.

Case b)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_20	1.1.6.13.3;	expression	reference
		1.1.6.13.1/Q.737 [39]	Local AND	None
			PICS A.9/8	

----user-info----> -----USR----->
<----disc(UUInf)---- <----REL(UUInf)----------RLC------>

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service indicators.
- 2. Check that the Service 1 fields in UUInd is set to "request, not essential".
- 3. The service 3 is requested in FAR.
- 4. The service 3 is provided in FAA.
- 4. Send/Receive user-to-user information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_21	1.1.6.15/Q.737 [39]	expression	reference
			Local AND PICS A.3/16 (HOLD)	None

Test purpose

UUS1 interaction with HOLD - to a held party.

To verify that the IUT can successfully complete a call including an **user-to-user information** (service 1) to a held party during the clearing phase of a call.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS1 and HOLD supplementary services. ${\tt access}$ ${\tt SPA}$ ${\tt SPB}$

- 1. IAM, ACM, CPG may contain UUInf.
- 2. Check that UUInf is received in the REL.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_22	1.1.6.15/Q.737 [39]	expression	reference
			Local AND PICS	None
			A.3/16 (HOLD)	
Test purpose				

UUS1 interaction with HOLD - from a held party.

To verify that the IUT can successfully complete a call including an **user-to-user information** (service 1) from a held party during the clearing phase of a call.

Pre-test conditions.

Arrange the data in the IUT so that the remote user has subscribed to the UUS1 and HOLD supplementary services. access SPA SPB

```
<-----setup----- <-----IAM------
-----alert----> ------ACM----->
... ringing tone ...
------hold-----> ------CPG----->
<-----disc----- <-----REL----- UUInf present
```

---->

- 1. IAM, ACM, CPG may contain UUInf.
- 2. Send UUInf in the REL.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_23	3.6.13/Q.733.3 [14]	expression	reference
			OLE AND	None
			PICS A.3/18	

Test purpose

New UUS1 requested in CCBS recall.

To verify that the IUT does not store any user-to-user information contained in the original call. The CCBS call (IAM) sent by the IUT should not contain any user-to-user information if no new user-to-user information is provided from the served user in response to the CCBS recall.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS1 and CCBS supplementary services.

- 1. Set up a call to busy user at SPB. The received IAM contains UUInf.
- 2. User at SPB is found busy. Check that the UUInf is received in the IAM.

	'97 reference Selection 3/Q.733.3 [14] expression OLE AND PICS A.3/18	Q.788 [34] reference None
--	--	---------------------------------

- 3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE operation.
- 4. Check Indication "CCBS call" in the IAM. Check that no UUInf is received in the IAM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS1_E/	ISS_V_6_1_24	3.6.13/Q.733.3 [14]	expression	reference
			OLE AND	None
			PICS A.3/18	

UUS1 interaction with CCBS.

To verify that the IUT is able to include user-to-user information in the CCBS call (IAM) if the served user includes user-to-user information in response to the CCBS recall.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS1 and CCBS supplementary services.

- 1. Set up a call to busy user at SPB.
- 2. User at SPB is found busy.
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE operation.
- $4.\ \, \text{Check Indication}$ "CCBS call" in the IAM. Check that UUInf is received in the IAM.

7.3.6.2 User-to-user signalling service 2 (UUS2)

TSS TP ISUP '97 reference UUS/UUS2/ ISS_V_6_2_1 1.2.2.1/Q.737 [39]	expression OLE AND PICS A.9/1	Q.788 [34] reference None
--	-------------------------------------	---------------------------------

Test purpose

32 octets user-to-user information.

To verify that the IUT can successfully initiate a call having 32 octets of **user-to-user information** in the USR messages during call set up.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

 access
 SPA
 SPB

 -----setup------>
 -----IAM------>
 UUS2 explicit request

 <-----alert------</td>
 <-----ACM------</td>
 UUS2 response

 ... ringing tone ...
 ------USR------->

 <-----user info-----</td>
 <------USR-------</td>

 <------connect------</td>
 <------ANM-------</td>

 ... check communication ...
 <------RLC------->

- 1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
- 2. Check that the user-to-user information field in the USR contains 32 octets.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS2/	ISS_V_6_2_2	1.2.5.2.1.1.2;	expression	reference
		1.2.5.2.2-	OLE OR IntermE	2.16.1
		5.1/Q.737 [39]		

Test purpose

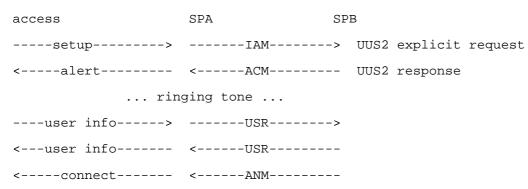
UUS2 explicit non-essential - request.

To verify that the IUT can successfully originate/transit a call with an UUS2 explicit non-essential request, having the **user-to-user indicators** in the **IAM** set to "request, not essential".

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

Case a)



UUS/UUS2/	TP ISS_V_6_2_2	ISUP '97 reference 1.2.5.2.1.1.2; 1.2.5.2.2- 5.1/Q.737 [39]	Selection expression OLE OR IntermE	Q.788 [34] reference 2.16.1
0	check communicatio	on		
<disc< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></disc<>	<rel< td=""><td></td><td></td><td></td></rel<>			
	RLC	<u> </u>		
1. Set up a call	l from UNI at SPA	to SPB with user-t	co-user service	2 request.
2. The Service 2	2 field in the UUI	Ind is set to "requ	lest, not essent	ial".
3. Receive user-	-to-user informati	on.		
4. Send user-to-	-user information.			
Case b)				
SPC	SPA	SPB		
		1> UUS2 exp	olicit request	
		1 UUS2 res		
	. ringing tone		sponse	
	5 5			
	>USR			
	<usr< td=""><td></td><td></td><td></td></usr<>			
<anm< td=""><td> <anm< td=""><td>1</td><td></td><td></td></anm<></td></anm<>	<anm< td=""><td>1</td><td></td><td></td></anm<>	1		
che	eck communication	• • •		
<rel< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></rel<>	<rel< td=""><td></td><td></td><td></td></rel<>			
		_C>		

- 2. Check the Service 2 field in the UUInd is set to "request, not essential".
- 3. Receive user-to-user information.
- 4. Send user-to-user information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS2/	ISS_V_6_2_3	1.2.5.2.1.1.2;	expression	reference
		1.2.5.2.2-	DLE OR IntermE	2.16.1
		5.1/Q.737 [39]		

UUS2 explicit non-essential - acceptance.

To verify that the IUT can successfully complete a call with an UUS2 explicit non-essential request, having the user-to-user indicators parameter in the ACM or CPG set to "service provided".

Pre-test conditions (in case of DLE).

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service. access SPB

<-----Setup----- <----IAM----- UUS2 explicit request -----> UUS2 explicit response (-----> UUS2 explicit response) ... ringing tone ... <-----USR----------user info---> -----USR-----> ------connect----> -----ANM-----> ... check communication ... <-----disc----- <-----REL-----

---->

- 1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
- 2. The Service 2 field in the UUInd is set to "request, not essential".
- 3. Check the response "Service provided" in the ACM or in CPG.
- 4. Send user-to-user information.
- 5. Receive user-to-user information.

TSS UUS/NO_UUS2/	TP ISS_I_6_2_4	ISUP '97 reference 1.2.5.2.5.2.2; 1.2.5.2.2- 5.2/Q.737 [39]	Selection expression DLE or IntermE	Q.788 [34] reference 2.16.3
Test purpose	antial - explicit rejection (ser	vice not provided)		

To verify that the UUS2 service can be rejected and the user-to-user indicators in the ACM or CPG are set to "service 2 not provided".

NOTE: The network or the user cannot support UUS2.

```
SPB
access
              SPA
<----- UUS2 explicit request
-----alert----> -----ACM-----> UUS2 explicit response
               (-----> UUS2 explicit response)
        ... ringing tone ...
```

>	>	connect-
communication	check	
<rel< td=""><td></td><td><disc< td=""></disc<></td></rel<>		<disc< td=""></disc<>
>		

- 1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
- 2. The Service 2 field in the UUInd is set to "request, not essential".
- 3. Check the response "Service not provided" in the ACM or in CPG.

TSS UUS/NO_UUS2/	TP ISS_I_6_2_5	ISUP '97 reference 1.2.5.2.5.2.3; 1.2.5.2.2- 5.2/Q.737 [39]	Selection expression DLE OR IntermE	Q.788 [34] reference 2.16.2
Test purpose				

UUS2 explicit non-essential - implicit rejection (no indication).

To verify that the IUT can successfully complete a call with an UUS2 explicit non-essential request, if no indication is provided in the backward direction.

NOTE: The network or the user cannot support UUS2.

access	SP	PA	SPB	
<setu< td=""><td>p</td><td><iam< td=""><td>UUS2</td><td>explicit request</td></iam<></td></setu<>	p	<iam< td=""><td>UUS2</td><td>explicit request</td></iam<>	UUS2	explicit request
aler	z>	ACM>	UUS2	explicit response - no if
	ringin	g tone		
connec	ct>	>	·	
	check c	communication		
<disc-< td=""><td></td><td><rel< td=""><td></td><td></td></rel<></td></disc-<>		<rel< td=""><td></td><td></td></rel<>		
		RLC>	ı.	

- 1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
- 2. The Service 2 field in the UUInd is set to "request, not essential".
- 3. Check the response "No information" in the ACM or in CPG.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS2/	ISS_V_6_2_6	1.2.5.2.1.1.2;	expression	reference
		1.2.5.2.2-	OLE OR IntermE	2.16.1
		5.1/Q.737 [39]		

Test purpose

UUS2 explicit essential - request.

To verify that the IUT can successfully originate/transit a call having an UUS2 explicit essential request, having the **user-to-user indicators** set to "request, essential" and the ISDN user part preference indicator of the **forward call indicators** in the **IAM** set to "ISUP required".

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

Case a)

access SPA SPB

TSS UUS/UUS2/	TP ISS_V_6_2_6	ISUP '97 reference 1.2.5.2.1.1.2; 1.2.5.2.2- 5.1/Q.737 [39]	Selection expression OLE OR IntermE	Q.788 [34] reference 2.16.1
setup	>IAM	> UUS2 expl	icit request	
<alert-< td=""><th> <acm< th=""><td> UUS2 resp</td><td>onse</td><td></td></acm<></th></alert-<>	<acm< th=""><td> UUS2 resp</td><td>onse</td><td></td></acm<>	UUS2 resp	onse	
	ringing tone			
user info	o>USR	>		
<user info<="" td=""><th>o <usr< th=""><td></td><td></td><td></td></usr<></th></user>	o <usr< th=""><td></td><td></td><td></td></usr<>			
<connect< td=""><th>t <anm< th=""><td></td><td></td><td></td></anm<></th></connect<>	t <anm< th=""><td></td><td></td><td></td></anm<>			
	check communication			
<disc< td=""><th> <rel< th=""><td></td><td></td><td></td></rel<></th></disc<>	<rel< th=""><td></td><td></td><td></td></rel<>			
	RLC	>		
_	l from UNI at SPA to			
3. Receive user-	-to-user information	n.		
4. Send user-to-	-user information.			
Case b)				
SPC	SPA	SPB		
IAM	>IAM-	> UUS2 expli	cit request	
<acm< td=""><th> <acm-< th=""><td> UUS2 respo</td><td>onse</td><td></td></acm-<></th></acm<>	<acm-< th=""><td> UUS2 respo</td><td>onse</td><td></td></acm-<>	UUS2 respo	onse	
]	ringing tone			
USR	>USR-	>		
<usr< td=""><th> <usr-< th=""><td></td><td></td><td></td></usr-<></th></usr<>	<usr-< th=""><td></td><td></td><td></td></usr-<>			
<anm< td=""><th> <anm-< th=""><td></td><td></td><td></td></anm-<></th></anm<>	<anm-< th=""><td></td><td></td><td></td></anm-<>			
che	ck communication			
<rel< td=""><th> <rel-< th=""><td></td><td></td><td></td></rel-<></th></rel<>	<rel-< th=""><td></td><td></td><td></td></rel-<>			

- 1. Set up a call from UNI at SPC to SPB with user-to-user service 2 request.
- 2. Check the Service 2 field in the UUInd is set to "request, essential" in the IAM.
- 3. Receive user-to-user information.

4. Send user-to-user information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS2/	ISS_V 6 2 7	1.2.5.2.1.1.2;	expression	reference
		1.2.5.2.2-5.1/Q.737 [39]	DLE OR	2.16.1
			IntermE	

UUS2 explicit essential - acceptance.

To verify that the IUT can successfully complete a call having an UUS2 explicit essential request having the **user-to-user indicators** parameter in the **ACM** or **CPG** set to "service provided".

Pre-test conditions (in case of DLE).

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

... ringing tone ...

<-----REL-----

---->

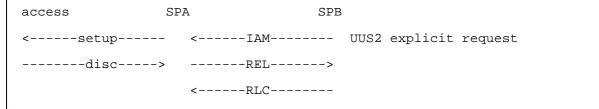
- 1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
- 2. The Service 2 field in the UUInd is set to "request, essential".
- 3. Check the response "Service provided" in the ACM or CPG.
- 4. Send user-to-user information.
- 5. Receive user-to-user information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/NO_UUS2/	ISS_I_6_2_8	1.2.5.2.5.2.1;	expression	reference
		1.2.5.2.2-5.2/Q.737 [39]	DLE OR	2.16.4; 2.16.5
			IntermF	

Test purpose

UUS2 explicit essential - rejection.

To verify that the service can be rejected with a **REL** with the **Cause value** 29 "facility rejected" or 69 "requested facility not implemented" or value 88 "incompatible destination", all with diagnostics (**user-to-user indicators** name). Case a)



- 1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
- 2. The call should be released with cause #26, #69 or #88.

TSS UUS/NO_UUS2/	TP ISS_I_6_2_8	ISUP '97 reference 1.2.5.2.5.2.1; 1.2.5.2.2-5.2/Q.737 [39]	Selection expression DLE OR IntermE	Q.788 [34] reference 2.16.4; 2.16.5		
Case b)						
SPC	SPA	SPB				
<iam <iam="" explicit="" request<="" td="" uus2=""></iam>						
>						
<>						
RLC> <rlc< td=""></rlc<>						
1. Set up a call from UNI at SPB to SPC with user-to-user service 2 request.						
2. The call show	uld be released with	h cause #26, #69 or	#88.			

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS2/	ISS_I_6_2_9	1.2 5.2.5.2.1;	expression	reference
		1.2.5.2.2-5.2/Q.737 [39]	OLE or	None
			Interm	

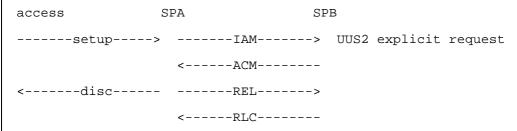
UUS2 explicit essential - implicit rejection.

To verify that the service can be rejected if no indication is received (no **user-to-user indicators** parameter) in the first backward message (implicit rejection of service 2).

NOTE: The remote network does not understand the service 2 request or the remote user cannot support UUS2. Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

Case a)



- 1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
- 2. Check the Service 2 field in the UUInd is set to "request, essential" in the IAM.
- 3. Call released because there is no UUInd in the ACM.

<rel< th=""><th>REL></th></rel<>	REL>
>	<rlc< td=""></rlc<>

- 1. Set up a call from SPC to SPA with user-to-user service 2 request.
- 2. Check the Service 2 field in the UUInd is set to "request, essential" in the IAM.
- 3. Call released because there is no UUInd in the ACM.

TSS	TP	ISUP '97 reference	Selection expression	Q.788 [34]
UUS/UUS2/	ISS_V_6_2_10	1.2.5.2.1.1.2/Q.737 [39]		reference
			OLE	None

Test purpose

Discard the user-to-user information if more than two messages received during a call set up.

To verify that the IUT discards the **user-to-user service information** in the additional message if more than two messages are received during the call set up (in each direction).

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

<----user info---- <-----USR-----

----user info---> no USR

<----ANM-----

<-----disc----- <-----REL-----

-----RLC----->

... check communication ...

1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.

- 2. Check the Service 2 field in the UUInd is set to "request, not essential" in the IAM.
- 3. Check the receipt of two USR during call set up.
- 4. Send user-to-user information.

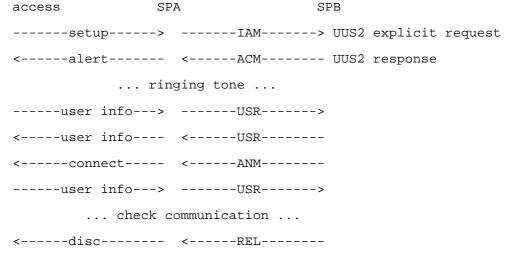
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS2/	ISS_I_6_2_11	1.2.5.2.1.1.2/Q.737 [39]	expression	reference
			OLE	None

Pass on one of the USR received just after ANM.

To verify that the IUT can successfully pass on one of the **USR** messages received just after the answer state has been reached.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.



---->

- 1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
- 2. Check the Service 2 field in the UUInd is set to "request, not essential" in the IAM.
- 3. Check one user-to-user information during call set up.
- 4. Send user-to-user information.
- 5. Check one user-to-user information after ANM.

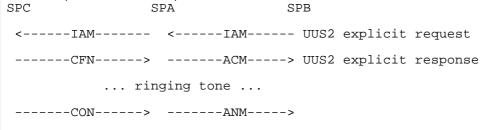
I	TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
	UUS/NO_UUS2/	ISS_I_6_2_12	1.2.5.2.2.2 table 1-2;	expression	reference
			1.2.7/Q.737 [39]	Gateway AND	2.16.3
				PICS A.9/5	

Test purpose

Explicit rejection in Gateway.

To verify that the UUS2 explicit non-essential service can be rejected and the **user-to-user indicators** in the **ACM** or **CON** are set to "service 2 not provided".

NOTE: The user-to-user service is rejected because the IntermE received a **CFN** from the succeeding network (see note 2 table 1-2).



	check	communication	• • •
REL		<rel< td=""><td></td></rel<>	
		RLC	>

- 1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.
- 2. The Service 2 field in the UUInd is set to "request, not essential".
- 3. Check the response "Service not provided" in the ACM or CON.

A.9/7	TSS UUS/UUS2/	TP ISS_I_6_2_13	ISUP '97 reference 1.2.2.1/Q.737 [39]	Selection expression DLE AND PICS	Q.788 [34] reference None
-------	------------------	--------------------	--	---	---------------------------------

Deliver user-to-user information in USR after ANM.

To verify that the IUT can successfully deliver the **user-to-user information** in the **USR** message to the called user after the answer state has been reached.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS2 supplementary service.

<-----setup------ <----IAM------ UUS2 explicit request
-----alert-----> -----ACM-----> UUS2 explicit response

... ringing tone ... <----user info---- <-----USR------

-----user info----> -----USR----->

------> -----ANM----->

<-----USR-----

<-----disc------ <-----REL------

... check communication ...

---->

1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request.

- -. 200 ap a call llow coll at 512 co 511 when about co about 501/100 l loques
- 2. The Service 2 field in the UUInd is set to "request, not essential".
- 3. Check the response "Service provided" in the ACM.
- 4. Send user-to-user information.
- 5. Receive user-to-user information.
- 6. Send one user-to-user information after ANM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS2/	ISS_V_6_2_14	1.2.6.13.1;	expression	reference
		1.2.6.13.3/Q.737 [39]	Local AND (PICS	None
			A.9/4 OR PICS	
			A.9/8)	

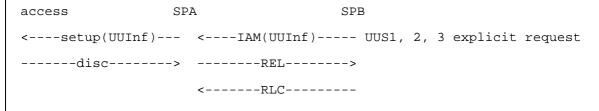
UUS2 interaction with UUS1 (or UUS3) - unsuccessful request.

To verify that the services can be rejected with a **REL** with **Cause value** # 29 "facility rejected" or # 69 "requested facility not implemented", either with diagnostics (**user-to-user indicators** name), if more services are requested, one of them is essential and it cannot be provided.

Pre-test conditions.

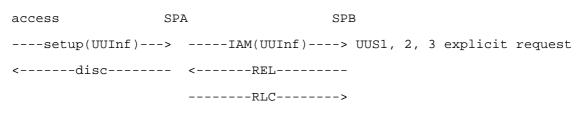
Arrange the data in the IUT so that the user has subscribed to the UUS1 and UUS2 (or UUS3) supplementary services.

Case a)



- 1. Set up a call UNI at SPB to SPA with user-to-user information and user-to-user service 2, 3 request.
- 2. The call should be released with cause #29 or #69, because the service 2 cannot be provided.

Case b)



- 1. Set up a call UNI at SPA to SPB with user-to-user information and user-to-user service 2, 3 request.
- 2. The call should be released with cause #29 or #69, because the service 2 cannot be provided.

TSS UUS/UUS2/	TP ISS_V_6_2_15	ISUP '97 reference 1.2.6.13.1; 1.2.6.13.3/Q.737 [39]	Selection expression Local AND (PICS A.9/4 OR PICS A.9/8)	Q.788 [34] reference None
To verify that the IUT couser-to-user indicator (or UUS3) service can be service 1 (or 3) not propre-test conditions.	an successfully complete a is parameter set to "service be rejected and the user-to ovided".	dent acceptance or rejection call with an UUS2 explicit e provided" in the ACM or o-user indicators in the Acustribed to the UUS1 and	non-essential request, CPG. At the same time CM, CPG, ANM, CON	the UUS1 or REL are set to
access	SPA	SPB		
setup(UUIn	=)>IAM(UUInf)> UUS1, 2	, 3 explicit re	quest
<alert(uuin< td=""><th>=) <acm(< th=""><th>UUInf) UUS1, 2</th><td>explicit respo</td><th>nse</th></acm(<></th></alert(uuin<>	=) <acm(< th=""><th>UUInf) UUS1, 2</th><td>explicit respo</td><th>nse</th></acm(<>	UUInf) UUS1, 2	explicit respo	nse
	ringing tone .			
user info-	>US	R		
<user info<="" td=""><th>US</th><th>R</th><td></td><th></th></user>	US	R		
<connect(uuir< td=""><th>nf) <anm(< th=""><th>UUInf) UUS 3 e</th><td>xplicit respons</td><th>е</th></anm(<></th></connect(uuir<>	nf) <anm(< th=""><th>UUInf) UUS 3 e</th><td>xplicit respons</td><th>е</th></anm(<>	UUInf) UUS 3 e	xplicit respons	е
cl	neck communication	·		
<disc(uuinf< td=""><th>) <rel(< th=""><th>UUInf)</th><td></td><th></th></rel(<></th></disc(uuinf<>) <rel(< th=""><th>UUInf)</th><td></td><th></th></rel(<>	UUInf)		
	RI	uC>		
user-to-user set 2. Check that th not essential".	rvice 2, 3 request	to SPB with user-to. fields in UUInd a prmation (support o	re set each to	
Case b)				
access	SPA	SPB		
<setup(uui< td=""><th>nf) <iam(< th=""><th>UUInf) UUS1,</th><td>2, 3 explicit r</td><th>equest</th></iam(<></th></setup(uui<>	nf) <iam(< th=""><th>UUInf) UUS1,</th><td>2, 3 explicit r</td><th>equest</th></iam(<>	UUInf) UUS1,	2, 3 explicit r	equest
alert(UUI	nf)>ACM(UUInf)> UUS1,	2 explicit resp	onse
	ringing tone			
<user info<="" td=""><th>o</th><th>ISR</th><td></td><th></th></user>	o	ISR		
user info	o>U	JSR>		
connect(UUI	nf)>ANM(UUInf)> UUS 3	explicit respon	se
	check communication	on		
<disc(uuin< td=""><th>=) <rel(< th=""><th>UUInf)</th><td></td><th></th></rel(<></th></disc(uuin<>	=) <rel(< th=""><th>UUInf)</th><td></td><th></th></rel(<>	UUInf)		
	R	LC>		

A.9/8)

- 1. Set up a call from UNI at SPB to SPA with user-to-user information and user-to-user service 2, 3 request.
- 2. The Service 1, 2, 3 fields in UUInd are set each to "request, not essential".
- 3. Send/Receive user-to-user information (support of Service 2).

NOTE: Repeat the test case by setting the response of service 1 or 3 requests in CPG, ANM, REL or CON.

TSS UUS/UUS2/	TP ISS_V_6_2_16	ISUP '97 reference 1.2.6.13.3;	Selection expression	Q.788 [34] reference
		1.2.6.13.1/Q.737 [39]	Local AND PICS	None
			A.9/8	

Test purpose

UUS2 interaction with UUS3 requested after call set up.

To verify that the IUT can successfully originate/complete a call with UUS2 and UUS3 service requested after call set up. The Service 2 field of the user-to-user indicators in the FAR, FAA or FRJ is then set to "no information". Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS2 and UUS3 supplementary services. Case a)

access	SPA	SPB
setup	>IAM	> UUS2 explicit request
<alert< td=""><td>- <acm< td=""><td> UUS2 explicit response</td></acm<></td></alert<>	- <acm< td=""><td> UUS2 explicit response</td></acm<>	UUS2 explicit response
ringin	g tone	
user info	>USR	
<user info<="" td=""><td>- <usr< td=""><td></td></usr<></td></user>	- <usr< td=""><td></td></usr<>	
<connect< td=""><td>- <anm< td=""><td></td></anm<></td></connect<>	- <anm< td=""><td></td></anm<>	
check com	munication	
facility-req	>FAR	> UUS3 request
<facility-ind< td=""><td>- <faa< td=""><td> UUS3 response</td></faa<></td></facility-ind<>	- <faa< td=""><td> UUS3 response</td></faa<>	UUS3 response
user info	>USR	
<user info<="" td=""><td>- <usr< td=""><td></td></usr<></td></user>	- <usr< td=""><td></td></usr<>	
<disc< td=""><td>- <rel< td=""><td></td></rel<></td></disc<>	- <rel< td=""><td></td></rel<>	
	RLC	>

- 1. Set up a call from UNI at SPA to SPB with user-to-user service 2 request.
- 2. Check that the Service 2 fields in UUInd is set to "request, not essential".

3. Send/Receive user-to-user information (support of service 2) 4. Check request of service 3 in FAR. 5. Send/Receive user-to-user information (support of service 3) Case b) access SPA SPB <----- UUS2 explicit request -----> UUS2 explicit response ... ringing tone ... <----user info---- <----USR----------user info----> -----> -----ANM-----> ... check communication ... <---facility-req---- <----FAR----- UUS3 request ----facility-ind---> -----FAA-----> UUS3 response <----USR----------user info----> <-----disc----- <----REL---------> 1. Set up a call from UNI at SPB to SPA with user-to-user service 2 request. 2. The Service 2 fields in UUInd is set to "request, not essential". 3. Send/Receive user-to-user information (support of service 2) 4. The service 3 is requested in FAR.

7.3.6.3 User-to-user signalling service 3 (UUS3)

6. Send/Receive user-to-user information (support of service 3)

5. Check service 3 is provided in FAA.

TSS UUS/UUS3/	TP ISS_V_6_3_1	ISUP '97 reference 1.3.2.1/Q.737 [39]	Selection expression OLE AND PICS A.9/1	Q.788 [34] reference None
Test purpose	:- (
32 octets user-to-user i				
To verify that the IUT c	an successfully initiate a call	having 32 octets of user	-to-user information i	in each message.
Pre-test conditions.				-
Arrange the data in the	IUT so that the user has sul	nscribed to the UUS3 sur	onlementary service	
access	SPA	SPB	picinionally convice.	
access	DEA	טבט		
setup	>IAM	> UUS3 expli	cit request	

TSS UUS/UUS3/	TP ISS_V_6_3_1	ISUP '97 reference 1.3.2.1/Q.737 [39]	Selection expression OLE AND PICS A.9/1	Q.788 [34] reference None
<alert< td=""><th> <acm< th=""><td></td><th></th><td></td></acm<></th></alert<>	<acm< th=""><td></td><th></th><td></td></acm<>			
• • •	ringing tone			
<connect-< td=""><th> <anm< th=""><td> UUS3 respo</td><th>onse</th><td></td></anm<></th></connect-<>	<anm< th=""><td> UUS3 respo</td><th>onse</th><td></td></anm<>	UUS3 respo	onse	
• • •	check communication	• • • •		
user inf	0>USR	>		
<user inf<="" td=""><th>o <usr< th=""><td></td><th></th><td></td></usr<></th></user>	o <usr< th=""><td></td><th></th><td></td></usr<>			
<disc< td=""><th> <rel< th=""><td></td><th></th><td></td></rel<></th></disc<>	<rel< th=""><td></td><th></th><td></td></rel<>			
	RLC	>		
1. Set up a cal	l from UNI at SPA t	o SPB with user-t	o-user service	3 request.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
	100 1/ 0 0 0			
UUS/UUS3/	ISS_V_6_3_2	1.3.2.1/Q.737 [39]	expression	reference
			OLE	None

octets.

Rejection of UUS3 after call set up, if rejected at call set up.

To verify that the IUT can reject an UUS3 request after call set up, if it has been rejected at the call set up.

2. Check that the user-to-user information field in the USR contains 32

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service. access SPA SPB ----->etup----> ----IAM----> UUS3 explicit request <-----ACM-----... ringing tone ... <----- UUS3 response ... check communication ... ----facility-req----> -----FAR-----> <--facility-reject--- <----FRJ-----... check communication ... <-----REL--------->

1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS3/	ISS_V_6_3_3	1.3.5.2.1.1.2;	expression	reference
		1.3.5.2.2-5.1/Q.737 [39]	OLE OR	2.17.1
			IntermE	

UUS3 explicit non-essential - request.

To verify that the IUT can successfully originate/transit a call with an UUS3 explicit non-essential request, having the **user-to-user indicators** in the **IAM** set to "request, not essential".

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service. Case a)

```
      access
      SPA
      SPB

      -----setup------>
      -----IAM----->
      UUS3 explicit request

      <------ACM------</td>
      ... ringing tone ...

      <------connect------</td>
      <------ANM-------</td>
      UUS3 response

      ... check communication ...
      -------USR----->

      <------user info-----</td>
      <------USR-------</td>

      <------disc------</td>
      <------REL------->
```

1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.

1. Set up a call from UNI at SPC to SPB with user-to-user service 3 request.

Q.788 [34]

Selection

ISUP '97 reference

TP

UUS/UUS3/	ISS_V_6_3_4	1.3.5.2.1.1.2; 1.3.5.2.2-5.1/Q.737 [39]	expression DLE OR IntermE	reference 2.17.1
Service 3 field in the u se Pre-test conditions (in	an successfully complete a c ser-to-user indicators para case of DLE).	call with an UUS3 explicit nor meter in the ANM or CON se bscribed to the UUS3 supple SPB	t to "service provide	
<setup-< td=""><th>IA</th><td>M UUS3 expl</td><td>icit request</td><td></td></setup-<>	IA	M UUS3 expl	icit request	
alert-	>AC	M>		
	ringing tone			
connect	>AN	M> UUS3 resp	onse	
	check communication			
<user in<="" td=""><th>fo <us< th=""><td>R</td><td></td><td></td></us<></th></user>	fo <us< th=""><td>R</td><td></td><td></td></us<>	R		
user in	fo>US	R>		
	check communication			
<disc< td=""><th>RE</th><td>L</td><td></td><td></td></disc<>	RE	L		
	RL	C>		
_		M UUS3 expl	_	
connect	>CO	N> UUS3 resp	onse	
	check communicat	ion		
<user info<="" td=""><th>US</th><td>R</td><td></td><td></td></user>	US	R		
user info	>US	R>		
	check communicat	ion		
<disc< td=""><th>RE</th><td>L</td><td></td><td></td></disc<>	RE	L		
	RL	C>		

TSS UUS/NO_UUS3/	TP ISS_I_6_3_5	ISUP '97 reference 1.3.5.2.5.2.3; 1.3.5.2.2-5.2/Q.737 [39]	Selection expression DLE OR	Q.788 [34] reference 2.17.2
			IntermE	

1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.

Test purpose

TSS

UUS3 explicit non-essential - implicit rejection (no indication).

To verify that the IUT can successfully complete a call with an UUS3 explicit non-essential request, if no indication is provided in the backward direction.

NOTE: The network or the user cannot support UUS3.

Case a)

< UUS3 explicit request	
alert>ACM>	
ringing tone	
> UUS3 response (no indication)	
check communication	
<disc <rel<="" td=""><td></td></disc>	
>	
< UUS3 explicit request	
connect>CON> UUS3 response (no indication)	
check communication	
<disc <rel<="" td=""><td></td></disc>	
>	
1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request	
Case b)	
SPC SPA SPB	
< UUS3 explicit request	
>>	
ACM>ACM> ringing tone	
ringing tone	
ringing tone	
ringing toneANM> UUS3 response (no indication) check communication	
ringing toneANM> UUS3 response (no indication) check communication <rel< td=""><td></td></rel<>	
ringing toneANM> UUS3 response (no indication) check communication <rel< td=""><td></td></rel<>	
ringing toneANM> UUS3 response (no indication) check communication <rel< td=""><td></td></rel<>	
ringing toneANM>ANM> UUS3 response (no indication) check communication <rel< td=""><td></td></rel<>	
ringing toneANM>ANM> UUS3 response (no indication) check communication <rel>RLC></rel>	
ringing toneANM>ANM> UUS3 response (no indication) check communication <rel>RLC></rel>	
ringing toneANM>ANM> UUS3 response (no indication) check communication <rel>RLC></rel>	
ringing toneANM>ANM> UUS3 response (no indication) check communication <rel>RLC></rel>	

TSS UUS/NO_UUS3/	TP ISS_I_6_3_6	ISUP '97 reference 1.3.5.2.5.2.2; 1.3.5.2.2-5.2/Q.737 [39]	Selection expression DLE OR IntermE	Q.788 [34] reference 2.17.3
To verify that the UUS3 con are set to "service		d the Service 3 field in the u	ser-to-user indicat	ors in the ANM o
access	SPA	SPB		
<setup-< td=""><td> <iam< td=""><td>M UUS3 explic</td><td>cit request</td><td></td></iam<></td></setup-<>	<iam< td=""><td>M UUS3 explic</td><td>cit request</td><td></td></iam<>	M UUS3 explic	cit request	
alert-	>ACM	1>		
	ringing tone			
connect	>ANN	M> UUS3 respor	nse (serv. not	provided)
ch	eck communication	•••		
<disc< td=""><td> <rei< td=""><td></td><td></td><td></td></rei<></td></disc<>	<rei< td=""><td></td><td></td><td></td></rei<>			
	RLC	<u> </u>		
<setup-< td=""><td> <iam< td=""><td>1 UUS3 explic</td><td>cit request</td><td></td></iam<></td></setup-<>	<iam< td=""><td>1 UUS3 explic</td><td>cit request</td><td></td></iam<>	1 UUS3 explic	cit request	
connect	>CON	1> UUS3 respor	nse (serv. not	provided)
ch	eck communication			
<disc< td=""><td> <rei< td=""><td></td><td></td><td></td></rei<></td></disc<>	<rei< td=""><td></td><td></td><td></td></rei<>			
	RLC	?>		
1. Set up a call Case b)	from UNI at SPB t	to SPA with user-to-	-user service	3 request.
SPC	SPA	SPB		
<iam< td=""><td> <iam-< td=""><td> UUS3 explic</td><td>cit request</td><td></td></iam-<></td></iam<>	<iam-< td=""><td> UUS3 explic</td><td>cit request</td><td></td></iam-<>	UUS3 explic	cit request	
ACM	>ACM-	>		
	. ringing tone			
ANM	>ANM-	> UUS3 respor	nse (serv. not	provided)
ch	eck communication	• • •		
<rel< td=""><td> <rel-< td=""><td></td><td></td><td></td></rel-<></td></rel<>	<rel-< td=""><td></td><td></td><td></td></rel-<>			
RLC	>RLC-	>		
		> 	cit request	

... check communication ...

```
<-----REL-------
-----RLC------>
------RLC----->
1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.
```

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS3/	ISS_V_6_3_7	1.3.5.2.1.1.2;	expression	reference
		1.3.5.2.2-5.1/Q.737 [39]	OLE OR	2.17.1
			IntermE	

UUS3 explicit essential - request.

To verify that the IUT can successfully originate/transit a call with an UUS3 explicit essential request, having in the **IAM** the **user-to-user indicators** set to "request, essential" and the ISDN user part preference indicator in the **forward call indicators** set to "ISUP required all the way".

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service. Case a)

<-----disc------ <-----REL------

1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.

2. Send/Receive user-to-user information.

<-----USR----- <----USR-----

<----USR-----

 Case b)

 SPC
 SPA
 SPB

 -----IAM------>
 UUS3 explicit request

 <-----ACM------</td>
 UUS3 response

 ... ringing tone ...
 -----ANM-----

 ... check communication ...
 ------USR------>

<rel< th=""><th><rel< th=""><th></th></rel<></th></rel<>	<rel< th=""><th></th></rel<>	
>	>	

1. Set up a call from UNI at SPA to SPB with user-to-user service 3 request.

2. Send/Receive user-to-user information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS3/	ISS_V_6_3_8	1.3.5.2.1.1.2;	expression	reference
		1.3.5.2.2-5.1/Q.737 [39]	DLE OR	2.17.1
			IntermE	

Test purpose

UUS3 explicit essential - acceptance.

To verify that the IUT can successfully complete a call with an UUS3 explicit essential request having in the ANM or

CON the Service 3 field of the **user-to-user indicators** parameter set to "service provided". Pre-test conditions (in case of DLE). Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service. access SPA <----- UUS3 explicit request ------ alert-----> -----ACM-----> ... ringing tone ... -----> UUS3 response ... check communication ... <----USR----------user info----> -----USR----> ... check communication ... <-----REL---------> <----- UUS3 explicit request

------ UUS3 response ... check communication ... <-----USR----------user info----> -----USR----> ... check communication ... <-----REL-----

1. Set up a call from UNI at SPB to SPA with user-to-user service 3 request.

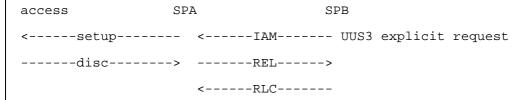
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/NO_UUS3/	ISS_I_6_3_9	1.3.5.2.5.2.2;	expression	reference
		1.3.5.2.2-5.2/Q.737 [39]	DLE OR	2.17.4
			IntermE	

UUS3 explicit essential - explicit rejection.

To verify that the service can be rejected with a **REL** having the **Cause value** #29 "facility rejected", #69 "requested facility not implemented", either with diagnostics (**user-to-user indicators** name).

NOTE: The network or the called user cannot support the service.

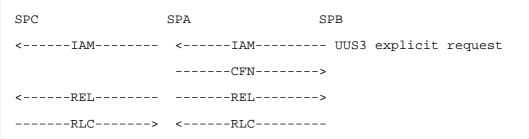
Case a)



1. Set up a call UNI at SPB to SPA with user-to-user service 3 request.

2. The call should be released with cause #29 or #69.

Case b)



- 1. Set up a call UNI at SPB to SPC with user-to-user service 3 request.
- 2. The call should be released with cause #29 or #69.

TSS UUS/UUS3/	TP ISS_V_6_3_10	ISUP '97 reference 1.3.5.2.1.1.2; 1.3.5.2.2-5.1/Q.737 [39]	Selection expression OLE OR	Q.788 [34] reference 2.17.6
			IntermF	

Test purpose

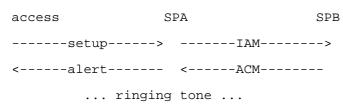
UUS3 explicit non-essential - request during the active phase of the call.

To verify that the IUT can successfully generate/transit an UUS3 explicit non-essential request, with a **FAR** having the **facility indicator** parameter set to "user-to-user service" and the Service 3 field in the **user-to-user indicators** set to "request, not essential".

Pre-test conditions (in case of OLE).

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

Case a)



TSS UUS/UUS3/	TP ISS_V_6_3_10	ISUP '97 reference 1.3.5.2.1.1.2;	Selection expression	Q.788 [34] reference		
		1.3.5.2.2-5.1/Q.737 [39]	OLE OR IntermE	2.17.6		
<connect-< td=""><td> <anm< td=""><td></td><td></td><td></td></anm<></td></connect-<>	<anm< td=""><td></td><td></td><td></td></anm<>					
chec	check communication					
facility-re	q>FAR	> UUS3 explici	t request			
<-facility-rej	<-facility-reject <frj response<="" td="" uus3=""></frj>					
che	check communication					
<disc< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></disc<>	<rel< td=""><td></td><td></td><td></td></rel<>					
	>					
1. Service 3 re	quest during the ac	tive phase.				
Case b)						
SPC	SPA	SPB				
IAM	>IAM	>				
<acm< td=""><td> <acm< td=""><td></td><td></td><td></td></acm<></td></acm<>	<acm< td=""><td></td><td></td><td></td></acm<>					
	ringing tone					
<anm< td=""><td> <anm< td=""><td></td><td></td><td></td></anm<></td></anm<>	<anm< td=""><td></td><td></td><td></td></anm<>					
che	ck communication					
FAR	>FAR	> UUS3 explicit r	equest			
<frj< td=""><td> <frj< td=""><td> UUS3 response</td><td></td><td></td></frj<></td></frj<>	<frj< td=""><td> UUS3 response</td><td></td><td></td></frj<>	UUS3 response				
che	ck communication					
<rel< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></rel<>	<rel< td=""><td></td><td></td><td></td></rel<>					
RLC	>RLC	>				
1. Service 3 re	quest during the ac	tive phase.				

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
UUS/UUS3/	ISS_V_6_3_11	1.3.5.2.1.1.2;	expression	reference
		1.3.5.2.2-5.1/Q.737 [39]	DLE OR	2.17.5
			IntermE	

UUS3 explicit non-essential - acceptance during call.

To verify that the IUT can successfully reply to an UUS3 explicit non-essential request with a **FAA** having the **facility indicator** parameter set to "user-to-user service" and the Service 3 field in the **user-to-user indicators** parameter set to "service provided".

Pre-test conditions (in case of DLE).

Arrange the data in the IUT so that the user has subscribed to the UUS3 supplementary service.

- 1. The service 3 is requested in FAR.
- 2. Check service 3 is provided in FAA.
- 3. Send/Receive user-to-user information (support of service 3)

TSS UUS/UUS3/	TP ISS_I_6_3_12	ISUP '97 reference table 1-3/Q.737 [39]	Selection expression Gateway AND	Q.788 [34] reference 2.17.3
			PICS A.9/5	

Test purpose

UUS3 explicit non-essential - explicit rejection in the Gateway

To verify that the UUS3 explicit non-essential service can be rejected and the Service 3 field in the **user-to-user indicators** in the **ACM** or **CON** are set to "service 3 not provided".

NOTE: The user-to-user service is rejected because the Gateway received e.g. a **CFN** from the succeeding network (note 2 table 1-3).

TSS UUS/UUS3/	TP ISS_I_6_3_12	ISUP '97 reference table 1-3/Q.737 [39]	Selection expression Gateway AND	Q.788 [34] reference 2.17.3		
			PICS A.9/5			
checl	k communication					
<rel< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></rel<>	<rel< td=""><td></td><td></td><td></td></rel<>					
RLC	->RLC>					
<iam< td=""><td> <iam< td=""><td>UUS3 explicit r</td><td>equest</td><td></td></iam<></td></iam<>	<iam< td=""><td>UUS3 explicit r</td><td>equest</td><td></td></iam<>	UUS3 explicit r	equest			
CFN	->					
CON	->CON>	UUS3 explicit r	esponse (serv.n	ot provided)		
check	communication					
<rel< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></rel<>	<rel< td=""><td></td><td></td><td></td></rel<>					
RLC	->RLC>					
1. Set up a call	l from UNI at SPB to	o SPC with user-t	o-user service	3 request.		
2. The Service 3	2. The Service 3 field in the UUInd is set to "request, not essential".					
3. Check the res	sponse "Service not	provided" in the	ACM or CON.			

TSS UUS/UUS3/	TP ISS_I_6_3_13	ISUP '97 reference 1.3.5.2.5.2.2/Q.737 [39]	Selection expression IntermE	Q.788 [34] reference None
To verify that the IUT of discarded.	can successfully complete a c	ig call (no indication - discard call with an UUS3 request in the use the FAR contains unrecogness.)	ne FAR, if the FAA	
	>IAM			
r	inging tone			
	ck communication			
<far< td=""><td> <far< td=""><td> UUS3 explicit re</td><td>quest</td><td></td></far<></td></far<>	<far< td=""><td> UUS3 explicit re</td><td>quest</td><td></td></far<>	UUS3 explicit re	quest	
(no	FAA or FRJ)			
che	ck communication			
<rel< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></rel<>	<rel< td=""><td></td><td></td><td></td></rel<>			
RLC	>RLC	>		

1. Service 3 request during the active phase.

TSS UUS/UUS3/	TP ISS_I_6_3_14	ISUP '97 reference 1.3.5.2.5.2.2/Q.737 [39]	Selection expression IntermE	Q.788 [34] reference None		
Test purpose UUS3 explicit non-essential - explicit rejection during call (service not provided - in FRJ). To verify that the UUS3 explicit non-essential service can be rejected during the active phase of the call and the Service 3 field in the user-to-user indicators in the FRJ are set to "service 3 not provided". SPC SPA SPB						
IAM	>IAM	>				
<acm< td=""><td> <acm< td=""><td></td><td></td><td></td></acm<></td></acm<>	<acm< td=""><td></td><td></td><td></td></acm<>					
r	inging tone					
<anm< td=""><td> <anm< td=""><td></td><td></td><td></td></anm<></td></anm<>	<anm< td=""><td></td><td></td><td></td></anm<>					
che	ck communication					
<far< td=""><td> <far< td=""><td> UUS3 explicit</td><td>request</td><td></td></far<></td></far<>	<far< td=""><td> UUS3 explicit</td><td>request</td><td></td></far<>	UUS3 explicit	request			
FRJ	>FRJ	> UUS3 response	(serv. not pr	ovided)		
che	ck communication					
<rel< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></rel<>	<rel< td=""><td></td><td></td><td></td></rel<>					
RLC	>RLC	>				
1. Service 3 red	quest during the ac	tive phase.				

TSS TP UUS/UUS3/ ISS_V_6_3_15	ISUP '97 reference 1.3.6.13.1; 1.3.6.13.2/Q.737 [39]	Selection expression Local AND (PICS A.9/4 OR PICS A.9/6)	Q.788 [34] reference None
-------------------------------	--	---	---------------------------------

Test purpose

UUS3 interaction with UUS1 (or UUS2) - unsuccessful request.

To verify that the services can be rejected with a **REL** having the **Cause value** # 29 "facility rejected" or # 69 "requested facility not implemented", either with diagnostics (**user-to-user indicators** name),. if more services are requested one of them essential which cannot be provided.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS3 and UUS1 or (UUS2) supplementary services.

See ISS_V_6_2_14.

TSS UUS/UUS3/	TP ISS_V_6_3_16	ISUP '97 reference 1.3.6.13.1; 1.3.6.13.2/Q.737 [39]	Selection expression Local AND (PICS A.9/4 OR	Q.788 [34] reference None
			PICS A.9/6)	

UUS3 interaction with UUS1 (or UUS2) - Independent acceptance or rejection of the services.

To verify that the IUT can successfully complete a call with an UUS3 explicit non-essential request, having the Service 3 field in the **user-to-user indicators** parameter set to "service provided" in **ANM** or **CON**. At the same time the UUS1 (or UUS2) service can be rejected and the **user-to-user indicators** in the **ACM**, **CPG**, **ANM**, **CON** or **REL** are set to "service 1 (or 2) not provided".

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to the UUS3 and UUS1 (or UUS2) supplementary services.

See test case ISS_V_6_2_15.

TSS UUS/UUS3/	TP ISS_V_6_3_17	ISUP '97 reference 1.3.6.18/Q.737 [39]	Selection expression OLE	Q.788 [34] reference None
Fo verify that if the FAR user-to-user indicators Pre-test conditions.	s set to "Service 3 not pro	suspended, the IUT returns		

1. Set up a call from UNI at SPA to SPB which has been suspended.

7.3.7 Closed user group (CUG)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_1	1.5.2.1.1 i) a)/Q.735 [40]	expression OLE	reference 2.4.4;
				2.4.5

Test purpose

CUG without outgoing access in IAM.

To verify that the IUT can successfully establish a CUG call by including the **CUG interlock code** together with an indication of "CUG call, outgoing access not allowed" in the **optional forward call indicators** in the **IAM**. The ISUP preference indicator of the **forward call indicators** in the **IAM** should be set to "ISUP required all the way". Pre-test conditions.

Arrange the data in the IUT such that the calling party subscribes to the CUG without outgoing access supplementary service.

access SPA SPB
-----setup----> ----IAM (CUG)--->
(-OA) - with outgoing access not allowed
:

- 1. Set up a CUG call from the access specifying a CUG interlock code. The CUG call is with outgoing access not allowed.
- 2. CUG call indicator set to "CUG call, outgoing access not allowed" and IPI set to "ISUP required all the way".

Ī	TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
	CUG/	ISS_V_7_2	1.5.2.2.1; 1.5.2.3.1;	expression	reference
			1.5.2.4.1/Q.735 [40]	IntermE	2.4.4;
					2.4.5

Test purpose

Transfer of information related to CUG.

To verify that the IUT can successfully transfer all information related to a CUG call, i.e. **CUG interlock code** together with an indication of "CUG call, outgoing access not allowed" in the **optional forward call indicators** in the **IAM**.

1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The CUG call is with outgoing access not allowed.

2. CUG call indicator set to "CUG call, outgoing access not allowed".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_3	1.5.2.3.1;	expression	reference
		1.5.2.4.1/Q.735 [40]	Gateway AND	None
		1	PICS A.10/3	

Conversion of the interlock code.

To verify that the IUT can successfully convert a national into an international **CUG interlock code** (or vice versa) and that the indication "CUG call, outgoing access not allowed" in the **optional forward call indicators** in the **IAM** is passed on transparently.

SPC SPA SPB
----IAM (CUG)----> (-OA)

1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The CUG call is with outgoing access not allowed.

- 2. CUG call indicator set to "CUG call, outgoing access not allowed" and international CUGIC for OutlE.
- 3. CUG call indicator set to "CUG call, outgoing access not allowed" and national CUG interlock code for IncIE.

TSS NO_CUG/	TP ISS_I_7_4	ISUP '97 reference 1.5.2.4.2/Q.735 [40], table 1-1/Q.735 [40]	Selection expression IncIE AND NOT PICS A.3/7	Q.788 [34] reference 2.4.9
			AND PICS A.8/2	

Test purpose

CUG call without outgoing access, action at the gateway with network without CUG capability.

To verify that the IUT rejects a CUG call if the contents of the CUG call indicator is set to "CUG call, outgoing access not allowed" in **optional forward call indicators** in **IAM** and the succeeding national network does not support CUG.

The IUT should respond with a **REL** with cause #29 "Facility rejected" and include the parameter name in the diagnostics field.

Pre-test conditions.

A route to a network without CUG capability must be available in the IUT.

SPA SPB
-----IAM----->
(-OA) with outgoing access not allowed
<-----REL------

1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The CUG call is with outgoing access not allowed.

- 2. Wait for some event, nothing should happen.
- 3. After timer expiry get the verdict.

TSS NO_CUG/	TP ISS_I_7_5	ISUP '97 reference 1.5.2.4.2/Q.735 [40], table 1-1/Q.735 [40]	Selection expression InclE AND	Q.788 [34] reference 2.4.3
			NOT PICS A.3/7	
			AND PICS A.8/2	

CUG call with outgoing access, action at the gateway interworking with network without CUG capability.

To verify that the IUT proceeds with normal call setup if the contents of the CUG call indicator is received as "CUG call, outgoing access allowed" in **optional forward call indicators** in **IAM** and the succeeding national network does not support CUG.

Pre-test conditions.

A route to a network without CUG capability must be available in the IUT.

----IAM (CUG)----> -----IAM----->

(+OA) with outgoing access allowed

:

1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The CUG call is with outgoing access allowed.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_6	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	2.4.4

Test purpose

CUG call without outgoing access; class of called user: CUG without IA, no ICB activated.

To verify that the IUT can successfully establish a CUG call.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to CUG and no incoming calls are barred. access SPA SPB

<----setup----- <---IAM (CUG)----

(-OA,-ICB) no incoming calls barred

:

- 1. Assist a CUG call set up to the access.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access not allowed".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_7	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	2.4.1

Test purpose

CUG call with outgoing access; class of called user: CUG without IA, no ICB activated.

To verify that the IUT can successfully establish a CUG call.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to CUG and no incoming calls are barred.

access SPA SPB

<----setup----- <---IAM (CUG)----

(+OA,-ICB) no incoming calls barred

:

- 1. Assist a CUG call set up to the access.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access allowed".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_8	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	2.4.8

Test purpose

CUG call without outgoing access; class of called user: CUG without IA, ICB activated.

To verify that the IUT rejects the CUG call with cause # 55 "Incoming calls barred within CUG" in the REL.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to CUG and the incoming calls are barred (ICB). access SPA SPB

- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access not allowed".
- 3. REL with cause #55 "Incoming calls barred within CUG". The location RLN "public network serving the remote user" can also be checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_9	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

Test purpose

CUG call with outgoing access; class of called user: CUG without IA, ICB activated.

To verify that the IUT rejects the CUG call with cause # 55 "Incoming calls barred within CUG" in the REL.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to CUG and the incoming calls are barred (ICB). access SPA SPB

```
<---IAM (CUG)----
  (+OA,+ICB) incoming calls barred
----REL(#55)---->
<-----RLC------</pre>
```

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_9	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access allowed".
- 3. REL with cause #55 "Incoming calls barred within CUG". The location RLN "public network serving the remote user" can also be checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_10	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

CUG call without outgoing access; class of called user: CUG with IA and no ICB activated.

To verify that the IUT can successfully establish a CUG call.

Pre-test conditions

Arrange the data in the IUT such that the called party subscribes to the CUG with Incoming Access (IA) and no incoming calls are barred.

access SPA SPB <----setup----- <---IAM (CUG)----

(-OA,+IA,-ICB) incoming access allowed, no incoming calls barred

1. Assist a CUG call set up to the access.

2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access not allowed".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_11	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

Test purpose

CUG call with outgoing access; class of called user: CUG with IA and no ICB activated.

To verify that the IUT can successfully establish a CUG call with outgoing access.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to the CUG with Incoming Access (IA) and no incoming calls are barred.

access SPA SPB

<----setup----- <----IAM (CUG)-----

(+OA,+IA,-ICB) incoming access allowed, no incoming calls barred

:

- 1. Assist a CUG call set up to the access.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access allowed".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_12	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

CUG call without outgoing access; class of called user: CUG with IA and ICB activated.

To verify that the IUT rejects the CUG call with cause # 55 "Incoming calls barred within CUG" in the REL.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to the CUG with Incoming access (IA) and the incoming calls are barred (ICB). SPB

access

<---IAM (CUG)----

(-OA,+IA,+ICB) incoming access allowed, incoming calls barred

----REL(#55)---->

<-----RLC-----

- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access not allowed".
- 3. REL with cause #55 "Incoming calls barred within CUG". The location RLN - "public network serving the remote user" - can also be checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_13	1.5.2.5.1;	expression	reference
		table 1-1/Q.735 [40]	DLE	None

Test purpose

CUG call with outgoing access; class of called user: CUG with IA and ICB activated.

To verify that the IUT can successfully establish a non-CUG call.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to the CUG with Incoming access (IA) and the incoming calls are barred (ICB).

SPB

access

<---IAM (CUG)----

(+OA,+IA,+ICB) incoming access allowed, incoming calls barred

- 1. Assist a CUG call set up to the access.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access allowed".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_14	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	2.4.5

CUG call without outgoing access; class of called user: non-CUG.

To verify that the IUT rejects the CUG call with cause #87 "User not member of CUG" in the REL.

Pre-test conditions.

Called user is not member of CUG.

access

SPA

SPB

<----IAM (CUG)---- (-OA)

----REL(#87)---->

<-----

- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access not allowed".
- 3. REL with cause #87 "User not member of CUG". The location RLN "public network serving the remote user' can also be checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_15	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	2.4.2

Test purpose

CUG call with outgoing access; class of called user: non-CUG.

SPA

To verify that the IUT can successfully establish a non-CUG call.

Pre-test conditions.

Called user is not member of CUG.

access

SPB

<---- (+OA)

:

- 1. Assist a CUG call set up to the access.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access allowed'.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_16	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

Test purpose

Non-CUG call; class of called user: CUG without IA.

To verify that the IUT rejects the CUG call with cause #87 "User not member of CUG" in the REL.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to CUG.

access SPA SPB

<----

TSS CUG/	TP ISS_V_7_16	ISUP '97 reference 1.5.2.5.1; table 1-2/Q.735 [40]	Selection expression DLE	Q.788 [34] reference None	
	(non-CUG,-IA) incoming access not allowed				
	REL(#8	7)>			
	<rlc< td=""><th></th><th></th><td></td></rlc<>				

- 1. No call set up should be observed on the access side.
- 2. Send an IAM for a non-CUG call with ISUP preference indicator in the FCI set to "ISUP required all the way".
- 3. REL with cause #87 "User not member of CUG". The location RLN "public network serving the remote user" can also be checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_17	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

Non-CUG call; class of called user: CUG with IA.

To verify that the IUT can successfully establish a non-CUG call.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to CUG with Incoming Access (IA).

access SPA SPB

<----IAM-----

(non_CUG,+IA) incoming access allowed

:

- 1. Assist a Non-CUG call set up to the access.
- 2. Send an IAM for a non-CUG call with ISUP preference indicator in the FCI set to "ISUP required all the way".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_18	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

Test purpose

CUG call without outgoing access; class of called user: other CUG without IA.

To verify that the IUT rejects the CUG call with cause # 87 "User not member of CUG" in the REL.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to another CUG than that of calling user.

access SPA SPB

<----IAM (CUG)---
(-OA,-IA) other CUG, incoming access not allowed
-----REL(#87)---->
<------RLC------

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_18	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access not allowed".
- 3. REL with cause #87 "User not member of CUG". The location RLN "public network serving the remote user" can also be checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_19	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	2.4.6

CUG call with outgoing access; class of called user: other CUG without IA.

To verify that the IUT rejects the CUG call with cause # 87 "User not member of CUG" in the REL.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to another CUG than that of calling user.

SPB

SPB

<----IAM (CUG)----(+OA,-IA) other CUG, incoming access not allowed
-----REL(#87)---->
<------RLC------

- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access allowed".
- 3. REL with cause #87 "User not member of CUG". The location RLN "public network serving the remote user" can also be checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_20	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	None

Test purpose

CUG call without outgoing access; class of called user: other CUG with IA.

To verify that the IUT rejects the CUG call with cause #87 "User not member of CUG" in the REL.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to another CUG than that of calling user, and that incoming access (IA) is allowed.

- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access not allowed".
- 3. REL with cause #87 "User not member of CUG". The location RLN "public network serving the remote user" can also be checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_V_7_21	1.5.2.5.1;	expression	reference
		table 1-2/Q.735 [40]	DLE	2.4.7

CUG call with outgoing access; class of called user: other CUG with IA.

To verify that the IUT can successfully establish a non-CUG call.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to another CUG than that of calling user, and that incoming access (IA) is allowed.

access SPA SPB

<----IAM (CUG)-----

(+OA,+IA) other CUG, incoming access allowed

:

- 1. Assist a Non-CUG call set up to the access.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access allowed".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_I_7_22	1.5.2.5.2/Q.735 [40]	expression	reference
			DIF	None

Test purpose

Non-CUG call with CUG interlock code in IAM.

To verify that the IUT rejects the call with cause # 111 "Protocol error, unspecified" in the **REL**, if a non-CUG call has a **CUG interlock code** in the **IAM**.

access SPA SPB

- 1. No call set up should be observed on the access side.
- 2. Send an IAM for a non-CUG call with ISUP preference indicator in the FCI set to "ISUP required all the way" and a CUG interlock code. There is no OFCI parameter in the IAM.
- 3. REL with cause #111 "Protocol error, unspecified".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CUG/	ISS_I_7_23	1.5.2.5.2/Q.735 [40]	expression	reference
			DLE	None

CUG call without interlock code in IAM.

To verify that the IUT rejects the CUG call with cause # 111 "Protocol error, unspecified" in the **REL**, if there is no **CUG interlock code** in the **IAM**.

access SPA SPB

<---IAM (CUGIC)----

(+OA,+IA,-ICB) incoming access allowed, no incoming calls barred

----REL(#111)---->

<-----RLC-----

- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access allowed". There is no CUGIC parameter in the IAM.
- 3. REL with cause #111 "Protocol error, unspecified".

7.3.8 Sub-addressing (SUB)

TSS SUB/	TP ISS_V_8_1	ISUP '97 reference 8.5.2.1.1/Q.731 [3]	Selection expression OLE	Q.788 [34] reference 2.2.1
Test purpose				
3	-address in the access tra			
To verify that the IUT c	an include the called sub-	address in the access transp	ort parameter in the I	IAM.
access	SPA	SPB		
: 	>IAM-			
1. Set up a cal	l from the access	with a called sub-a	address.	

TSS SUB/	TP ISS_V_8_2	ISUP '97 reference 8.5.2.2.1; 8.5.2.3.1; 8.5.2.4.1/Q.731 [3]	Selection expression IntermE	Q.788 [34] reference 2.2.1
Test purpose	ccess transport parameter.			
Transit Support of at	boos ilansport parameter.			
		ort parameter is passed on tr	ansparently in the IA	М

140

TSS SUB/	TP ISS_V_8_2	ISUP '97 reference 8.5.2.2.1; 8.5.2.3.1; 8.5.2.4.1/Q.731 [3]	Selection expression IntermE	Q.788 [34] reference 2.2.1
1. The PTC will	initiate a call se	t up with the exp	ected parameter	s.

TSS	TP	ISUP '97 reference	Selection expression	Q.788 [34]
SUB/	ISS_V_8_3	8.5.2.5.1/Q.731 [3]		reference
			DLE	2.2.1

Test purpose

Receiving the called sub-address in the access transport parameter.

To verify that a call may be successfully established if the IAM contains the sub-address in the **access transport** parameter and that the called sub-address is passed on to the user network interface.

Pre-test conditions.

Arrange the data in the IUT such that the called party subscribes to the SUB supplementary service.

access SPA SPB

```
<-----IAM------
```

1. Set up a call to the access with the ATP parameter containing the called sub-address.

TSS SUB/	TP ISS I 8 4	ISUP '97 reference 8.5.2.5.2/Q.731 [3];	Selection	Q.788 [34]
306/	155_1_6_4	2.1.1.6/Q.764 [25]	expression DLE	reference None

Test purpose

Receiving the called sub-address if it is not supported at the destination.

To verify that a call may be successfully established if the IAM contains the sub-address in the **access transport** parameter and the destination address does not subscribe to the SUB supplementary service.

Pre-test conditions.

Arrange the data in the IUT such that the called party does not subscribe to the SUB supplementary service.

access SPA SPB

```
<-----IAM-----
```

1. Set up a call to the access with the ATP parameter containing the called sub-address.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
SUB/	ISS_V_8_5	8.7/Q.731 [3]	expression	reference
			IntermE	None

Test purpose

Interaction with other networks; no notification is sent back to the OLE.

To verify that the IUT can successfully establish a call by discarding the sub-address if the succeeding network does not support the sub-address or the supplied length is not supported.

NON-ISUP SPA SPB

TSS SUB/	TP ISS_V_8_5	ISUP '97 reference 8.7/Q.731 [3]	Selection expression IntermE	Q.788 [34] reference None
<setup< td=""><th> <iam< th=""><th></th><th></th><td></td></iam<></th></setup<>	<iam< th=""><th></th><th></th><td></td></iam<>			
:				
=	l to a network whic ervice or which can			_

7.3.9 Malicious call identification (MCID)

TSS MCID/	TP ISS_V_9_1	ISUP '97 reference 7.5.2.1.1/Q.731.7 [8]	Selection expression OLE	Q.788 [34] reference 2.5.1
_	est. an successfully reply to an II CID response indicator set SPA	•		•
setup	>IAM <idr< td=""><td></td><th></th><th></th></idr<>			
:	IRS	>		
-	l from the access w			number.
3. IDR may be renumber.	equested even if the	e initial IAM con	tained calling	party

TSS MCID/	TP ISS_V_9_2	ISUP '97 reference 7.5.2.1.1/Q.731.7 [8]	Selection expression OLE	Q.788 [34] reference None
should reply to an IDR response indicator se	est - after ACM. vill accept and reply correctly having the MCID request in et to "MCID included" and the n may occur e.g. if the call have	dicator set to "MCID red e calling party number	uest" by sending an II included.	RS with MCID
setup	>IAM	>		
<alert< td=""><th> <acm< th=""><th></th><th></th><th></th></acm<></th></alert<>	<acm< th=""><th></th><th></th><th></th></acm<>			
	ringing tone			

TSS MCID/	TP ISS_V_9_2	ISUP '97 reference 7.5.2.1.1/Q.731.7 [8]	Selection expression OLE	Q.788 [34] reference None
	<idr-< th=""><th></th><th></th><td></td></idr-<>			
	IRS-	>		
:				
1 0 1	1 C + 1			
1. Set up a cal.	l from the access.			
2. IRS containi	ng the number of c	alling party numbe	r.	

 IDR having the MCID requet to "MCID included", the SPB		•
 /		
	ty sub-address.	
rom the access t	rom the access with a calling parab-address in ATP.	rom the access with a calling party sub-address.

TSS NO_MCID/	TP ISS_I_9_4	ISUP '97 reference 7.5.2.1.2/Q.731.7 [8]	Selection expression OLE AND NOT PICS A.3/9	Q.788 [34] reference 2.5.2
Test purpose				
<u> </u>	not supported by the OLE.			
To verify that the IUT re included.	ejects a MCID request by se	nding a IRS with the MCI I	D response indicator	set to "MCID not
access	SPA	SPB		
setup	>IAM	>		
	<idr< td=""><td></td><td></td><td></td></idr<>			
	IRS	>		
:				
-				· · · · · · · · · · · · · · · · · · ·

TSS NO_MCID/	TP ISS_I_9_4	ISUP '97 reference 7.5.2.1.2/Q.731.7 [8]	Selection expression OLE AND NOT PICS A.3/9	Q.788 [34] reference 2.5.2
1. Set up a call	l from the access.			

MCID/	TP ISS_V_9_5	ISUP '97 reference 7.5.2.2.1/Q.731.7 [8]	Selection expression Transit	Q.788 [34] reference None
		sparently to the preceding excl hange.	nange and the subse	equent IRS is
SPC	SPA	SPB		
IAM	>IAM	1>		
<idr< td=""><td> <idr< td=""><td>₹</td><td></td><td></td></idr<></td></idr<>	<idr< td=""><td>₹</td><td></td><td></td></idr<>	₹		
IRS	>IRS	S>		
:				
1. The PTC wil	ll initiate a call	set up.		
Case b)				
Case b) SPC	SPA	SPB		
SPC	>IAM	1>		
SPC IAM <acm< td=""><td>>IAM</td><td>1> 1</td><td></td><td></td></acm<>	>IAM	1> 1		
SPC IAM <acm <idr< td=""><td>>IAM <acm <idr< td=""><td>1> 1 R</td><td></td><td></td></idr<></acm </td></idr<></acm 	>IAM <acm <idr< td=""><td>1> 1 R</td><td></td><td></td></idr<></acm 	1> 1 R		
SPC IAM <acm <idr< td=""><td>>IAM</td><td>1> 1 R</td><td></td><td></td></idr<></acm 	>IAM	1> 1 R		
SPC IAM <acm <idr< td=""><td>>IAM <acm <idr< td=""><td>1> 1 R</td><td></td><td></td></idr<></acm </td></idr<></acm 	>IAM <acm <idr< td=""><td>1> 1 R</td><td></td><td></td></idr<></acm 	1> 1 R		
SPCIAM <acm <idr<="" td=""><td>>IAM <acm <idr< td=""><td>1> 1 R</td><td></td><td></td></idr<></acm </td></acm>	>IAM <acm <idr< td=""><td>1> 1 R</td><td></td><td></td></idr<></acm 	1> 1 R		

TSS MCID/	TP ISS_V_9_6	ISUP '97 reference 7.5.2.3.1/Q.731.7 [8]	Selection expression OutlE AND NOT PICS A.12/4	Q.788 [34] reference None
--------------	-----------------	---	---	---------------------------------

MCID information passed and set correctly - outgoing.

To verify that a received IDR is transferred transparently into the national network (NOT PICS A.4/1), the subsequent IRS being transferred into the international network so that the country code in the address signals of the calling party number is added and the nature of address indicator is set to "international number".
SPC national SPA international SPB

TSS MCID/	TP ISS_V_9_6	ISUP '97 reference 7.5.2.3.1/Q.731.7 [8]	Selection expression OutIE AND NOT PICS A.12/4	Q.788 [34] reference None
IAM	>IAM	>		
<idr< td=""><td> <idr< td=""><td></td><td></td><td></td></idr<></td></idr<>	<idr< td=""><td></td><td></td><td></td></idr<>			
IRS	>IRS	>		
:				
1 The DTC will	initiato a gall go	t up with the even	eated parameter	

- 1. The PTC will initiate a call set up with the expected parameters.
- 2. The IDR request is transferred into the national network.
- 3. The IRS is received from the national network having the calling party number coded as an "international number".

TSS NO_MCID/	TP ISS_I_9_7	ISUP '97 reference 7.5.2.3.2/Q.731.7 [8]	Selection expression OutlE AND NOT PICS A.3/9 AND PICS A.8/3	Q.788 [34] reference 2.5.2
-----------------	-----------------	---	--	----------------------------------

MCID request - MCID not supported by the calling party's national network.

To verify that the outgoing international exchange rejects a MCID request by sending an **IRS** with the **MCID** response indicator set to "MCID not included".

NOTE: This test case checks the behaviour of the IUT if the national network does not support MCID. SPC national SPA international SPB

>	IAM>
	<idr< th=""></idr<>
	IRS

1. PTC provides stimulus for normal call setup (calling party number not included).

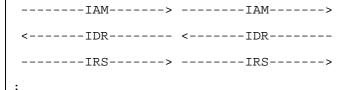
Note: The MCID request is in this case assumed to stop at gateway and not have any impact on the signalling in the national network.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
MCID/	ISS_V_9_8	7.5.2.4.1/Q.731.7 [8]	expression	reference
			InclE	None

MCID information passed and set correctly - incoming.

To verify that a received **IDR** is transferred transparently into the international network and the subsequent **IRS** is transferred into the national network so that the country code in the address signals of the **calling party number** is removed if it is the network's own country code and the nature of address indicator is set in this case to "national (significant) number".

SPC international SPA national SPB



- 1. The PTC will initiate a call set up with the expected parameters.
- 2. The country code is expected to be stripped off and the number format converted to national (significant) number.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
MCID/	ISS_I_9_9	7.5.2.4.2/Q.731.7 [8]	expression	reference
			Incle AND PICS	None
			A.12/5	

Test purpose

MCID request - MCID not supported by the calling party's national network - adding information.

To verify that the international incoming gateway can modify the **MCID response indicator** set to "MCID not included" into "MCID included" and can include the available information in the **calling party number**.

NOTE: The known part of the **calling party number** is sent with the address incomplete indicator set to "incomplete".

SPC international SPA national SPB

----IAM----->
<----IDR---------IRS----->

1. The PTC will initiate a call set up with the expected parameters.

I	TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
	MCID/	ISS_V_9_10	7.5.2.5.1	expression	reference
			a)/Q.731.7 [8]	DLE	2.5.1

DLE records call details.

To verify that the DLE can successfully record the **calling party number** and optionally the calling sub-address if received in the **IAM** or in the **IRS**.

Pre-test conditions.

Arrange the data in the IUT so that the called user has subscribed to MCID service.

Case a)

access SPA SPB <----setup----- <----IAM-----

- 1. Assist setup to the access.
- 2. CgPN & sub-address in ATP.
- 3. MCID recordings should be kept while in active phase of call.

Case b)

 access
 SPA
 SPB

 <-----setup-----</td>
 <-----IAM------</td>

 -----IDR------>
 <-----IRS------</td>

- 1. Assist setup to the access.
- 2. No number information in IAM.
- 3. Number information in IRS (CgPN and Sub in ATP).
- 4. MCID recordings should be kept while in active phase of call.

TSS MCID/	TP ISS_V_9_11	ISUP '97 reference 7.5.2.5.1 b)/Q.731.7 [8]	Selection expression DLE	Q.788 [34] reference 2.5.1
--------------	------------------	---	--------------------------------	----------------------------------

Test purpose

DLE requests call details.

To verify that the DLE can successfully request the **calling party number** and optionally the calling sub-address by sending an **IDR**, if there is no calling party number included in the **IAM**.

Pre-test conditions.

Arrange the data in the IUT so that the called user has subscribed to MCID service.

access SPA SPB

<-----IAM----->
<-----IRS------

:

- 1. Set up to the access containing no number information.
- 2. Number information is provided.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
MCID/	ISS_I_9_12	7.5.2.5.2/Q.731.7 [8]	expression	reference
			DLE	2.5.2

Test purpose

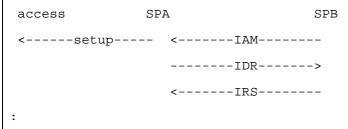
No MCID information after MCID request.

To verify that the call setup is continued (user is alerted) if an **IRS** is received without the expected MCID information within timer T39 expiry, after having sent the **IDR** with **MCID request indicator** set to "MCID requested".

Pre-test conditions.

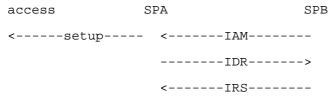
Arrange the data in the IUT so that the user has subscribed to MCID service.

Case a)



- 1. Set up to the access containing no number information.
- 2. Number information not provided (MCID response indicators = 0, no CgPN given).

Case b)



:

1. Set up to the access containing no number information.

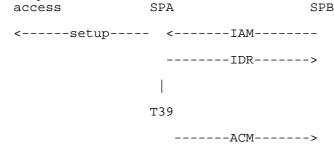
2. Number information not provided (MCID response indicators = 1, No CgPN given).

TSS MCID/	TP ISS_I_9_13	ISUP '97 reference 7.5.2.5.2/Q.731.7 [8]	Selection expression DLE	Q.788 [34] reference 2.5.3
Test purpose	· · ·			

To verify that call setup is continued (user is alerted) if no IRS is received within timer T39 expiry, after having sent the IDR with MCID request indicator set to "MCID requested".

Pre-test conditions.

Arrange the data in the IUT so that the called user has subscribed to MCID service.



1. Set up to the access containing no number information.

TSS MCID/	TP ISS_V_9_14	ISUP '97 reference 7.7/Q.731.7 [8]	Selection expression OLE AND PICS	Q.788 [34] reference 2.5.1
			A.2/4	

Test purpose

access

:

Successful MCID request with additional calling party number.

To verify that the OLE can successfully reply to an IDR having the MCID request indicator set to "MCID request" by sending an IRS with MCID response indicator set to "MCID included", the calling party number and an additional calling party number in the **generic number** parameter.

NOTE: This implies that a special arrangement exists with the calling user.

Pre-test conditions.

Arrange the data in the IUT so that the additional calling party number information is available. SPB

-----setup-----> -----IAM-----> <----IDR----------IRS---->

SPA

- 1. Set up a call from the access.
- 2. CgPN & addCgPN in GenNb.

TSS MCID/	TP ISS_V_9_15	ISUP '97 reference 7.6.9/Q.731.7 [8]	Selection expression DLE	Q.788 [34] reference None
Tast nurnosa				

MCID interaction with DDI.

To verify that the calling party number, the called party number with DDI are registered if provided.

Pre-test conditions.

Arrange the data in the IUT so that the called user has subscribed to the MCID and DDI services.

Case a)

SPA SPB access <-----IAM-----

- 1. Assist setup to the access.
- 2. Check the MCID recordings for the called party (with DDI).

Case b)

access SPA SPB <-----IAM---------> <----IRS-----

- 1. Assist setup to the access.
- 2. No number information in IAM.
- 3. Number information in IRS (with DDI).
- 4. Check the MCID recordings for the calling party.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
MCID/	ISS_V_9_16	7.6.10/Q.731.7 [8]	expression DLE AND PICS A.12/3	reference None

Test purpose

MCID interaction with diversion services.

To verify that besides the calling party number, the original called number and the redirecting number are registered if provided.

A call diversion service has been activated for this call.

Pre-test conditions.

Arrange the data in the IUT so that the user has subscribed to MCID.

access SPA

<-----IAM-----

TSS MCID/	TP ISS_V_9_16	ISUP '97 reference 7.6.10/Q.731.7 [8]	Selection expression DLE AND PICS A.12/3	Q.788 [34] reference None

- 1. Assist setup to the access.
- 2. MCID recordings should be kept while in active phase of call.

7.3.10 Conference call, add-on (CONF)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_1	1.5.2.1.1.1/Q.734 [41]	expression	reference
			Local AND BCall	None
			PICS A.13/13	ļ

Test purpose

Requirement related to echo control.

To verify that the IUT is able to initiate echo control procedures for the necessary legs when a new call is added to the conference.

NOTE: The used PICS is defined for the basic call (BCall).

Pre-test conditions.

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

For further study.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_2	1.5.2.1.1.2/Q.734 [41]	expression	reference
			Local AND	2.13.1
			PICS A.13/1	

Test purpose

Establishing a conference from an active call.

To verify that the IUT can successfully begin the conference from an active call and notify the implied parties correctly.

NOTE: The **generic notification indicator** set to "conference established" should be sent by the IUT in the **CPG.** The event indicator should be set to "progress".

Pre-test conditions.

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service. SPC SPA UNI at A SPA SPB

>	setup(CR2)->		
<acm< td=""><td><alerting< td=""><td></td><td></td></alerting<></td></acm<>	<alerting< td=""><td></td><td></td></alerting<>		
<anm< td=""><td><connect< td=""><td></td><td></td></connect<></td></anm<>	<connect< td=""><td></td><td></td></connect<>		
<cpg(hold)< td=""><td><info< td=""><td></td><td></td></info<></td></cpg(hold)<>	<info< td=""><td></td><td></td></info<>		
		setup(CR1)->	>
		<alerting< td=""><td><acm< td=""></acm<></td></alerting<>	<acm< td=""></acm<>
		<connect< td=""><td><anm< td=""></anm<></td></connect<>	<anm< td=""></anm<>
		check co	mmunication
		fac(begC)->	-CPG(conf est)->
<rel< td=""><td><disc< td=""><td>disc></td><td>></td></disc<></td></rel<>	<disc< td=""><td>disc></td><td>></td></disc<>	disc>	>
			<rlc< td=""></rlc<>

TSS CONF/	TP ISS_V_10_2	ISUP '97 reference 1.5.2.1.1.2/Q.734 [41]	Selection expression Local AND PICS A.13/1	Q.788 [34] reference 2.13.1
			PICS A. 13/1	

- 1. Assist a call set up to UNI at SPB.
- 2. Begin the conference and check that notification "conference established" is received in the CPG.
- 3. Release the call at the end terminal and check that all network resources are released.

TSS CONF/	TP ISS V 10 3	ISUP '97 reference 1.5.2.1.1.2/Q.734 [41]	Selection expression	Q.788 [34] reference
John 7	100_1_10_0		Local AND	2.13.1
			PICS A.13/1	

Adding calls (conferees) to an established conference.

To verify that the IUT is able to add a conferee to a conference and notify the implied parties correctly.

NOTE: The **generic notification indicator** set to "conference established" should be sent by the IUT to the new affected conferee and the **generic notification indicator** set to "other party added" to the non-affected conferees. The event indicator in the **CPG** should be set to "progress".

Pre-test conditions.

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service. Case a)

SPC	SPA	UNI	at A	SPA	SPB
IAM>	setup(C	!R2)-	>		
<acm< td=""><td><alerti< td=""><td>.ng</td><td>_</td><td></td><td></td></alerti<></td></acm<>	<alerti< td=""><td>.ng</td><td>_</td><td></td><td></td></alerti<>	.ng	_		
<anm< td=""><td>- <conne< td=""><td>ct</td><td>_</td><td></td><td></td></conne<></td></anm<>	- <conne< td=""><td>ct</td><td>_</td><td></td><td></td></conne<>	ct	_		
<cpg(hold)< td=""><td><info< td=""><td>)</td><td>-</td><td></td><td></td></info<></td></cpg(hold)<>	<info< td=""><td>)</td><td>-</td><td></td><td></td></info<>)	-		
			setup(CR1)-	>IAM	>
			<alerting< td=""><td>- <acm< td=""><td></td></acm<></td></alerting<>	- <acm< td=""><td></td></acm<>	
			<connect< td=""><td>- <anm< td=""><td></td></anm<></td></connect<>	- <anm< td=""><td></td></anm<>	
			check	communication .	
			fac(begC)-	> -CPG(conf es	t)->
<-CPG(conf est)-	<fac(a< td=""><td>iddC)</td><td>_</td><td>-CPG(oth pty</td><td>add)></td></fac(a<>	iddC)	_	-CPG(oth pty	add)>
	disc	:	>		
<rel< td=""><td>-</td><td></td><td>disc</td><td>>REL</td><td>></td></rel<>	-		disc	>REL	>
RLC>	,			<rlc< td=""><td></td></rlc<>	

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add a new conferee to the established conference and notify subscriber at SPB by sending him/her "other_party_added" in the CPG.

```
4. The conference is released by call clearing by the served user at SPA.
Case b)
SPC
              SPA
                        UNI at A
                                        SPA
                                                      SPB
-----IAM-----> --setup(CR2)->
<---- <-- alerting---
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                            --setup(CR1)-> -----IAM----->
                            <--alerting--- <----ACM-----
                            <---connect--- <----ANM-----
                               ... check communication ...
                            ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                          -CPG(oth pty add)>
---IAM(cic2)---> --setup(CR3)->
<---- <--alerting---
<----- <--connect----
<-CPG(conf est)- <--fac(addC)--
                                          -CPG(oth pty add)>
                            ----disc--->
<CPG(oth pty add) - (cic1)
<--REL(cic1)----
                           ----disc----> -----REL----->
-----
                                          <-----
<--REL(cic2)----
-----
```

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. The conference is released by call clearing by the served user at SPA.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_4	1.5.2.1.1.2/Q.734 [41]	expression	reference
			Local AND	None
			PICS A.13/2	

Joining the maximum number of conferees in a conference.

To verify that the IUT is able to join the maximum allowed number of conferees to a conference and notify the implied parties correctly.

NOTE: The **generic notification indicator** set to "conference established" should be sent by the IUT to the new affected conferee and the **generic notification indicator** set to "other party added" to the non-affected conferees. The event indicator in the **CPG** should be set to "progress".

Pre-test conditions.

```
Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.
```

```
SPC
                       UNI at A
             SPA
                                      SPA
-----IAM-----> --setup(CR2)->
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                          --setup(CR1)-> -----IAM---->
                          <--alerting--- <----ACM-----
                          <---connect--- <----ANM-----
                             ... check communication ...
                          ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                        --CPG(oth pty add)>
    ****** At this point there are 3 conferees in conference *****
REPEAT for each new conferee
---IAM(cicx) ---> ----setup ---> x = 2,3..n; n = maximum number of conferees-2
<-CPG(conf est)- <--fac(addC)--
                                       --CPG(oth pty add)>
               ----disc--->
<CPG(oth pty add)- (cicz) z = 1,2...n-1
Release conference:
<---REL(cicy)--- y = 1,2...n-1 ----disc---> -----REL----->
---->
                                        <----RLC----
```

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. The conference is released by call clearing by the served user at SPA.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_5	1.5.2.1.1.3/Q.734 [41]	expression	reference
			Local AND	2.13.2
			PICS A.13/1	

Isolation of party.

To verify that the IUT can successfully isolate a conferee from the conference and notify the implied parties correctly.

NOTE: The **generic notification indicator** set to "isolated" within **call progress** should be sent by the IUT to the affected conferee and the **generic notification indicator** set to "other party isolated" should be sent to the non-affected conferees. The event indicator in the **CPG** should be set to "progress". The isolated conferee should not be able to communicate with the rest of the conference.

Pre-test conditions.

```
Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.
SPC
                         UNI at A
              SPA
                                         SPA
-----IAM-----> --setup(CR2)->
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                             --setup(CR1)-> -----IAM---->
                             <--alerting--- <----ACM-----
                             <---connect--- <----ANM-----
                                ... check communication ...
                             ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                           --CPG(oth pty add)>
---IAM(cic2)---> --setup(CR3)->
<-----ACM----- <--alerting---
<----ANM----- <---connect---
<-CPG(conf est)- <--fac(addC)--
                                           --CPG(oth pty add)>
                ----disc--->
<CPG(oth pty add) - (cic1)
<CPG(oth pty iso)- (cicl)
                            ---fac(isoC)--> --CPG(isolated)->
<CPG(oth pty iso) - (cic2)
                           ---fac(reaC)--> --CPG(reattach)->
<CPG(oth pty rea) - (cic1)
<CPG(oth pty rea) - (cic2)
<---REL(cic1)---
                            -----disc---->
---->
                                            <-----
<---REL(cic2)---
-----
```

1. Assist a call set up to UNI at SPB.

2. Establish a conference from SPA to SPB.

TSS	TP	ISUP '97 reference	Selection expression	Q.788 [34]
CONF/	ISS V 10 5	1.5.2.1.1.3/Q.734 [41]		reference
			Local AND PICS A.13/1	2.13.2

- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. Isolate a conferee and check that the notification "isolated" is received in the CPG.
- 5. Reattach the conferee.
- 6. The conference is released by call clearing by the served user at SPA.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_6	1.5.2.1.1.4/Q.734 [41]	expression	reference
			Local AND	2.13.2
			PICS A.13/1	

Reattachment of party.

To verify that the IUT can successfully reattach the isolated conferee to the conference and notify the implied parties correctly.

NOTE: The **generic notification indicator** set to "reattached" should be sent by the IUT to the affected conferee and the **generic notification indicator** set to "other party reattached" should be sent to non-affected conferees. The event indicator in the **CPG** should be set to "progress".

Pre-test conditions.

```
Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

SPC SPA UNI at A SPA SPB
```

```
SPC
              SPA
                        UNI at A
                                         SPA
-----IAM-----> --setup(CR2)->
<----ACM----- <--alerting---
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                            --setup(CR1)-> -----IAM---->
                            <--alerting--- <----ACM-----
                            <---connect--- <----ANM-----
                               ... check communication ...
                            ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                          --CPG(oth pty add)>
---IAM(cic2)---> --setup(CR3)->
<---- <-- alerting---
<-CPG(conf est)- <--fac(addC)--
                                          --CPG(oth pty add)>
                ----disc--->
<CPG(oth pty add) - (cic1)
<CPG(oth pty iso)- (cic1)
                           ---fac(isoC)-> --CPG(isolated)-->
<CPG(oth pty iso) - (cic2)
```

TSS CONF/	TP ISS_V_10_6	ISUP '97 refere 1.5.2.1.1.4/Q.734		Selection expression Local AND PICS A.13/1	Q.788 [34] reference 2.13.2
<cpg(oth pty="" rea)<="" td=""><td>- (cic1)</td><td> -fac(reaC)-></td><td>CP</td><td>G(reattach)></td><td></td></cpg(oth>	- (cic1)	 -fac(reaC)->	CP	G(reattach)>	
<cpg(oth pty="" rea)<="" td=""><td>- (cic2)</td><td></td><td></td><td></td><td></td></cpg(oth>	- (cic2)				
<rel(cic1)< td=""><td></td><td> disc></td><td></td><td>REL></td><td></td></rel(cic1)<>		 disc>		REL>	
>			<	RLC	
<rel(cic2)< td=""><td></td><td></td><td></td><td></td><td></td></rel(cic2)<>					
>					
		 			

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. Isolate a conferee and check that the notification "isolated" is received in the CPG.
- 5. Reattach the conferee.
- 6. The conference is released by call clearing by the served user at SPA.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_7	1.5.2.1.1.5/Q.734 [41]	expression	reference
			Local AND	2.13.2
			PICS A.13/1	

Splitting of a party.

To verify that the IUT can create a private communication between the served user and one of the conferees and notify the implied parties correctly.

NOTE: The generic notification indicator set to "conference disconnected" should be sent by the IUT to the affected conferee and the generic notification indicator set to "other party split" should be sent to the non-affected conferees. The event indicator in the CPG should be set to "progress". The non-affected conferees should not be able to participate in the communication of the private communication. See also figure 1 to 5/Q.734 [41].

Pre-test conditions.

Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.

```
UNI at A
              SPA
                                         SPA
                                                       SPB
-----IAM-----> --setup(CR2)->
<----ACM----- <--alerting---
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                             --setup(CR1)-> -----IAM---->
                             <--alerting--- <----ACM-----
                             <---connect--- <----ANM-----
```

TSS CONF/	TP ISS_V_10_7	ISUP '97 reference 1.5.2.1.1.5/Q.734 [41]	Selection expression	Q.788 [34] reference
			Local AND PICS A.13/1	2.13.2
		check communi	cation	
		-fac(begC)->CP	G(conf est)->	
<-CPG(conf est)	- <fac(addc)< td=""><td>CP</td><td>G(oth pty add)</td><td>></td></fac(addc)<>	CP	G(oth pty add)	>
IAM(cic2):	>setup(CR2)->			
<acm< td=""><td>- <alerting< td=""><td></td><td></td><td></td></alerting<></td></acm<>	- <alerting< td=""><td></td><td></td><td></td></alerting<>			
<	- <connect< td=""><td></td><td></td><td></td></connect<>			
<-CPG(conf est)	- <fac(addc)< td=""><td>CP</td><td>G(oth pty add)</td><td>></td></fac(addc)<>	CP	G(oth pty add)	>
		disc>		
<cpg(oth add<="" pty="" td=""><td>d)- (cic1)</td><td></td><td></td><td></td></cpg(oth>	d)- (cic1)			
		setup(CR2)->		
	<-	connect		
<cpg(oth pty="" sp<="" td=""><td>lit)- (cic1)</td><td>CP</td><td>G(conf disc)-></td><td></td></cpg(oth>	lit)- (cic1)	CP	G(conf disc)->	
<cpg(oth pty="" sp<="" td=""><td>lit)- (cic2)</td><td></td><td></td><td></td></cpg(oth>	lit)- (cic2)			
<rel(cic1)< td=""><td>- <disc(cr1)< td=""><td>-disc(CR2)-></td><td>REL></td><td></td></disc(cr1)<></td></rel(cic1)<>	- <disc(cr1)< td=""><td>-disc(CR2)-></td><td>REL></td><td></td></disc(cr1)<>	-disc(CR2)->	REL>	
RLC	>	<	RLC	
<rel(cic2)< td=""><td>-</td><td></td><td></td><td></td></rel(cic2)<>	-			
RLC	>			

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. Split the conferee at SPB and check that the notification "conference disconnected" is received in the CPG.
- 5. The private communication between subscriber at SPA and subscriber at SPB is checked.
- 6. The conference is released by call clearing by the served user at SPA (CR1) and the private communication by normal call clearing (CR2).

TSS CONF/	TP ISS_V_10_8	ISUP '97 reference 1.5.2.1.1.6/Q.734 [41]	Selection expression Local AND PICS A.13/1	Q.788 [34] reference 2.13.3
--------------	------------------	--	---	-----------------------------------

Disconnection of conferee.

TSS CONF/	TP ISS V 10 8	ISUP '97 reference 1.5.2.1.1.6/Q.734 [41]	Selection expression	Q.788 [34] reference
John 7	100_1_10_0		Local AND	2.13.3
			PICS A.13/1	

To verify that IUT can successfully disconnect a conferee from the conference, if requested by the served user, and notify the implied parties correctly.

NOTE: The IUT should release the leg towards the conferee according to normal call release procedures, i.e. send a REL to a conferee connected to the conference. The generic notification indicator set to "other party disconnected " should be sent to the non-affected conferees. The event indicator in the CPG should be set to "progress".

Pre-test conditions.

```
Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.
                         UNI at A
              SPA
-----IAM-----> --setup(CR2)->
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                             --setup(CR1)-> -----IAM---->
                             <--alerting--- <----ACM-----
                             <---connect--- <----ANM-----
                                ... check communication ...
                             ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                            --CPG(oth pty add)>
---IAM(cic2)---> --setup(CR3)->
<-----ACM----- <--alerting---
<----ANM----- <---connect---
<-CPG(conf est)- <--fac(addC)--
                                          --CPG(oth pty add)>
                ----disc--->
<CPG(oth pty add) - (cic1)
<CPG(oth pty disc)- (cic1)
                            ---fac(dropC)-> -----REL---->
<CPG(oth pty disc)- (cic2)
                                             <-----RLC-----
<--REL(cic1)---- <----disc-----
---->
<--REL(cic2)----
-----
```

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. Release the dropped party at SPB.

TSS CONF/	TP ISS_V_10_8	ISUP '97 reference 1.5.2.1.1.6/Q.734 [41]	Selection expression Local AND PICS A.13/1	Q.788 [34] reference 2.13.3
5. The conferen	ce is released by c	all clearing by th	e served user	at SPA.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_9	1.5.2.1.1.7/Q.734 [41]	expression	reference
			Local AND	2.13.3
			PICS A.13/1	

Disconnection by a conferee.

To verify that IUT can successfully disconnect a conferee from the conference, if requested by the conferee, and notify the implied parties correctly.

NOTE: The IUT should release the leg towards the conferee according to normal call release procedures, i.e. send a RLC in response to the REL to a conferee connected to the conference through ISUP. The generic notification indicator set to "other party disconnected" should be sent to the non-affected conferees. The event indicator in the CPG should be set to "progress".

```
Pre-test conditions.
Arrange the data in the IUT such that the served user subscribes to CONF supplementary service.
                          UNI at A
SPC
               SPA
                                          SPA
<---- <-- alerting---
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                             --setup(CR1)-> -----IAM----->
                             <--alerting--- <----ACM-----
                             <---connect--- <----ANM-----
                                ... check communication ...
                             ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                            --CPG(oth pty add)>
---IAM(cic2)---> --setup(CR3)->
<----- <--alerting---
<----ANM----- <---connect---
                                           --CPG(oth pty add)>
<--CPG(conf est)- <--fac(addC)--
                ----disc--->
<CPG(oth pty add) - (cic1)
<CPG(oth pty disc)- (cicl) <-fac(pty disc)- <-----REL-----</pre>
<CPG(oth pty disc)- (cic2)
                                             -----
<--REL(cic1)---- <----disc-----
-----
<--REL(cic2)----
```

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_9	1.5.2.1.1.7/Q.734 [41]	expression	reference
			Local AND	2.13.3
			PICS A.13/1	

---->

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. Release request by the conferee at SPB.
- 5. The conference is released by call clearing by the served user at SPA.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_10	1.5.2.1.1.8/Q.734 [41]	expression Local AND	reference 2.13.2
			LOCAL AND	2.13.2
			PICS A.13/1	

Test purpose

Termination of conference.

To verify that IUT can successfully disconnect all conferees from the conference, if requested by the served user, and initiate the normal call release procedure towards each conferee.

NOTE: The IUT should send **REL** to all conferees connected to the conference.

Pre-test conditions.

```
Arrange the data in the IUT such that the served user subscribes to CONF supplementary service. SPC SPA UNI at A SPA SPB
```

```
<---- <--alerting---
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                           --setup(CR1)-> -----IAM---->
                           <--alerting--- <----ACM-----
                           <---connect--- <----ANM-----
                              ... check communication ...
                           ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                        --CPG(oth pty add)>
---IAM(cic2)---> --setup(CR3)->
<----- <--alerting---
<----ANM----- <---connect---
<-CPG(conf est)- <--fac(addC)--
                                        --CPG(oth pty add)>
                           ----disc--->
<CPG(oth pty add) - (cic1)
<--REL(cic1)----
                           --fac(endC)--> -----REL---->
```

TSS CONF/	TP ISS_V_10_10	ISUP '97 reference 1.5.2.1.1.8/Q.734 [41]	Selection expression Local AND PICS A.13/1	Q.788 [34] reference 2.13.2
RLC>		disc <	RLC	
RLC>				

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. Release the dropped party at SPB.
- 5. The conference is released by call clearing by the served user at SPA.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_I_10_11	1.5.2.1.2/Q.734 [41]	expression	reference
			Local AND	None
			PICS A.13/1	

Adding of conferees fails (unsuccessful).

To verify that if the procedure of adding conferees fails the concerned call remains in the previous state and notifications never be sent to the affected nor to the non-affected remote parties.

NOTE: The procedure of adding fails, e.g. because the maximum conference participants is exceeded. Pre-test conditions.

Arrange the data in the IUT such that the served user has subscribed to CONF supplementary service.

```
SPA
                        UNI at A
-----IAM-----> --setup(CR2)->
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                            --setup(CR1)-> -----IAM----->
                            <--alerting--- <----ACM-----
                            <---connect--- <----ANM-----
                               ... check communication ...
                            ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                          --CPG(oth pty add)>
-----At this point there are 3 conferees in conference.-----
REPEAT for each new conferee:
---IAM(cicx) ---> ----setup ---> x = 2,3..n; n = maximum number of conferees-2
<---- <--alerting---
<----ANM----- <---connect---
```

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_I_10_11	1.5.2.1.2/Q.734 [41]	expression	reference
			Local AND	None
			PICS A.13/1	
<cpg(conf est<="" td=""><td>)- <fac(addc)< td=""><td>C</td><td>PG(oth pty add)</td><td>></td></fac(addc)<></td></cpg(conf>)- <fac(addc)< td=""><td>C</td><td>PG(oth pty add)</td><td>></td></fac(addc)<>	C	PG(oth pty add)	>
	disc>			
<cpg(oth add<="" pty="" td=""><td>d) - (cicz) z = 1,2.</td><td>n-1</td><td></td><td></td></cpg(oth>	d) - (cicz) z = 1,2.	n-1		
Try to add anoth	her conferee (maxim	um number of conf	erees exceeded)	:
IAM(cicx):	>setup> x	= n+1		
<acm< td=""><td>- <alerting< td=""><td></td><td></td><td></td></alerting<></td></acm<>	- <alerting< td=""><td></td><td></td><td></td></alerting<>			
<anm< td=""><td>- <connect< td=""><td></td><td></td><td></td></connect<></td></anm<>	- <connect< td=""><td></td><td></td><td></td></connect<>			
	<fac(addc)< td=""><td></td><td></td><td></td></fac(addc)<>			
REL	->disc>			
<rlc< td=""><td></td><td></td><td></td><td></td></rlc<>				
Release conferen	nce:			
<rel(cicy)< td=""><td>y = 1, 2n-1</td><td>disc> -</td><td>REL></td><td></td></rel(cicy)<>	y = 1, 2n-1	disc> -	REL>	
RLC	->	<	RLC	

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. The conference is released by call clearing by the served user at SPA.

TSS CONF/	TP ISS_I_10_12	ISUP '97 reference 1.5.2.1.2/Q.734 [41]	Selection expression Local AND	Q.788 [34] reference None
			PICS A.13/1	

Isolation, reattachment, splitting, disconnection of a party, conference termination (unsuccessful).

To verify that if the procedures to isolate a party, reattach a party, split a party, disconnect a party, terminate conference fail, then the concerned call remains in the previous state and notifications are not sent to the affected nor to the non-affected remote parties.

NOTE: The procedure of reattachment fails, e.g. because the party was not formerly isolated. Pre-test conditions.

Arrange the data in the IUT such that the served user has subscribed to CONF supplementary service. SPC SPA UNI at A SPA SPB

```
-----IAM-----> --setup(CR2)->
<-----ACM------ <--alerting---
<----ANM------ <---connect---
<--CPG(hold)---- <---info-----

--setup(CR1)-> -----IAM----->
<--alerting--- <-----ACM------
```

TSS CONF/	TP ISS_I_10_12	ISUP '97 referen 1.5.2.1.2/Q.734 [expression Local AND PICS A.13/1	Q.788 [34] reference None
	<-		mmunication	
		-fac(begC)->	CPG(conf est)->	
<-CPG(conf est)-	<fac(addc)< td=""><td></td><td>CPG(oth pty add)</td><td>></td></fac(addc)<>		CPG(oth pty add)	>
IAM(cic2)>	setup(CR3)->			
<acm< td=""><td><alerting-< td=""><td></td><td></td><td></td></alerting-<></td></acm<>	<alerting-< td=""><td></td><td></td><td></td></alerting-<>			
<	<connect< td=""><td></td><td></td><td></td></connect<>			
<-CPG(conf est)-	<fac(addc)< td=""><td></td><td>CPG(oth pty add)</td><td>></td></fac(addc)<>		CPG(oth pty add)	>
	disc>			
<cpg(oth add<="" pty="" td=""><td>)- (cic1)</td><td></td><td></td><td></td></cpg(oth>)- (cic1)			
Try to reattach	a party who hasn't	been isolated	d:	
		fac(reattach)	->	
<rel(cic1)< td=""><td></td><td>disc></td><td>></td><td></td></rel(cic1)<>		disc>	>	
>			<	
<rel(cic2)< td=""><td></td><td></td><td></td><td></td></rel(cic2)<>				
>				

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. The conference is released by call clearing by the served user at SPA.
- 5. No CPG message with "reattached" should be received.

TSS CONF/	TP ISS_V_10_13	ISUP '97 reference 1.5.2.2.1, 1.5.2.3.1, 1.5.2.4.1/Q.734 [41]	Selection expression (IntermE OR DLE) AND PICS A.13/1	Q.788 [34] reference None
Test purpose Notification procedure s To verify that the IUT co		eliver the required notification	ons in/from the CPG me	essage.
SPC	SPA	SPB		
IAM	>IAM	>		
<acm< td=""><td> <acm< td=""><th></th><th></th><th></th></acm<></td></acm<>	<acm< td=""><th></th><th></th><th></th></acm<>			

TSS CONF/	TP ISS_V_10_13	ISUP '97 reference 1.5.2.2.1, 1.5.2.3.1, 1.5.2.4.1/Q.734 [41]	Selection expression (IntermE OR DLE) AND PICS A.13/1	Q.788 [34] reference None
r	inging tone			
<anm< td=""><td> <anm< td=""><th></th><td></td><td></td></anm<></td></anm<>	<anm< td=""><th></th><td></td><td></td></anm<>			
checl	communication			
CPG	>CPG	>		
CPG	>CPG	>		
check cont	ference communicat	ion		
CPG	>CPG	>		
CPG	>CPG	>		
CPG	>CPG	>		
check cont	ference communicat	ion		
<rel< td=""><td> <rel< td=""><th></th><td></td><td></td></rel<></td></rel<>	<rel< td=""><th></th><td></td><td></td></rel<>			
RLC	>RLC	>		
4. Check the not 5. Check the not	cification "other cification "isolat cification "reatta			
	conference			
Case b)	conference			
Case b)	conference SPA	SPB		
access				
access	SPA			
access <setup< td=""><td>SPA <iam< td=""><th></th><td></td><td></td></iam<></td></setup<>	SPA <iam< td=""><th></th><td></td><td></td></iam<>			
access <setupalerting ring<="" td=""><td>SPA <iam >ACM</iam </td><th>></th><td></td><td></td></setupalerting>	SPA <iam >ACM</iam 	>		
access <setupalerting check="" co<="" ringconnect="" td=""><td>SPA <iam>ACM ging tone>ANM</iam></td><th>> ></th><td></td><td></td></setupalerting>	SPA <iam>ACM ging tone>ANM</iam>	> >		
access <setupalerting check="" co<="" ringconnect="" td=""><td>SPA <acm ging="" tone="">ANM ommunication <cpg< td=""><th>> ></th><td></td><td></td></cpg<></acm></td></setupalerting>	SPA <acm ging="" tone="">ANM ommunication <cpg< td=""><th>> ></th><td></td><td></td></cpg<></acm>	> >		
access <setupalerting check="" co<="" ringconnect="" td=""><td>SPA <acm ging="" tone="">ANM communication <cpg< td=""><th>> ></th><td></td><td></td></cpg<></acm></td></setupalerting>	SPA <acm ging="" tone="">ANM communication <cpg< td=""><th>> ></th><td></td><td></td></cpg<></acm>	> >		
access <setup <notify="" alerting="" check="" co="" connect="" cons<="" ring="" td=""><td>SPA <iam>ACM ging tone>ANM communication <cpg communicat<="" eerence="" td=""><th>>>> ion</th><td></td><td></td></cpg></iam></td></setup>	SPA <iam>ACM ging tone>ANM communication <cpg communicat<="" eerence="" td=""><th>>>> ion</th><td></td><td></td></cpg></iam>	>>> ion		
access <setup <notify="" alerting="" check="" co="" connect="" cons<="" ring="" td=""><td>SPA <acm ging="" tone="">ANM communication <cpg< td=""><th>>>> ion</th><td></td><td></td></cpg<></acm></td></setup>	SPA <acm ging="" tone="">ANM communication <cpg< td=""><th>>>> ion</th><td></td><td></td></cpg<></acm>	>>> ion		

Selection

Q.788 [34]

ISUP '97 reference

CONF/	ISS_V_10_13	1.5.2.2.1, 1.5.2.3.1, 1.5.2.4.1/Q.734 [41]	expression (IntermE OR DLE) AND PICS A.13/1	reference None
<notify< td=""><th> <cpg< th=""><th></th><th></th><th></th></cpg<></th></notify<>	<cpg< th=""><th></th><th></th><th></th></cpg<>			
check con	ference communicati	on		
/disc	PRT			

1. Assist a call set up from SPC to SPB.

- 2. Send the notification "conference established" is received in the CPG from conferee at SPC.
- 3. Send the notification "other party added" in the CPG.

---->

- 4. Send the notification "isolated" in the CPG.
- 5. Send the notification "reattached" in the CPG.

TP

- 6. Send the notification "other party disconnected" in the CPG.
- 7. Release the conference

TSS

TSS CONF/	TP ISS V 10 14	ISUP '97 reference 1.6.15/Q.734 [41]	Selection expression	Q.788 [34] reference
001417	100_1_10_14	1.0.13/4./34 [41]	Local AND	None
			PICS A.13/1	

Test purpose

Interaction with HOLD - held user added to conference.

-----IAM----> --setup(CR2)->

To verify that no retrieve notification is sent to a user put on hold and subsequently added to a conference call, but that the IUT sends the "conference established" notification to the held user.

NOTE: The IUT should send the **CPG** with the **generic notification indicator** set to "conference established" to the held user.

Pre-test conditions.

Arrange the data in the IUT such that the served user has subscribed to CONF and HOLD supplementary services. SPC SPA UNI at A SPA SPB

TSS CONF/	TP ISS_V_10_14	ISUP '97 reference 1.6.15/Q.734 [41]	Selection expression Local AND PICS A.13/1	Q.788 [34] reference None
	disc>			
<rel< td=""><td></td><td>disc></td><td>REL></td><td></td></rel<>		disc>	REL>	
>		<	RLC	

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add a new conferee to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. The conference is released by call clearing by the served user at SPA.
- 5. Check if "conference established notification" was received by user at SPC.

Local None	TSS CONF/	TP ISS V 10 15	ISUP '97 reference 1.6.15/Q.734 [41]	Selection expression	Q.788 [34] reference
				Local	None

Interaction with HOLD - conference put on hold by conference controller.

-----IAM-----> --setup(CR2)->

To verify that no hold and no retrieve notification is sent to the conferees when the conference controller puts the conference on hold.

Pre-test conditions.

Arrange the data in the IUT such that the served user has subscribed to CONF and HOLD supplementary services. SPC SPA UNI at A SPA SPB

```
<----ACM----- <--alerting---
<----ANM----- <---connect---
<--CPG(hold)---- <---info----
                              --setup(CR1)-> -----IAM---->
                              <--alerting--- <----ACM-----
                              <---connect--- <----ANM-----
                                 ... check communication ...
                              ---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)--
                                             --CPG(oth pty add)>
---IAM(cic2)---> --setup(CR3)->
<-----ACM----- <--alerting---
<----ANM----- <---connect---
<-CPG(conf est)- <--fac(addC)--
                                            --CPG(oth pty add)>
                ----disc--->
<CPG(oth pty add) - (cic1)
```

TSS CONF/	TP ISS_V_10_15	ISUP '97 reference 1.6.15/Q.734 [41]	Selection expression Local	Q.788 [34] reference None
·		-info(hold)->	•	
	-	-info(retr)->		
	No	CPGs should be se	ent in the netwo	ork
<rel(cic1)< td=""><td>-</td><td>disc></td><td>REL></td><td></td></rel(cic1)<>	-	disc>	REL>	
>		<	RLC	
<rel(cic2)< td=""><td></td><td></td><td></td><td></td></rel(cic2)<>				
>				

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. No CPGs should be received by the conferee at SPB.
- 5. The conference is released by call clearing by the served user at SPA.
- 6. No CPGs should be received by the conferees at SPC.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CONF/	ISS_V_10_16	1.6.15/Q.734 [41]	expression	reference
			Local	None

Interaction with HOLD - conference put on hold by conferee.

To verify that when the IUT receives notification from a conferee that a call has been put on hold and subsequently retrieved, the IUT passes on this notification to the served user, but does not send any information to the other non-affected conferees.

Pre-test conditions.

Arrange the data in the IUT such that the served user has subscribed to CONF and HOLD supplementary services. SPC SPA UNI at A SPA SPB

```
-----IAM-----> --setup(CR2)->
<-----ACM------ <--alerting---
<---CPG(hold)---- <---info-----

--setup(CR1)-> ----IAM----->
<--alerting--- <-----ACM------
<---connect--- <----ACM------
<---connect--- <----ANM------

... check communication ...

---fac(begC)-> --CPG(conf est)->
<-CPG(conf est)- <--fac(addC)-- --CPG(oth pty add)>
```

TSS CONF/	TP ISS_V_10_16	ISUP '97 reference 1.6.15/Q.734 [41]	Selection expression Local	Q.788 [34] reference None
IAM(cic2)>	>setup(CR3)->			
<acm< td=""><td>- <alerting< td=""><td></td><td></td><th></th></alerting<></td></acm<>	- <alerting< td=""><td></td><td></td><th></th></alerting<>			
<anm< td=""><td>- <connect< td=""><td></td><td></td><th></th></connect<></td></anm<>	- <connect< td=""><td></td><td></td><th></th></connect<>			
<-CPG(conf est)-	<fac(addc)< td=""><td>0</td><td>CPG(oth pty add)</td><th>></th></fac(addc)<>	0	CPG(oth pty add)	>
	disc>			
<cpg(oth add<="" pty="" td=""><td>d)- (cic1)</td><td></td><td></td><th></th></cpg(oth>	d)- (cic1)			
	<-	-info(hold) <-	CPG(hold)	
	<-	-info(retr) <-	·CPG(retrieve)	
	No	CPGs should be s	ent in the netw	ork
<rel(cic1)< td=""><td></td><td>disc></td><td>REL></td><th></th></rel(cic1)<>		disc>	REL>	
RLC>	>	<-	RLC	
<rel(cic2)< td=""><td>-</td><td></td><td></td><th></th></rel(cic2)<>	-			
RLC>	>			

- 1. Assist a call set up to UNI at SPB.
- 2. Establish a conference from SPA to SPB.
- 3. Add two new conferees to the established conference and notify subscriber at SPB by sending him/her "other party added" in the CPG.
- 4. Call hold is activated by the conferee at SPB, "remote hold" is sent in the CPG (no notification to the non-affected party, e.g. the served user at SPA).
- 5. Call is retrieved by user at SPB, "remote retrieval" is sent in the CPG (no notification to the non-affected users at SPC).
- 6. No CPGs should be received by the conferee at SPB.
- 7. The conference is released by call clearing by the served user at SPA.
- 8. No CPGs should be received by the conferees at SPC.

7.3.11 Explicit call transfer (ECT)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_1	7.5.2.1.1.1 a)	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/1	

Test purpose

Capability of storing and sending the additional calling party number in the call transfer number.

To verify that the IUT is able to store the additional calling party number in the generic number when the calling party number and the generic number have been received from the remote user. This information is sent by the IUT to the other remote user in the call transfer number in either the FAC or CPG when the call transfer is activated.

Arrange the data in the IUT so that the served user subscribes to HOLD, CW and ECT. Case a)

 SPC
 SPA
 SPB

 1st call
 2nd call

 -----IAM------ ------ACM-----

 <-----ANM------</td>
 -----IAM------>

<----ACM-----

<----ANM-----

<------ remote addCgPN in CTNb

- 1. Assist call set up for the $1^{\rm st}$ call and then initiate the $2^{\rm nd}$ call at the UNI A (IUT).
- 2. Initiate the $1^{\rm st}$ call from SPC to the IUT (SPA) using the number TSP_Nb_A on the $1^{\rm st}$ B-channel.
- 3. Assist the 2^{nd} call set up from UNI A to the IUT on the 2^{nd} B-channel.
- 4. FAC with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb TSP_GenNb_C.

Case b)

 SPC
 SPA
 SPB

 1st call
 2nd call

 -----IAM----- ------ACM-----

 <-----ANM------</td>
 -----IAM-----

 <-----ACM------</td>
 ------ACM-----

TSS ECT/	TP ISS_V_11_1	ISUP '97 reference 7.5.2.1.1.1 a) /Q.732.7 [11]	Selection expression Local AND PICS A.14/1	Q.788 [34] reference None
<fac< td=""><td> CPG</td><th>> remote add0</th><th>CgPN in CTNb</th><td></td></fac<>	CPG	> remote add0	CgPN in CTNb	
<fac< td=""><td> < ANM</td><th></th><th></th><td></td></fac<>	< ANM			
:				

- 1. Assist call set up for the $1^{\rm st}$ call and then initiate the $2^{\rm nd}$ call at the UNI A (IUT).
- 2. Initiate the $1^{\rm st}$ call from SPC to the IUT (SPA) using the number TSP_Nb_A on the $1^{\rm st}$ B-channel.
- 3. Assist the 2^{nd} call set up from UNI A to the IUT on the 2^{nd} B-channel.
- 4. CPG (progress) with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb TSP_GenNb_C.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_2	7.5.2.1.1.1 a)	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/1	

SPC

Capability of storing and sending the calling party number in the call transfer number.

To verify that the IUT is able to store the **calling party number** when only this CLI has been received from the remote user. This information is sent by the IUT to the other remote user in the **call transfer number** in either the **FAC** or **CPG** when the call transfer is activated.

SPB

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD, CW and ECT. Case $\,$ a $\,$

SPA

1 st call	2 nd call	
>		
<acm< td=""><td></td><td></td></acm<>		
<anm< td=""><td></td><td></td></anm<>		
<	hold 1st call	
	<acm< td=""><td></td></acm<>	
	<anm< td=""><td></td></anm<>	
<fac< td=""><td>FAC></td><td>remote CgPN in CTNb</td></fac<>	FAC>	remote CgPN in CTNb
:		

- 1. Assist call set up for the 1^{st} call and then initiate the 2^{nd} call at the UNI A (IUT).
- 2. Initiate the $1^{\rm st}$ call from SPC to the IUT (SPA) using the number TSP_Nb_A on the $1^{\rm st}$ B-channel.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_2	7.5.2.1.1.1 a)	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/1	
3. Assist the 2 ¹	nd call set up from	UNI A to the IUT	on the 2 nd B-ch	annel.
4. FAC with Gend - TSP_Nb_C.	Not:"call transfer,	active", ServAct	: "call transfe	r" and CTNb
Case b)				
SPC	SPA	SPB		
1 st call	2^{nd} call	-		
IAM	>			
<acm< td=""><td></td><td></td><td></td><td></td></acm<>				
<anm< td=""><td></td><td></td><td></td><td></td></anm<>				
<cpg< td=""><td> hold 1st call</td><td></td><td></td><td></td></cpg<>	hold 1 st call			
	IAM-	>		
	<acm-< td=""><td></td><td></td><td></td></acm-<>			
<fac< td=""><td>CPG-</td><td>> remote CgP</td><td>N in CTNb</td><td></td></fac<>	CPG-	> remote CgP	N in CTNb	
<fac< td=""><td> <anm-< td=""><td></td><td></td><td></td></anm-<></td></fac<>	<anm-< td=""><td></td><td></td><td></td></anm-<>			
:				

- 1. Assist call set up for the 1^{st} call and then initiate the 2^{nd} call at the UNI A (IUT).
- 2. Initiate the $1^{\rm st}$ call from SPC to the IUT (SPA) using the number TSP_Nb_A on the $1^{\rm st}$ B-channel.
- 3. Assist the 2^{nd} call set up from UNI A to the IUT on the 2^{nd} B-channel.
- 4. CPG (progress) with GenNot:"call transfer, active", ServAct: "call transfer" and CTNb TSP_Nb_C.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_3	7.5.2.1.1.1 b)	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/1	

Capability of storing and sending the additional connected number in the call transfer number.

To verify that the IUT is able to store the additional connected number in the **generic number** when the **connected number** and the **generic number** have been received from the remote user. This information is sent by the IUT to the other remote user in the **call transfer number** in either the **FAC** or **CPG** when the call transfer is activated. Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT. Case $\,$ a $\,$

SPC SPA SPB $1^{\text{st}} \text{ call} \qquad 2^{\text{nd}} \text{ call}$

TSS ECT/	TP ISS_V_11_3	ISUP '97 reference 7.5.2.1.1.1 b) /Q.732.7 [11]	Selection expression Local AND PICS A.14/1	Q.788 [34] reference None
<iam< td=""><th></th><td>I</td><th>1 100 A.14/1</th><th><u> </u></th></iam<>		I	1 100 A.14/1	<u> </u>
ACM	>			
ANM	>			
<cpg< td=""><th> hold 1st call</th><td></td><th></th><th></th></cpg<>	hold 1 st call			
	IAM	>		
	<acm< th=""><td></td><th></th><th></th></acm<>			
	<anm< th=""><td></td><th></th><th></th></anm<>			
<fac< td=""><th> FAC</th><td>> remote addCc</td><th>nNb in CTNb fro</th><th>om UNI at SPC</th></fac<>	FAC	> remote addCc	nNb in CTNb fro	om UNI at SPC
1. Initiate 2 ca	alls from the UNI A	(IUT).		
2. Assist 1 st ca	ll set up on the le	eft side (SPC).		
3. Assist 2 nd ca	ll set up on the ri	ght side (SPB).		
4. FAC with Genn - TSP_GenNb_C.	Not:"call transfer,	active", ServAct	: "call transfe	er" and CTNb
Case b)				
SPC	SPA	SPB		
1 st call	2^{nd} call			
<iam< td=""><th></th><td></td><th></th><th></th></iam<>				
ACM	>			
ANM	>			
<cpg< td=""><th> hold 1st call</th><td></td><th></th><th></th></cpg<>	hold 1 st call			
	IAM	>		
	<acm< th=""><td></td><th></th><th></th></acm<>			
<fac< td=""><th>CPG</th><td>> remote addCo</td><th>nNb in CTNb fro</th><th>om UNI at SPC</th></fac<>	CPG	> remote addCo	nNb in CTNb fro	om UNI at SPC
<fac< td=""><th> <anm< th=""><td></td><th></th><th></th></anm<></th></fac<>	<anm< th=""><td></td><th></th><th></th></anm<>			
:				
1. Initiate 2 ca	alls from the UNI A	(IUT).		
2. Assist 1 st ca	ll set up on the le	eft side (SPC).		
3. Assist 2 nd ca	ll set up on the ri	ght side (SPB).		
	s) with GenNot:"cal TNb - TSP_GenNb_C.	l transfer, activ	re", ServAct: "c	eall

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_4	7.5.2.1.1.1 b)	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/1	

Capability of storing and sending the connected number in call transfer number.

To verify that the IUT is able to store **connected number** when only this COL has been received from the remote user. This information is sent by the IUT to the other remote user in the **call transfer number** in either the **FAC** or **CPG** when the call transfer is activated.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

Case a)

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist 1st call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. FAC with GenNot: "call transfer, active", ServAct: "call transfer" and CTNb TSP_Nb_C.

Case b)

TSS ECT/	TP ISS_V_11_4	ISUP '97 reference 7.5.2.1.1.1 b) /Q.732.7 [11]	Selection expression Local AND PICS A.14/1	Q.788 [34] reference None					
<fac <anm<="" td=""></fac>									
1. Initiate 2 calls from the UNI A (IUT).									
	l set up on the l	,							

4.	CPG	(pr	ogre	ess)	wit	h G	enNo	t:	call"	transf	er,	activ	e",	ServAct:	"call
tra	ansfe	r"	and	CTNb	_	TSP	_Nb_	C.							

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_5	7.5.2.1.1.2.1	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/2	

Loop prevention procedure - initiation.

To verify that the local exchange controlling the ECT can successfully initiate the loop prevention procedure by sending **LOP** with **loop prevention indicator** set to "request" and with **call transfer reference** for both calls. Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

3. Assist 2^{nd} call set up on the right side (SPB).

SPC SPA SPB

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist $\mathbf{1}^{\text{st}}$ call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. Send back the received CTRef with "no loop exists" indication.
- 5. FAC activating the ECT service.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_6	7.5.2.1.1.2.1	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/2	

Loop prevention procedure - successful response.

To verify that the local exchange controlling the ECT can successfully perform a call transfer if a **LOP** with **loop prevention indicator** set to "response" is received and "no loop exists", and the call identity matches the one used by the IUT.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

SPC SPA SPB

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist 1^{st} call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. Send back the received CTRef with "no loop exists" indication.
- 5. FAC activating the ECT service (GenNot: "call transfer, active").

TSS ECT/	TP ISS_I_11_7	ISUP '97 reference 7.5.2.1.1.2.1	Selection expression	Q.788 [34] reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/2	

Test purpose

Loop prevention procedure - wrong call transfer identity ignored.

To verify that the local exchange controlling the ECT disregards the **LOP** with **loop prevention indicator** set to "response" and "no loop exists", if the call transfer identity does not match the one used by the IUT.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

SPC SPA SPB

 1^{st} call 2^{nd} call

Q.788 [34]

Selection

ISUP '97 reference

ECT/	ISS_I_11_7	7.5.2.1.1.2.1 /Q.732.7 [11]	expression Local AND PICS A.14/2	reference None
<iam< td=""><td></td><td>•</td><td></td><td></td></iam<>		•		
ACM	>			
ANM	>			
<cpg< td=""><td> hold 1st call</td><td></td><td></td><td></td></cpg<>	hold 1 st call			
	IAM	>		
	<acm< td=""><td></td><td></td><td></td></acm<>			
	<anm< td=""><td></td><td></td><td></td></anm<>			
<lop< td=""><td>LOP</td><td>></td><td></td><td></td></lop<>	LOP	>		
	<lop< td=""><td> (to be dis</td><td>regarded)</td><td></td></lop<>	(to be dis	regarded)	
LOP	> <lop< td=""><td></td><td></td><td></td></lop<>			
<fac< td=""><td>FAC</td><td>></td><td></td><td></td></fac<>	FAC	>		
:				

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist 1^{st} call set up on the left side (SPC).

TP

- 3. Assist 2^{nd} call set up on the right side (SPB).
- $4.\ \mbox{Send}$ back an altered (incremented) CTRef with "no loop exists" indication, to be disregarded.
- 5. Send back the received CTRef with "no loop exists" indication.
- 6. FAC activating the ECT service.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_I_11_8	7.5.2.1.1.2.1	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/2	

Test purpose

TSS

Loop prevention procedure - unsuccessful (loop exists).

To verify that the local exchange controlling the ECT rejects the call transfer if the **LOP** is received with **loop prevention indicator** set to "request" and the **call transfer reference** matches the one used by the IUT.

---->

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

 SPC
 SPA

 1st call
 2nd call

 <----IAM------</td>
 -----ACM----->

 -----ANM----->
 ------CPG------ hold 1st call

TSS ECT/	TP ISS_I_11_8	ISUP '97 reference 7.5.2.1.1.2.1 /Q.732.7 [11]	Selection expression Local AND PICS A.14/2	Q.788 [34] reference None
	<acm< td=""><td></td><th></th><th></th></acm<>			
	<anm< td=""><td></td><th></th><th></th></anm<>			
<lop< td=""><td>LOP</td><td>></td><th></th><th></th></lop<>	LOP	>		
LOP	> <lop< td=""><td> (received</td><th>messages are re</th><th>turned)</th></lop<>	(received	messages are re	turned)
<rel< td=""><td>REL</td><td>></td><th></th><th></th></rel<>	REL	>		
RLC	> <rlc< td=""><td></td><th></th><th></th></rlc<>			

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist $1^{\rm st}$ call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. Send back the received CTRef with LOPInd "request" (identical to the one received).
- 5. Call is rejected.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_9	7.5.2.1.1.2.1; 7.6.2	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/2	

Loop prevention procedure - unsuccessful (interaction with ECT).

To verify that the local exchange controlling the ECT rejects the call transfer if the **LOP** is received with **loop prevention indicator** set to "response" and "simultaneous transfer" in case of interaction with ECT.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT. SPC SPA SPB

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_9	7.5.2.1.1.2.1; 7.6.2	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/2	

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist 1st call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- $4.\ \, \text{Send} \,\,\, \text{back the received CTRef with LOPInd "response" set to "simultaneous transfer".}$
- 5. The call is rejected.

TSS ECT/	TP ISS_V_11_10	ISUP '97 reference 7.5.2.1.1.2.1 /Q.732.7 [11]	Selection expression Local AND PICS A.14/2 AND	Q.788 [34] reference None
			PICS A.14/8	

Loop prevention procedure - unsuccessful (interworking situation).

To verify that the local exchange controlling the ECT rejects the call transfer if the **LOP** is received with **loop prevention indicator** set to "response" and "insufficient information" from e.g. interworking situations. Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

SPC SPA SPB

1 st call	2 nd call		
<iam< td=""><td></td><td></td><td></td></iam<>			
>			
>			
<cpg< td=""><td>hold 1st call</td><td></td><td></td></cpg<>	hold 1st call		
	>		
	<acm< td=""><td></td><td></td></acm<>		
	<anm< td=""><td></td><td></td></anm<>		
<lop< td=""><td>></td><td></td><td></td></lop<>	>		
>	<lop< td=""><td>("insufficient</td><td><pre>information")</pre></td></lop<>	("insufficient	<pre>information")</pre>
<rel< td=""><td>></td><td></td><td></td></rel<>	>		
>	<rlc< td=""><td></td><td></td></rlc<>		

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist 1^{st} call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. Send back the received CTRef with LOPInd "response" set to "insufficient information".
- 5. Call is rejected.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_11	7.5.2.1.1.2.1	expression	reference
		/Q.732.7 [11]	Local AND PICS A.14/2 AND PICS A.14/9	None

Loop prevention procedure - successful (interworking situation).

To verify that the local exchange controlling the ECT completes the call transfer if the **LOP** is received with **loop prevention indicator** set to "response" and "insufficient information" from e.g. interworking situations.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

SPC SPA SPB

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist 1st call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. Send back the received CTRef with LOPInd "response" set to "insufficient information".
- 5. FAC activating the ECT service.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_12	7.5.2.1.1.2.1	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/2 AND	
			PICS A.14/4	

Test purpose

Loop prevention procedure - unsuccessful on timer expiry.

To verify that the local exchange controlling the ECT rejects the call transfer if no LOP is received within T_{ECT} expiry. Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

SPC SPA SPB 1^{st} call 2^{nd} call

<----IAM-----

TSS ECT/	TP ISS_V_11_12	ISUP '97 reference 7.5.2.1.1.2.1 /Q.732.7 [11]	Selection expression Local AND PICS A.14/2 AND PICS A.14/4	Q.788 [34] reference None
ACM	>			
ANM	>			
<cpg< td=""><th> hold 1st call</th><th></th><td></td><td></td></cpg<>	hold 1 st call			
	IAM	>		
	<acm< th=""><th></th><td></td><td></td></acm<>			
	<anm< th=""><th></th><td></td><td></td></anm<>			
<lop< td=""><th>LOP</th><th>></th><td></td><td></td></lop<>	LOP	>		
No LOP	response is sent,	TECT expires		
<rel< td=""><th>REL</th><th>></th><td></td><td></td></rel<>	REL	>		
RLC	> <rlc< th=""><th></th><td></td><td></td></rlc<>			
1. Initiate 2 ca	alls from the UNI A	(IUT).		
2. Assist 1 st ca	ll set up on the le	ft side (SPC).		
3. Assist 2 nd ca	ll set up on the ri	ght side (SPB).		
4. Call is reject	cted.			

TSS ECT/	TP ISS_V_11_13	ISUP '97 reference 7.5.2.1.1.2.1 /Q.732.7 [11]	Selection expression Local AND PICS A.14/2 AND PICS A.14/5	Q.788 [34] reference None
	edure - successful on timer I exchange controlling the E		sfer if no LOP is receive	ed within T ECT

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT. SPC SPA SPB $1^{\rm st} \ {\rm call} \qquad 2^{\rm nd} \ {\rm call}$

```
-----IAM----->
------ACM----->
------ANM----->
<------CPG------- hold 1<sup>st</sup> call
-----IAM----->
<-----ACM------>
<-----ACM------>
```

TSS ECT/	TP ISS_V_11_13	ISUP '97 reference 7.5.2.1.1.2.1 /Q.732.7 [11]	Selection expression Local AND PICS A.14/2 AND PICS A.14/5	Q.788 [34] reference None	
No LOP response is sent, TECT expires					
<					
:	:				
1. Initiate 2 c	1. Initiate 2 calls from the UNI A (IUT).				
2. Assist 1 st call set up on the left side (SPC).					
3. Assist 2^{nd} call set up on the right side (SPB).					
4. TECT expired, release the call.					
5. FAC activati	ng the ECT service.				
6. The call sho	uld not be released				

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_14	7.5.2.1.1.2.2 a) /Q.732.7 [11]	expression Local	reference None

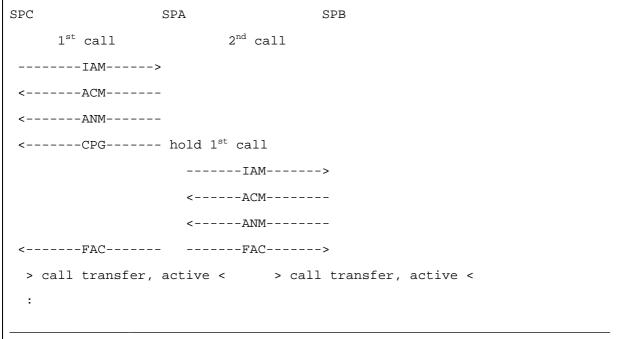
Facility message with generic notification sent to the remote user.

To verify that the local exchange controlling the ECT can successfully initiate a call transfer by sending **FAC** with the **generic notification** set to "call transfer, active" or "call transfer, alerting" and the **service activation** parameter set to "call transfer".

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

Case a)



1. Assist call setup for the 1^{st} call and then initiate the 2^{nd} call at the UNI A (IUT).

TSS ECT/	TP ISS_V_11_14	ISUP '97 reference 7.5.2.1.1.2.2 a)	Selection expression	Q.788 [34] reference	
20.7	100_1_11_14	/Q.732.7 [11]	Local	None	
2. Initiate the	1 st call set up on	the left side (SI	PC).		
3. Assist 2^{nd} call set up on the right side (SPB).					
4. FAC with Gen	Not:"call transfer,	active" and Serv	Act: "call tran	sfer".	
Case b)					
SPC	SPA	SPB			
1 st call	1 st call 2 nd call				
IAM	>				
<acm< td=""><td></td><td></td><td></td><td></td></acm<>					
<anm< td=""><td></td><td></td><td></td><td></td></anm<>					
<cpg< td=""><td> hold 1st call</td><td></td><td></td><td></td></cpg<>	hold 1 st call				
	IAM	>			
	<acm< td=""><td></td><td></td><td></td></acm<>				
<fac< td=""><td>CPG</td><td>></td><td></td><td></td></fac<>	CPG	>			
> call transfer	, alerting <	call transfer, ac	tive		
<fac< td=""><td> <anm< td=""><td></td><td></td><td></td></anm<></td></fac<>	<anm< td=""><td></td><td></td><td></td></anm<>				
call trans	fer, active				
:	:				
1. Assist call A (IUT).	setup for the 1 st ca	ll and then initi	late the 2 nd cal	l at the UNI	
2. Initiate the	1 st call set up on	the left side (SI	PC).		

- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. CPG (progress) with GenNot: "call transfer, active".

TSS ECT/	TP ISS_V_11_15	ISUP '97 reference 7.5.2.1.1.2.2 a) /Q.732.7 [11]	Selection expression Local	Q.788 [34] reference None

Call progress message with generic notification sent to the remote user.

To verify that the local exchange (controlling the ECT) can successfully initiate a call transfer by sending CPG with the generic notification set to "call transfer, active" and the service activation parameter set to "call transfer". Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT. SPC SPA

 2^{nd} call $1^{\rm st}$ call

---->

Q.788 [34]

Selection

ISUP '97 reference

TP

ECT/	ISS_V_11_15	7.5.2.1.1.2.2 a) /Q.732.7 [11]	expression Local	reference None				
<acm< td=""><th></th><th></th><th></th><td></td></acm<>								
<anm< td=""><td colspan="8"><anm< td=""></anm<></td></anm<>	<anm< td=""></anm<>							
< CPG hold 1 st call								
>								
<acm< td=""></acm<>								
<>FAC>								
call transfer, a	call transfer, alerting > call transfer, active <							
<fac< td=""><th> <anm< th=""><th></th><th></th><td></td></anm<></th></fac<>	<anm< th=""><th></th><th></th><td></td></anm<>							
call transfer	call transfer, active							
:								
-								
1. Assist call setup for the $1^{\rm st}$ call and then initiate the $2^{\rm nd}$ call at the UNI A (IUT).								
2. Initiate the	1 st call set up on	the left side (S	PC).					
3. Assist 2 nd ca	ll set up on the ri	ght side (SPB).						

TSS T ECT/ ISS_V		Selection expression Local	Q.788 [34] reference None
---------------------	--	----------------------------------	---------------------------------

4. CPG (progress) with GenNot:" call transfer, active" and ServAct: "call

Test purpose

transfer".

Facility message send upon receipt of the ANM when the ECT is invoked while one call is alerting.

To verify that, in case the ECT is invoked while one call is alerting, as soon as the local exchange (controlling the ECT) receives the **ANM**, it can successfully send to the other remote user the **FAC** with **service activation** set to "call transfer" and the **generic notification** set to "call transfer, active".

Pre-test conditions.

TSS

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT. $_{\rm SPC}$ $_{\rm SPA}$ $_{\rm SPB}$

1st call 2nd call
-----IAM----->
<-----ACM----<-----CPG------ hold 1st call
-----IAM----->
<-----ACM------>
call transfer, alerting call transfer, active

TSS TP ISUP '97 reference Selection Q.788 [34] ECT/ ISS_V_11_16 7.5.2.1.1.2.2 b) expression reference None							
<fac <anm<="" td=""></fac>							
> call transfer, active <							
:							
1. Assist call setup for the $1^{\rm st}$ call and then initiate the $2^{\rm nd}$ call at the UNI A (IUT).							
2. Initiate the $1^{\rm st}$ call set up on the left side (SPC).							
3. Assist 2^{nd} call set up on the right side (SPB).							
4. CPG (progress) with GenNot: " call transfer, active".							

/Q.732.7 [11] Local AND None PICS A.14/1
--

Capability of sending the additional connected number in the call transfer number parameter when the ECT is invoked while one call is alerting.

To verify that, in case the ECT is invoked while one call is alerting, the **FAC** sent to the other remote user upon receipt of the **ANM** conveys the **call transfer number** parameter with the information received in the **generic number** parameter if both the **connected number** and an additional connected number in the **generic number** are received in the **ANM**.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT. $_{\rm SPC}$ $_{\rm SPA}$ $_{\rm SPB}$

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist 1^{st} call set up on the left side (SPC).

TSS ECT/	TP ISS_V_11_17	ISUP '97 reference 7.5.2.1.1.2.2 b) /Q.732.7 [11]	Selection expression Local AND PICS A.14/1	Q.788 [34] reference None	
3. Assist 2 nd call set up on the right side (SPB).					
4. CPG (progress) with GenNot: " call transfer, active".					

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_18	7.5.2.1.1.2.2 b)	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.14/1	

Capability of sending the connected number in the call transfer number parameter when the ECT is invoked while one call is alerting.

To verify that, in case the ECT is invoked while one call is alerting, the **FAC** sent to the other remote user upon receipt of the **ANM** conveys the **call transfer number** parameter with the information received in the **connected number** parameter if only the **connected number** is received in the **ANM**.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to HOLD and ECT.

SPC SPA SPB

1st call 2nd call

<----IAM-----
-----ACM----->

-----CPG------ hold 1st call

----IAM----->

<-----ACM------>

<-----FAC------ CPG---->

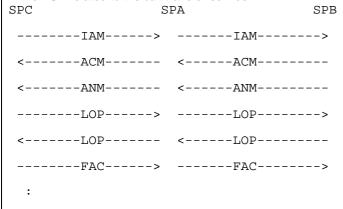
remote ConNb in CTNb from UNI at SPB

- 1. Initiate 2 calls from the UNI A (IUT).
- 2. Assist 1^{st} call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. CPG (progress) with GenNot:" call transfer, active".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_19	7.4; 7.5.2.2.1;	expression	reference
		7.5.2.3.1; 7.5.2.4.1	IntermE AND	None
		/Q.732.7 [11]	PICS A14/2	

Transparent transfer of information of the loop prevention procedure message.

To verify that the exchange can successfully pass on the **loop prevention indicator** and the **call transfer reference** in the **LOP** related to the call transfer service.



- 1. Initiate a call from the UNI at SPC.
- 2. Send back the received CTRef with "no loop exists" indication.
- 3. FAC activating the ECT service.

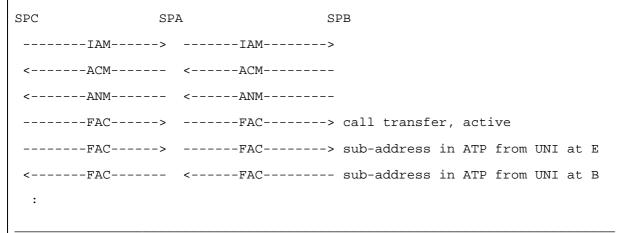
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_20	7.4; 7.5.2.2.1;	expression	reference
		7.5.2.3.1; 7.5.2.4.1	IntermE	None
		/Q.732.7 [11]		

Test purpose

Transparent transfer of information in the FAC or CPG.

To verify that the exchange can successfully pass on the access transport and the generic notification indicator in the FAC or CPG related to the call transfer service.

Case a)



- 1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
- 2. FAC with GenNot: "call transfer, active".
- 3. Receive sub-address from UNI at SPE, beyond SPC.

Q.788 [34]

Selection

ISUP '97 reference

ECT/	ISS_V_11_20	7.4; 7.5.2.2.1; 7.5.2.3.1; 7.5.2.4.1 /Q.732.7 [11]	expression IntermE	reference None
4. Send sub-add	ress of UNI at SPB.			
Case b)				

 SPC
 SPA
 SPB

 -----IAM------>
 ------ACM------->
 ------ACM------->

 ------CPG------>
 ------CPG------->
 call transfer, active

 ------ANM------ ------ANM------ ------------------->
 sub-address in ATP from UNI at E

 ------FAC------- -------FAC---------------- sub-address in ATP from UNI at B

 :
 :

- 1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
- 2. CPG with GenNot: "call transfer, active".
- 3. Receive sub-address from UNI at SPE, beyond SPC.

TP

4. Send sub-address of UNI at SPB.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS V 11 21	7.3; 7.5.2.3.1;	expression	reference
		7.5.2.4.1	Gateway AND	None
		/Q.732.7 [11]	PICS A.14/6	

Test purpose

TSS

Call transfer number - removal of number.

To verify that the exchange removes the **call transfer number** in the **FAC** or **CPG** before sending it to the next exchange, if its indicator is set to "presentation restricted" and there is no bilateral agreement.

Case a)

SPC	SPA	SPB
IAM	IAM	->
<acm< td=""><td>ACM</td><td></td></acm<>	ACM	
<anm< td=""><td>- <anm< td=""><td></td></anm<></td></anm<>	- <anm< td=""><td></td></anm<>	
FAC	FAC	-> CTNb removal
:		

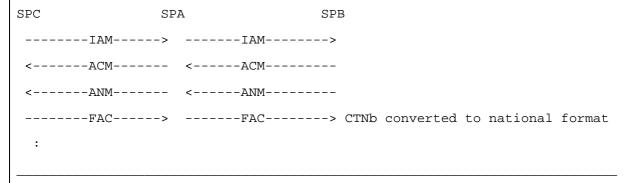
- 1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
- 2. FAC with GenNot: "call transfer, active" and CTNb removed.

TSS ECT/	TP ISS_V_11_21	ISUP '97 reference 7.3; 7.5.2.3.1; 7.5.2.4.1 /Q.732.7 [11]	Selection expression Gateway AND PICS A.14/6	Q.788 [34] reference None
Case b)				
SPC	SPA	SPB		
IAM	>IAM	>		
<acm< td=""><td> <acm< td=""><td></td><td></td><td></td></acm<></td></acm<>	<acm< td=""><td></td><td></td><td></td></acm<>			
CPG	>CPG	> CTNb remov	al	
<anm< td=""><td> <anm< td=""><td></td><td></td><td></td></anm<></td></anm<>	<anm< td=""><td></td><td></td><td></td></anm<>			
:				
1. Initiate a catransfer.	all from the UNI at	SPC. UNI at SPC	will initiate c	all
2. CPG (progress	s) with GenNot: "ca	ll transfer, acti	ve" and no CTNb	

TSS ECT/	TP ISS_V_11_22	ISUP '97 reference 7.3; 7.5.2.3.1 /Q.732.7 [11]	Selection expression OutIE	Q.788 [34] reference None
		l number. number to international form	at. The nature of add	ress indicator shall
SPC	SPA	SPB		
IAM	>IAM-	>		
<acm< td=""><td> <acm-< td=""><td></td><td></td><td></td></acm-<></td></acm<>	<acm-< td=""><td></td><td></td><td></td></acm-<>			
<anm< td=""><td> <anm-< td=""><td></td><td></td><td></td></anm-<></td></anm<>	<anm-< td=""><td></td><td></td><td></td></anm-<>			
FAC	>FAC-	> CTNb conver	ted to internat	ional format
:				
1. Initiate a catransfer.	all from the UNI a	at SPC. UNI at SPC	will initiate o	call
2. FAC with GenI	Not: "call transfo	er, active" and int	ernational CTNk).
Case b)				
SPC	SPA	SPB		
IAM	>IAM-	>		
<acm< td=""><td> <acm-< td=""><td></td><td></td><td></td></acm-<></td></acm<>	<acm-< td=""><td></td><td></td><td></td></acm-<>			
CPG	>CPG-	> CTNb conver	ted to internat	cional format

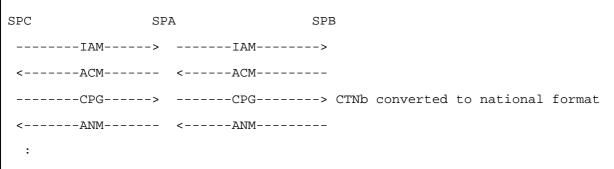
TSS ECT/	TP ISS_V_11_22	ISUP '97 reference 7.3; 7.5.2.3.1 /Q.732.7 [11]	Selection expression OutlE	Q.788 [34] reference None
<anm< th=""><th> <anm< th=""><th></th><th></th><th></th></anm<></th></anm<>	<anm< th=""><th></th><th></th><th></th></anm<>			
· 				
l. Initiate a c cransfer.	all from the UNI a	t SPC. UNI at SPC v	vill initiate o	call
2. CPG with Gen	Not: "call transfe	r, active" and inte	ernational CTNk	o.

TSS ECT/	TP ISS_V_11_23	ISUP '97 reference 7.3; 7.5.2.4.1 /Q.732.7 [11]	Selection expression InclE	Q.788 [34] reference None
To verify that the IUT re	removal of own country code emoves the country code in code. The nature of address	the address signals of the		



- 1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
- 2. FAC with GenNot: "call transfer, active" and national (significant) CTNb.

Case b)



- 1. Initiate a call from the UNI at SPC. UNI at SPC will initiate call transfer.
- 2. CPG with GenNot: "call transfer, active" and national (significant) CTNb.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_24	7.5.2.1.1.3 a)	expression	reference
		/Q.732.7 [11]	Local AND BCall	None
			PICS A.13/11 AND	
			BCall	
			PICS A.13/13	

ECT - interaction with echo control.

To verify that the local exchange (controlling the ECT) can successfully initiate echo control procedures, when the total propagation delay for the two legs of the call to be transferred requires usage of echo control devices. The information to be summed is received in the **propagation delay counter** of the **IAM** for incoming calls and in the **call history information** of the **ANM/CON** for outgoing calls.

NOTE: The used PICS are defined for the basic call (BCall).

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to ECT.

SPC SPA SPB

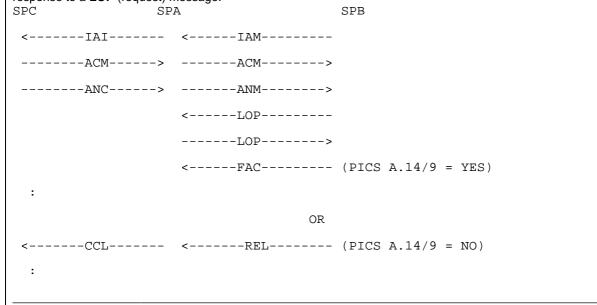
- 1. Assist call setup for the 1^{st} call and then initiate the 2^{nd} call at the UNI A (IUT).
- 2. Initiate the $1^{\rm st}$ call from SPC to the IUT (SPA) using the number TSP_Nb_A on the $1^{\rm st}$ B-channel. The stimulus IAM contains an initial propagation delay value of e.g. 50 ms. The actual value is stored in PIXIT table
- 3. Assist the 2^{nd} call set up from UNI A to the IUT on the 2^{nd} B-channel.
- 4. Send an ANM with Call history information of e.g. 50 ms.
- 5. FAC with GenNot: "call transfer, active". The sum (in this case 100 ms) of the propagation delays on the two routes would require echo controlling devices. Are echo control devices enabled for the connection (both incoming/outgoing at the local exchange) or is some better placement searched?

For further study,(see also CONF test case ISS_10_1).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_25	7.7	expression	reference
		/Q.732.7 [11]	IWorkE AND	None
			PICS A 14/7	

Loop prevention procedure - Interworking with protocols not supporting loop prevention.

To verify that the IUT is able to support call control interworking between ISUP '97 and protocols not supporting the loop prevention procedure, and return a **LOP** (response) message with the indication "insufficient information" in response to a **LOP** (request) message.



- 1. Assist a call set up from the UNI at SPB on a non-ISUP route.
- 2. Send LOP request.
- 3. Receive LOP response with the same CTRef and "insufficient information"
- 4. Complete call (YES to PICS question A.14/9) and send FAC with GenNot: "call transfer, active".
- 5. Reject call (YES to PICS question A.14/8).

See also ECT test cases ISS_V_11_10 and ISS_V_11_11

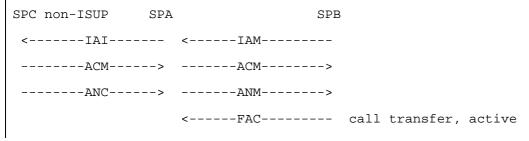
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_26	7.7	expression	reference
		/Q.732.7 [11]	IWorkE	None

Test purpose

Notification - Interworking with protocols not supporting the notification mechanism or the simple service activation procedure.

To verify that the exchange discards the **FAC** (always) and the **CPG** (if received during alerting) and successfully completes the call transfer.

Case a)



Selection

Q.788 [34]

ISUP '97 reference

ECT/	ISS_V_11_26	7.7 /Q.732.7 [11]	expression IWorkE	reference None
:				•
1. Assist a call	l set up from the	UNI at SPB on a not	n-ISUP route.	
2. Send FAC with	n GenNot: "call tr	ransfer, active".		
3. The call show	ald complete.			
Case b)				
SPC non-ISUP	SPA	SPB		
<iai< td=""><td> <iam< td=""><td></td><td></td><td></td></iam<></td></iai<>	<iam< td=""><td></td><td></td><td></td></iam<>			
ACM	>ACM	>		

<---- call transfer, active

- 1. Assist a call set up from the UNI at SPB on a non-ISUP route.
- 2. Send CPG with GenNot: "call transfer, active"

-----> -----ANC---->

TP

3. The call should complete.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_27	7.6.13.1	expression	reference
		/Q.732.7 [11]	Local	None

Test purpose

:

ECT - Interaction with UUS1.

To verify that if the ECT is invoked while a remote user is alerted, the originating exchange discards the **user-to-user information** received in the **ANM** or in the **REL** from that remote user.

Pre-test conditions.

TSS

Arrange the data in the IUT so that the served user subscribes to ECT and UUS1.

Case a)

Selection

expression

Q.788 [34]

reference

ISUP '97 reference

7.6.13.1

	/Q.732.7 [11]	Local	None
call transfer, alerting call tra	nsfer, active		
<fac (uuin<="" <anm="" td=""><th>f)</th><td></td><td></td></fac>	f)		
call transfer, active			
•			
1. Assist call setup for the 1^{st} cal UUInf) at the UNI A (IUT).	ll and then initia	ate the $2^{ m nd}$ cal	l (with

- 2. Initiate the $1^{\rm st}$ call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).

TP

ISS_V_11_27

- 4. CPG (progress) with GenNot: " call transfer, active".
- 5. The 2^{nd} call is answered with UUInf in the ANM, which is to be discarded.
- 6. Get the verdict from the access side, "pass" if UUInf discarded.

Case b)

TSS

ECT/

SPC SPA SPB $1^{\text{st}} \text{ call} \qquad 2^{\text{nd}} \text{ call}$

---->

<----ACM-----

<-----

<---- hold 1^{st} call

----IAM (UUInf)-->

<---ACM (UUInf)---

<-----FAC----->

call transfer, alerting call transfer, active

<-----REL-----> <---REL (UUInf)---

1. Assist call setup for the 1^{st} call and then initiate the 2^{nd} call (with UUInf) at the UNI A (IUT).

- 2. Initiate the 1^{st} call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. CPG (progress) with GenNot: " call transfer, active".
- 5. The 2^{nd} call is released with UUInf in the REL, which is to be discarded.
- 6. Get the verdict from the access side, "pass" if UUInf discarded.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_28	7.6.13.2	expression	reference
		/Q.732.7 [11]	Local	None

ECT - Interaction with UUS2.

To verify that if the ECT is invoked while a remote user is alerted, the exchange discards the **USR** messages received after the call transfer invocation until the **ANM** from that remote user is received.

Arrange the data in the IUT so that the served user subscribes to ECT and UUS2. SPC SPA SPB

- 1. Assist call setup for the $1^{\rm st}$ call and then initiate the $2^{\rm nd}$ call (with
- 2. Initiate the 1^{st} call set up on the left side (SPC).
- 3. Assist 2nd call set up on the right side (SPB) and check the UUS2 request.
- 4. Accept the requested UUS2 service.

UUInf) at the UNI A (IUT).

- 5. Send the $1^{\rm st}$ USR message. The UUInf should be received on the access side.
- 6. CPG (progress) with GenNot: "call transfer, active".
- 7. Send the $2^{\rm nd}$ USR message. The UUInf should not be received on the access side.
- 8. Get the verdict from the access side, "pass" if UUInf discarded.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_29	7.6.13.3	expression	reference
		/Q.732.7 [11]	Local	None

ECT - Interaction with UUS3.

To verify that the exchange discards the **USR** messages if received after the call transfer invocation until the call transfer is completed, i.e. either **FAC** is sent to the remote users when both calls are already answered or **ANM** is received from a remote user when one of the calls is alerting.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to ECT and UUS3. SPC SPA SPB

```
1<sup>st</sup> call 2<sup>nd</sup> call
-----IAM----->
<-----ACM-----
<-----ANM-----
<-----CPG------ hold 1<sup>st</sup> call
-----IAM----->
<-----ACM------

-----USR----->
<-----FAC------- call transfer, active
------FAC------- <-----ANM------
call transfer, active
:
```

- 1. Assist call setup for the $1^{\rm st}$ call and then initiate the $2^{\rm nd}$ call (with UUInf) at the UNI A (IUT).
- 2. Initiate the 1st call set up on the left side (SPC).
- 3. Assist 2^{nd} call set up on the right side (SPB).
- 4. CPG (progress) with GenNot: "call transfer, active".
- 5. Get the verdict from the access side, "pass" if UUInf discarded.

Note: The first part of the purpose has not been implemented because the time window between call transfer invocation and completion when both calls are answered is too small to permit sending of USR exactly within this interval..

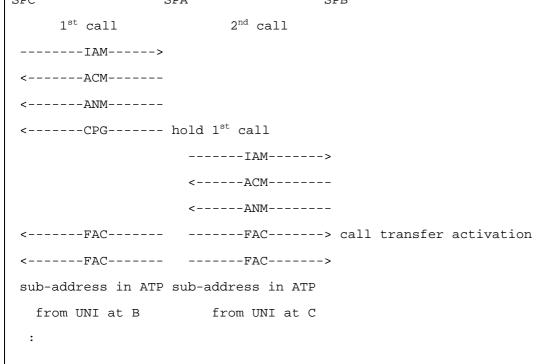
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
ECT/	ISS_V_11_30	Figure 7-7	expression	reference
		/Q.732.7 [11]	Local AND	None
			PICS A.2/7	

ECT - Interaction with SUB.

To verify that if the IUT is able to receive and re-send the sub-address in the **access transport** parameter in the **FAC** message in either direction after activating the call transfer service. These are the calling sub-address for incoming calls and the connected sub-address for outgoing calls.

Pre-test conditions.

Arrange the data in the IUT so that the served user subscribes to ECT. $_{\mbox{\footnotesize SPC}}$ $_{\mbox{\footnotesize SPA}}$ $_{\mbox{\footnotesize SPB}}$



- 1. Assist call setup for the 1^{st} call and then initiate the 2^{nd} call at the UNI A (IUT).
- 2. Initiate the $1^{\rm st}$ call from SPC to the IUT (SPA) using the number TSP_Nb_A on the $1^{\rm st}$ B-channel.
- 3. Assist the 2^{nd} call set up from UNI A to the IUT on the 2^{nd} B-channel.
- 4. Answer the call by specifying a connected number and a connected sub-address.
- 5. FAC with GenNot: "call transfer, active", ServAct: "call transfer".
- 6. Receive sub-address from UNI at SPC.

7.3.12 Call diversion (CFB, CFNR, CFU, CD)

CFNR		Call forwarding on no reply	
	CFNR(A)	CFNR - option A - late release	
	CFNR(B)	CFNR - option B - immediate release	
CD(a)	` '	CD during alerting	call diversion
	CD(a,A)	CD during alerting - option A - late release	may occur
	CD(a,B)	CD during alerting - option B - immediate release	_
CFB(u,e)		CFB user determined with early ACM	
CD(i,e)		CD immediate response with early ACM	
CFU		Call forwarding unconditional	
CFB(n)		CFB network determined	call is
CFB(u,I)		CFB user determined with late ACM	diverting
CD(i,l)		CD immediate response with late ACM	-
CD(i)	•	CD immediate response	

TSS CDIV/	TP ISS_V_12_1	ISUP '97 reference 2.5.2.1.1 /Q.732 [42]	Selection expression OLE	Q.788 [34] reference 2.6.1	
Test purpose "Call is diverting" indication received in ACM. To verify that a call can be successfully established, if diversion occurs. The ACM contains the generic notification indicator set to "call is diverting", the call diversion information and the redirection number. Applicable redirection reason in the call diversion information: "busy" CFB(n); CFB(u,l) "unconditional" CFU "deflection immediate response" CD(i,l). Case a)					
access	SPA	SPB	SPD		
setup	>IAM-	> (I	[AM>)		
	<acm< td=""><td></td><td></td><td></td></acm<>				
<alerting (<acm)<="" <cpg="" td=""></alerting>					
ringing tone					
<answer-< td=""><td> <anm< td=""><td> (<<i>P</i></td><td>ANM)</td><td></td></anm<></td></answer-<>	<anm< td=""><td> (<<i>P</i></td><td>ANM)</td><td></td></anm<>	(< <i>P</i>	ANM)		
:					
					
1. The stimulus	access will initia	ate a call set up.			
2. Redirection	reason is "busy".				
3. CPG (alertin	g) coded as if it l	nas been mapped fr	com ACM includin	g BCI.	
Case b)					
access	SPA	SPB	SPD		
setup	>IAM-	> (I	[AM>)		
	<acm-< td=""><td></td><td></td><td></td></acm-<>				
<alerting< td=""><td> <cpg-< td=""><td> (<<i>P</i></td><td>ACM)</td><td></td></cpg-<></td></alerting<>	<cpg-< td=""><td> (<<i>P</i></td><td>ACM)</td><td></td></cpg-<>	(< <i>P</i>	ACM)		
ri:	nging tone				
<answer-< td=""><td> <anm-< td=""><td> (<<i>P</i></td><td>NM)</td><td></td></anm-<></td></answer-<>	<anm-< td=""><td> (<<i>P</i></td><td>NM)</td><td></td></anm-<>	(< <i>P</i>	NM)		

TSS CDIV/	TP ISS_V_12_1	ISUP '97 reference 2.5.2.1.1 /Q.732 [42]	Selection expression	Q.788 [34] reference	
			OLE	2.6.1	
:					
1. The stimulus	access will initia	te a call set up.			
2. Redirection	reason is "uncondit	ional".			
3. CPG (alerting	g) coded as if it h	as been mapped fr	om ACM includin	g BCI.	
Case c)					
access	SPA	SPB	SPD		
setup	>IAM	> (I	AM>)		
	<acm< td=""><td></td><td></td><td></td></acm<>				
<alerting< td=""><td> <cpg< td=""><td> (<a< td=""><td>.CM)</td><td></td></a<></td></cpg<></td></alerting<>	<cpg< td=""><td> (<a< td=""><td>.CM)</td><td></td></a<></td></cpg<>	(<a< td=""><td>.CM)</td><td></td></a<>	.CM)		
	. ringing tone				
<answer-< td=""><td> <anm< td=""><td> (<a< td=""><td>NM)</td><td></td></a<></td></anm<></td></answer-<>	<anm< td=""><td> (<a< td=""><td>NM)</td><td></td></a<></td></anm<>	(<a< td=""><td>NM)</td><td></td></a<>	NM)		
:					
1. The stimulus	access will initia	te a call set up.			
2. Redirection	reason is "deflecti	on immediate resp	onse".		
3. CPG (alerting	g) coded as if it h	as been mapped fr	om ACM.		

TSS CDIV/	TP ISS_V_12_2	ISUP '97 reference 2.5.2.1.1/Q.732 [42]	Selection expression OLE	Q.788 [34] reference 2.6.3;
			V	2.7.1

"busy"

CFB(u,e)

To verify that a call can be successfully established, if diversion may occur. The **ACM** indicates that "call diversion may occur" in the **optional backward call indicators**. The following **CPG** contains the **generic notification indicator** set to "call is diverting", the **call diversion information** and the **redirection number**, if diversion occurs. Applicable redirection reason in the **call diversion information**:

[&]quot;Call diversion may occur" received in ACM.

TSS CDIV/	TP ISS_V_12_2	ISUP '97 reference 2.5.2.1.1/Q.732 [42]	Selection expression OLE	Q.788 [34] reference 2.6.3; 2.7.1	
<answer< td=""><td> <anm< td=""><td> (<</td><td>ANM)</td><td></td></anm<></td></answer<>	<anm< td=""><td> (<</td><td>ANM)</td><td></td></anm<>	(<	ANM)		
:					
1. The stimulus	access will initia	te a call set up.			
2. "Call diversion may occur" in Event indicator.					
3. "Call forwarded on busy" in Event indicator and also Call diversion information.					
4. CPG (alerting parameter.) coded as if it h	as been mapped fr	om ACM, with Rr	nNbRes	
Case b)					
access	SPA	SPB	SPD		
setup	>IAM	>			
	<acm< td=""><td></td><td></td><td></td></acm<>				
(progress)	<cpg< td=""><td></td><td>IAM>)</td><td></td></cpg<>		IAM>)		
<alerting -<="" td=""><td> <cpg< td=""><td> (<</td><td>ACM)</td><td></td></cpg<></td></alerting>	<cpg< td=""><td> (<</td><td>ACM)</td><td></td></cpg<>	(<	ACM)		
	ringing tone				
<answer< th=""><th> <anm< th=""><th> (<</th><th>ANM)</th><th></th></anm<></th></answer<>	<anm< th=""><th> (<</th><th>ANM)</th><th></th></anm<>	(<	ANM)		
:					
1. The stimulus	access will initia	te a call set up.			
2. "Subscriber f	ree" in CdPSI & "C	all diversion may	occur" in OBC	Ι.	
) in Event indicat c notification, an			rmation	
4. CPG (alerting parameter, and i) coded as if it h ncluding BCI.	as been mapped fr	om ACM, with Rr	nNbRes	
Case c)					
access	SPA	SPB	SPD		
setup	>IAM	>			
	<acm< td=""><td></td><td></td><td></td></acm<>				
(no indicatio	n) <cpg< td=""><td> (I</td><td>AM>)</td><td></td></cpg<>	(I	AM>)		
<alerting -<="" td=""><td> <cpg< td=""><td> (<</td><td>ACM)</td><td></td></cpg<></td></alerting>	<cpg< td=""><td> (<</td><td>ACM)</td><td></td></cpg<>	(<	ACM)		
	ringing tone				
<answer< td=""><td> <anm< td=""><td> (<</td><td>ANM)</td><td></td></anm<></td></answer<>	<anm< td=""><td> (<</td><td>ANM)</td><td></td></anm<>	(<	ANM)		
:					
•					

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_2	2.5.2.1.1/Q.732 [42]	expression	reference
			OLE	2.6.3;
				2.7.1

- 1. The stimulus access will initiate a call set up.
- 2. "Subscriber free" in CdPSI & "Call diversion may occur" in Event indicator.
- 3. CPG(Progress) in Event indicator and also Call diversion information, generic notification, and redirection number.
- 4. CPG(alerting) coded as if it has been mapped from ACM, with RnNbRes parameter, and including BCI.

Case d)

- 1. The stimulus access will initiate a call set up.
- 2. "Subscriber free" in CdPSI & "Call diversion may occur" in Event indicator.
- 3. "Deflection immediate response" in Event indicator and also Call diversion information.
- $4.\ \mbox{CPG (alerting)}$ coded as if it has been mapped from ACM, with RnNbRes parameter.

TSS CDIV/	TP ISS_V_12_3	ISUP '97 reference 2.4.2; table 2-1/Q.732 [42]	Selection expression OLE	Q.788 [34] reference None

Test purpose

Redirection number - presentation allowed - according to the notification subscription option.

To verify that the originating exchange makes the **redirection number** available to the calling access signalling system, if the notification subscription option of the **call diversion information** is coded "010 presentation allowed with redirection number".

The redirection number restriction parameter is set to "00 presentation allowed".

TSS CDIV/	TP ISS_V_12_3	ISUP '97 reference 2.4.2; table 2-1/Q.732 [42]	Selection expression OLE	Q.788 [34] reference None
	ringing tone			

··· ringing come ···

- 1. The stimulus access will initiate a call set up. The verdict will be set to pass if the Redirection number is presented on the access.
- 2. NSO is "presentation allowed with redirection number" (implicit) and ${\tt RnReas} = {\tt CFU}.$

 ${\tt NOTE:}$ CFU is used as redirection reason, but other reasons are also applicable.

3. Redirection number restriction parameter "presentation allowed" (implicit).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_4	2.4.2;	expression	reference
		table 2-1/Q.732 [42]	OLE	None

Test purpose

Redirection number - presentation restricted - according to the notification subscription option.

To verify that the originating exchange does not make the **redirection number** available to the calling access signalling system, if the notification subscription option of the **call diversion information** is coded "001 presentation not allowed", "011 presentation allowed without redirection number" or "000 unknown".

The redirection number restriction parameter is set to "00 presentation allowed".

Case a)

access	SPA		SPB	}		SPD
setup	->	-IAM	->	(-IAM	->)
	<	-ACM				
<alerting< td=""><td> <</td><td>-CPG</td><td></td><td>(<</td><td>-ACM</td><td>)</td></alerting<>	<	-CPG		(<	-ACM)
r	inging tone					
<answer< td=""><td> <</td><td>-ANM</td><td></td><td>(<</td><td>-ANM</td><td>)</td></answer<>	<	-ANM		(<	-ANM)
:						

- 1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
- 2. NSO is "presentation allowed with redirection number" (implicit) and ${\tt RnReas} = {\tt CFU}.$

NOTE: CFU is used as redirection reason, but other reasons are also applicable.

3. Redirection number restriction parameter "presentation allowed" (implicit/default).

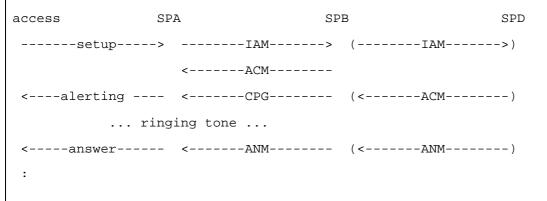
TSS CDIV/	TP ISS_V_12_4	ISUP '97 reference 2.4.2; table 2-1/Q.732 [42]	Selection expression OLE	Q.788 [34] reference None
Case b)				
access	SPA	SPB	SPD	
setup	>IAM	> (-IAM>)	
	<acm< td=""><td></td><td></td><td></td></acm<>			
<alerting< td=""><td> <cpg< td=""><td> (<</td><td>-ACM)</td><td></td></cpg<></td></alerting<>	<cpg< td=""><td> (<</td><td>-ACM)</td><td></td></cpg<>	(<	-ACM)	
	ringing tone			
<answer< td=""><td> <anm< td=""><td> (<</td><td>-ANM)</td><td></td></anm<></td></answer<>	<anm< td=""><td> (<</td><td>-ANM)</td><td></td></anm<>	(<	-ANM)	
:				

- 1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
- 2. NSO is "presentation allowed without redirection number" and RnReas = CFU.

NOTE: CFU is used as redirection reason, but other reasons are also applicable.

3. Redirection number restriction parameter "presentation allowed" (implicit).

Case c)



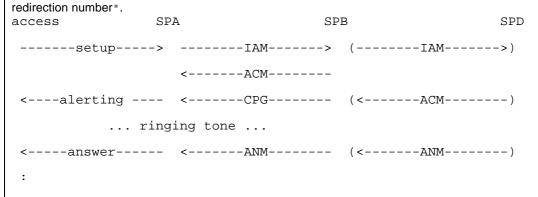
- 1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
- 2. NSO is "unknown" and RnReas = CFU.

NOTE: CFU is used as redirection reason, but other reasons are also applicable.

3. Redirection number restriction parameter "presentation allowed" (implicit/default).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_5	2.4.2;	expression	reference
		table 2-1/Q.732 [42]	OLE	None

Redirection number - presentation restricted - according to redirection number restriction parameter. To verify that the originating exchange does not make the **redirection number** available to the calling access signalling system, if the **redirection number restriction** parameter indicates "01 Presentation restricted". The notification subscription option of the **call diversion information** is coded "010 Presentation allowed with



- 1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
- 2. NSO is "presentation allowed with redirection number" (implicit) and ${\tt RnReas} = {\tt CFU}.$

NOTE: CFU is used as redirection reason, but other reasons are also applicable.

3. The Redirection number restriction parameter is set to "presentation restricted".

TSS CDIV/	TP ISS_I_12_6	ISUP '97 reference 2.4.2; table 2-1/Q.732 [42]	Selection expression OLE	Q.788 [34] reference None

Test purpose

Redirection number - presentation restricted - no redirection number restriction parameter received.

To verify that the originating exchange does not make the **redirection number** available to the calling access signalling system, if no **redirection number restriction** parameter is received.

The notification subscription option of the **call diversion information** is coded "010 Presentation allowed with redirection number".

1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.

TSS CDIV/	TP ISS_I_12_6	ISUP '97 reference 2.4.2; table 2-1/Q.732 [42]	Selection expression OLE	Q.788 [34] reference None
		142	022	None

- 2. NSO is "presentation allowed with redirection number" (implicit) and ${\tt RnReas} = {\tt CFU}.$
- 3. CPG (alerting) without the redirection number restriction parameter is sent to the IUT.

TSS CDIV/	TP ISS_I_12_7	ISUP '97 reference 2.4.2/Q.732 [42]	Selection expression OLE	Q.788 [34] reference None

Multiple diversions - redirection number not send by the last diversion.

To verify that the originating exchange does not make any **redirection number** available to the calling access signalling system, if the last diverting exchange does not send one.

NOTE: The first diverting exchange sends the **redirection number** and allows for its presentation. The second (last) diversion allows for the presentation of the **redirection number**, but does not send it, i.e. only **call diversion information** is present in the message and the redirection number is missing. The **redirection number restriction** parameter is also received as "presentation allowed".

access	SPA	SPB	SPD
setup	->IAM	> (IAM	->)
(no indication)	<acm< td=""><td></td><td>1st diversion</td></acm<>		1 st diversion
(no indication)	<cpg< td=""><td> (<acm< td=""><td>) 2nd diversion</td></acm<></td></cpg<>	(<acm< td=""><td>) 2nd diversion</td></acm<>) 2 nd diversion
<alerting< td=""><td> <cpg< td=""><td> (<cpg< td=""><td>) (alerting)</td></cpg<></td></cpg<></td></alerting<>	<cpg< td=""><td> (<cpg< td=""><td>) (alerting)</td></cpg<></td></cpg<>	(<cpg< td=""><td>) (alerting)</td></cpg<>) (alerting)
:			

- 1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
- 2. ACM no indication with NSO: "Presentation allowed with number", RnReas = CFU and $1^{\rm st}$ Redirection number.
- 3. CPG progress with NSO: "Presentation allowed with number", RnReas = CFU and NO $2^{\rm nd}$ Redirection number.
- 4 CPG alerting with RnNbRes parameter for the 2^{nd} Redirection number.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_I_12_8	2.4.2/Q.732 [42]	expression	reference
			OLE	None

Test purpose

Multiple diversions - redirection number - presentation according to the most restrictive notification subscription option.

To verify that the originating exchange handles the presentation of the **redirection number** according to the contents of the most restrictive notification subscription option of the **call diversion information**, if the forwarded-to user allows presentation of the number ("presentation allowed" in the **redirection number restriction** parameter).

NOTE: Several messages each containing the **call diversion information** are received, as if multiple forwardings have occurred (from option B - immediate release - diverting exchanges, so no collecting of information takes place).

access SPA SPB SPD

TSS CDIV/	TP ISS_I_12_8	ISUP '97 reference 2.4.2/Q.732 [42]	Selection expression OLE	Q.788 [34] reference None
setup	>IAM	> (IA	M>)	
(no indication)	<acm< td=""><td></td><td>1st d</td><td>liversion</td></acm<>		1 st d	liversion
(no indication)	<cpg< td=""><td> (<ac< td=""><td>M) 2nd div</td><td>ersion</td></ac<></td></cpg<>	(<ac< td=""><td>M) 2nd div</td><td>ersion</td></ac<>	M) 2 nd div	ersion
(no indication)	<cpg< td=""><td> (<cp< td=""><td>G) 3rd div</td><td>rersion</td></cp<></td></cpg<>	(<cp< td=""><td>G) 3rd div</td><td>rersion</td></cp<>	G) 3 rd div	rersion
(no indication)	<cpg< td=""><td> (<cp< td=""><td>G) 4th div</td><td>rersion</td></cp<></td></cpg<>	(<cp< td=""><td>G) 4th div</td><td>rersion</td></cp<>	G) 4 th div	rersion
<alerting -<="" td=""><td> <cpg< td=""><td> (<cp< td=""><td>G) (alert</td><td>ing)</td></cp<></td></cpg<></td></alerting>	<cpg< td=""><td> (<cp< td=""><td>G) (alert</td><td>ing)</td></cp<></td></cpg<>	(<cp< td=""><td>G) (alert</td><td>ing)</td></cp<>	G) (alert	ing)
ri	nging tone			
<answer< td=""><td> <anm< td=""><td> (<an< td=""><td>M)</td><td></td></an<></td></anm<></td></answer<>	<anm< td=""><td> (<an< td=""><td>M)</td><td></td></an<></td></anm<>	(<an< td=""><td>M)</td><td></td></an<>	M)	
:				

- 1. The stimulus access will initiate a call set up. The verdict will be set to pass if no Redirection number is presented on the access.
- 2. NOTE: CFU is used as redirection reason, but other reasons are also applicable.
- 3. Redirection number restriction parameter "presentation allowed" (implicit/default).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_9	2.5.2.2.1;	expression	reference
		2.5.2.5.1.2	IntermE	None
		d)/Q.732 [42]		

Notification procedures for a diverting call - before the diverting exchange.

To verify that the IUT can successfully pass on in the backward direction (on the leg before the diversion) all the diversion information from the diverting exchange.

It has to be checked that the following signalling information is passed on:

optional backward call indicators with setting "call diversion may occur" for CFNR, CD(a), CFB(u,e) and CD(i,e).

generic notification indicator

call diversion information

redirection number

NOTE 1: Altered in gateways.

redirection number restriction parameter

NOTE 2: The following messages can be tested for CFNR, CD(a), CFB(u,e) and CD(i,e):

ACM with optional backward call indicators with "call diversion may occur"

CPG with generic notification indicator, call diversion information and redirection number CPG alerting (or ANM or CON) with redirection number restriction parameter.

The following messages can be tested for CFU, CFB(n), CFB(u,l), CD(i,l):

ACM with **generic notification indicator**, **call diversion information** and **redirection number** CPG alerting (or ANM or CON) with redirection number restriction parameter.

Case a)

```
      access
      SPA
      SPB
      SPD

      -----setup---->
      (-----IAM----->)

      <-----ACM------</td>
      RnReas, number

      <-----CPG------</td>
      (<-----ACM------)</td>
      RnNbRes
```

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_9	2.5.2.2.1;	expression	reference
		2.5.2.5.1.2	IntermE	None
	<u> </u> ringing tone	d)/Q.732 [42]		
• • •	. Illiging cone	•		
<anm< td=""><td> <an< td=""><td>M (<ani< td=""><td>M)</td><td></td></ani<></td></an<></td></anm<>	<an< td=""><td>M (<ani< td=""><td>M)</td><td></td></ani<></td></an<>	M (<ani< td=""><td>M)</td><td></td></ani<>	M)	
:				
				
l. The PTC wil	ll provide the ne	cessary stimulus, the	e test is for R	nReas = CFU.
2 ACM (no ind	Rication) with CD	<pre>Inf, GenNot = "call :</pre>	is diverting" a	nd the RnNh
			_	
3. CPG (alerti including BCI.		- coded as if it has	s been mapped f:	rom ACM;
including bci.	•			
Case b)				
access	SPA	SPB	SPD	
100055	SFA	SPD	SPD	
setup-	>IA	M>		
<acm< td=""><td> <ac< td=""><td>M CDmo, RnRea</td><td>as, number</td><td></td></ac<></td></acm<>	<ac< td=""><td>M CDmo, RnRea</td><td>as, number</td><td></td></ac<>	M CDmo, RnRea	as, number	
<cpg< td=""><td>CP</td><td>GIA</td><td>M>)</td><td></td></cpg<>	CP	GIA	M>)	
<cpg< td=""><td>CP</td><td>G (<aci< td=""><td>M) RnNbRe</td><td>S</td></aci<></td></cpg<>	CP	G (<aci< td=""><td>M) RnNbRe</td><td>S</td></aci<>	M) RnNbRe	S
• •	. ringing tone .	••		
<anm< td=""><td> <an< td=""><td>M (<ani< td=""><td>M)</td><td></td></ani<></td></an<></td></anm<>	<an< td=""><td>M (<ani< td=""><td>M)</td><td></td></ani<></td></an<>	M (<ani< td=""><td>M)</td><td></td></ani<>	M)	
		·	•	
:				

1. The PTC will provide the necessary stimulus, the test is for RnReas = CFNR.

- 2. ACM with optional backward call indicator "call diversion may occur"
- 3. CPG (progress) with CDInf, GenNot = "call is diverting" and the RnNb.
- 4. CPG (alerting) with RnNbRes coded as if it has been mapped from ACM; including BCI.

		10115 105 (0 =00 =0.47
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_10	2.5.2.2.1/Q.732 [42]	expression	reference
			IntermE	None

Test purpose

Notification procedures for a diverting call - after the diverting exchange.

To verify that the IUT can successfully pass on in both directions (on the leg after the diversion) all the diversion information from the diverting exchange.

It has to be checked that the following signalling information is passed on in the forward direction:

redirecting number (Note: altered in Gateways).

original called number (Note: altered in Gateways).

redirection information.

It has to be checked that the following signalling information is passed on in the backward direction:

redirection number restriction parameter (in ACM/CPG/ANM/CON).

SPC SPA SPB SPD

TSS CDIV/	TP ISS_V_12_10	ISUP '97 reference 2.5.2.2.1/Q.732 [42]	Selection expression IntermE	Q.788 [34] reference None	
IAM	>IAM	> with RnIn	nf, OriCdNb, RgN	b	
<acm< td=""><td> <acm< td=""><td> RnNbRes</td><td></td><td></td></acm<></td></acm<>	<acm< td=""><td> RnNbRes</td><td></td><td></td></acm<>	RnNbRes			
	ringing tone				
<answer-< td=""><td> <anm< td=""><td></td><td></td><td></td></anm<></td></answer-<>	<anm< td=""><td></td><td></td><td></td></anm<>				
:					

- 1. The stimulus ISUP will initiate a call set up with the expected signalling information.
- 2. On the forwarding leg the RnNbRes from user with the number TSP_Nb_B is returned. The Redirection number restriction parameter is set to "presentation allowed" by default.

TSS CDIV/	TP ISS_I_12_11	ISUP '97 reference 2.5.2.3/Q.732 [42]; 3.5.2.3/Q.731 [3]	Selection expression OutIE	Q.788 [34] reference None

Original called number in the outgoing international gateway.

To verify that the outgoing international gateway checks and manipulates the **original called number** according to the procedures as defined for CLIP.

Applicable tests:

Discarding the original called number if case of bilateral agreements (PICS A.15/11).

Discarding the **original called number**, if the address is marked not available.

Converting the **original called number** to international format with transparent transferral of screening indicator and address presentation restricted indicator.

Discarding an incomplete original called number.

Case a)

1. The PTC will send an IAM with OriCdNb.

Case b)

SPC SPA SPB

1. The PTC will send an IAM with an "address not available" OriCdNb.

Case c)

TSS CDIV/	TP ISS_I_12_11	ISUP '97 reference 2.5.2.3/Q.732 [42]; 3.5.2.3/Q.731 [3]	Selection expression OutlE	Q.788 [34] reference None
SPCIAM	SPA >IAM	SPB >		
1. The PTC will	send an IAM with a	national (signif:	icant) OriCdNb.	

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_12	2.5.2.3/Q.732 [42];	expression	reference
		3.5.2.3/Q.731 [3]	OutlE	None

Redirecting number in the outgoing international gateway.

To verify that the outgoing international gateway checks and manipulates the **redirecting number** according to the procedures as defined for CLIP.

Applicable tests:

Discarding the redirecting number if case of bilateral agreements (PICS A.15/12).

Discarding the **redirecting number**, if the address is marked not available.

Converting the **redirecting number** to international format with transparent transferral of screening indicator and address presentation restricted indicator.

Discarding an incomplete redirecting number.

Case a)

1. The PTC will send an IAM with RgNb.

Case b)

SPC SPA SPB

:

1. The PTC will send an IAM with an "address not available" RgNb.

Case c)

SPC SPA SPB

1. The PTC will send an IAM with a national significant RgNb.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_13	2.5.2.3/Q.732 [42]	expression	reference
			OutlE	None

Test purpose

Redirection number in the outgoing international gateway.

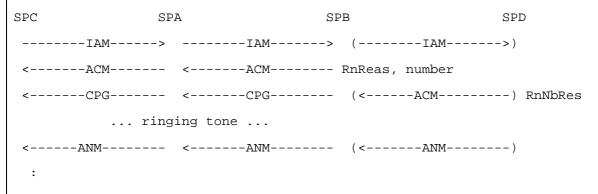
To verify that the outgoing international gateway checks and manipulates the **redirection number** according to the procedures defined for COLP.

Tests applicable:

Converting the **redirection number** to national format, if necessary (own country code).

Adding a prefix to an international **redirection number** (PICS A.15/14 - national option @).

Case a)



- 1. The PTC will provide the necessary stimulus.
- 2. ACM with CDInf, GenNot = "call is diverting" and an international RnNb: TSP_Nb_D with own CC.
- 3. CPG (alerting) with RnNbRes coded as if it has been mapped from ACM including BCI.

Case b)

SPC	SPA	SPB	SPD
IAM	->IAM	-> (IAM	->)
<acm< td=""><td> <acm< td=""><td> RnReas, number</td><td></td></acm<></td></acm<>	<acm< td=""><td> RnReas, number</td><td></td></acm<>	RnReas, number	
<cpg< td=""><td> <cpg< td=""><td> (<acm< td=""><td>) RnNbRes</td></acm<></td></cpg<></td></cpg<>	<cpg< td=""><td> (<acm< td=""><td>) RnNbRes</td></acm<></td></cpg<>	(<acm< td=""><td>) RnNbRes</td></acm<>) RnNbRes
r	inging tone		
<anm< td=""><td> <anm< td=""><td> (<anm< td=""><td>)</td></anm<></td></anm<></td></anm<>	<anm< td=""><td> (<anm< td=""><td>)</td></anm<></td></anm<>	(<anm< td=""><td>)</td></anm<>)
:			

- 1. The PTC will provide the necessary stimulus.
- 2. ACM with CDInf, GenNot = "call is diverting" and an international RnNb: TSP_Nb_D with foreign country code.
- 3. CPG (alerting) with RnNbRes coded as if it has been mapped from ACM including BCI.

TSS CDIV/	TP ISS_V_12_14	ISUP '97 reference 2.5.2.4/Q.732 [42]; 3.5.2.4/Q.731 [3]	Selection expression InclE	Q.788 [34] reference None
--------------	-------------------	--	----------------------------------	---------------------------------

Original called number in the incoming international gateway.

To verify that the incoming international gateway checks and manipulates the **original called number** according to the procedures as defined for CLIP.

Applicable tests:

Converting the **original called number** to national format, if necessary (own country code). Adding a prefix to an international **original called number** (PICS A.15/15 - national option @). Case a)

SPC International SPA National SPB -----IAM----->

- 1. The stimulus ISUP will initiate a call set up with the expected signalling information.
- 2. The received IAM should contain an OriCdNb coded as a national (significant) number.

Case b)

SPC International SPA National SPB -----IAM-----> ::

1. The stimulus ISUP will initiate a call set up with the expected signalling information.

2. The received IAM should contain an OriCdNb with prefix.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_15	2.5.2.4/Q.732 [42]; 3.5.2.4/Q.731 [3]	expression InclE	reference None

Test purpose

Redirecting number in the incoming international gateway.

To verify that the incoming international gateway checks and manipulates the **redirecting number** according to the procedures as defined for CLIP.

Applicable tests:

Converting the **redirecting number** to national format, if necessary (own country code).

Adding a prefix to an international **redirecting number** (PICS A.15/16 - national option @). Case a)

TSS CDIV/	TP ISS_V_12_15	ISUP '97 reference 2.5.2.4/Q.732 [42]; 3.5.2.4/Q.731 [3]	Selection expression InclE	Q.788 [34] reference None
1. The PTC will	send an IAM with R	gnb.		
Case b)				
SPC	SPA	SPB		
IAM	>IAM	>		
:				
1. The PTC will Case c)	send an IAM with f	oreign CC RgNb.		
SPC	SPA	SPB		
IAM	>IAM	>		
:				
1. The PTC will	send an IAM with R	gNb.		

TSS CDIV/	TP ISS_V_12_16	ISUP '97 reference 2.5.2.4/Q.732 [42]	Selection expression IncIE	Q.788 [34] reference None
--------------	-------------------	--	----------------------------------	---------------------------------

Redirection number in the incoming international gateway.

To verify that the incoming international gateway checks and manipulates the **redirection number** according to the procedures defined for COLP.

Tests applicable:

Discarding the **redirection number** in case of bilateral agreements (PICS A.15/13).

Converting the **redirection number** to international format.

Case a)

```
      SPC
      SPA
      SPB
      SPD

      -----IAM------>
      (-----IAM------>)

      <-----ACM------</td>
      RnReas, number

      <-----CPG-------</td>
      (<-----ACM-------)</td>
      RnNbRes

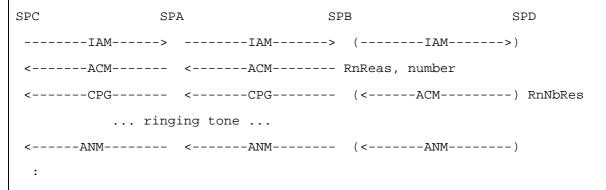
      ... ringing tone ...

      <-----ANM-------</td>
      (<-----ANM-------)</td>

      :
```

- 1. The PTC will provide the necessary stimulus.
- 2. ACM with CDInf, GenNot = "call is diverting" and an national RnNb
- 3. CPG (alerting) with RnNbRes coded as if it has been mapped from ACM including BCI.

Case b)



- 1. The PTC will provide the necessary stimulus.
- 2. ACM with CDInf, GenNot = "call is diverting" and a national RnNb.
- 3. CPG (alerting) with RnNbRes coded as if it has been mapped from ACM including BCI.

TSS CDIV/	TP ISS_V_12_17	ISUP '97 reference 2.5.2.4/Q.732 [42] 3.5.2.4/Q.731 [3]	Selection expression IncIE AND PICS A.15/13	Q.788 [34] reference None
Test purpose	striction parameter in the inc	oming international gatew	/2\/	

Redirection number restriction parameter in the incoming international gateway.

To verify that the incoming international gateway removes the **redirection number restriction parameter** if the **redirection number** has been previously discarded in case of bilateral agreements.

```
      SPC
      SPA
      SPB
      SPD

      -----IAM------>
      (-----IAM------>)
      (-----IAM------>)

      <-----ACM-------</td>
      RnReas, number

      <-----CPG-------</td>
      (<-----ACM-------)</td>
      RnNbRes

      ... ringing tone ...

      <------ANM-------</td>
      (<------ANM-------)</td>

      :
```

TSS TP CDIV/ ISS_V_12_17	ISUP '97 reference 2.5.2.4/Q.732 [42] 3.5.2.4/Q.731 [3]	Selection expression InclE AND PICS A.15/13	Q.788 [34] reference None
--------------------------	---	--	---------------------------------

- 1. The PTC will provide the necessary stimulus.
- 2. ACM with CDInf, GenNot = "call is diverting" and a national RnNb.
- 3. CPG (alerting) with RnNbRes coded as if it has been mapped from ACM including BCI.

TSS CDIV/	TP ISS_V_12_18	ISUP '97 reference 2.5.2.5.1.1/Q.732 [42]	Selection expression DLE	Q.788 [34] reference None
	call by the diverted-to excha ccepts and can successfully SPA	3	SPD	
<setup< td=""><td> <iam- RnReas, nu</iam- </td><td> (<ia< td=""><td>,</td><td></td></ia<></td></setup<>	<iam- RnReas, nu</iam- 	(<ia< td=""><td>,</td><td></td></ia<>	,	
alerting	>ACM	> (CP	G>) RnN	'bRes

- 1. The PTC will provide the necessary stimulus.
- 2. 2 diversions simulated in redirection counter; Numbers sent: are $\mbox{OriCdNb}$ and \mbox{RgNb} .
- 3. ACM with CDInf, GenNot = "call is diverting" and a national RnNb.
- 4. CPG (alerting) with RnNbRes coded as if it has been mapped from ACM including BCI.

TSS CDIV/	TP ISS_V_12_19	ISUP '97 reference 2.5.2.5.1.1/Q.732 [42]	Selection expression DLE	Q.788 [34] reference None
Test purpose			/ 11 15	
•	umber restriction parameter cludes the redirection num (COLR not activated).	•		M or CON set to
SPC	SPA	SPB		
< setup	<iam< td=""><td> (Divert</td><td>ed call)</td><td></td></iam<>	(Divert	ed call)	
alerting-	>ACM	> RnNbRes	(1)	
:				
or				
alerting-	>ACM	·>		

TSS CDIV/	TP ISS_V_12_19	ISUP '97 reference 2.5.2.5.1.1/Q.732 [42]	Selection expression DLE	Q.788 [34] reference None
:	CPG	> RnNbRes	(2)	
or				
alerting	>ACM	>		
connect	>ANM	> RnNbRes	(3)	
:				
or				
connect	>CON	> RnNbRes	(4)	
:				
	the redirection numion allowed is rece			
5. Check the ri	nging tone from SPA	to SPB.		

TSS CDIV/	TP ISS_V_12_20	ISUP '97 reference 2.5.2.5.1.1/Q.732 [42]	Selection expression DLE	Q.788 [34] reference None
F 1				
Setting the redirectior Fo verify that the IUT	includes the redirection nu	or at the diverted-to exchange umber restriction indicator in		M or CON set to
To verify that the IUT presentation restrict				M or CON set to
Setting the redirection To verify that the IUT presentation restrict Pre-test conditions.	includes the redirection nu ed " (COLR activated).		the ACM, CPG, AN	

1. The left access PTC will assist the call set-up with the expected

TSS CDIV/	TP ISS_V_12_20	ISUP '97 reference 2.5.2.5.1.1/Q.732 [42]	Selection expression DLE	Q.788 [34] reference None

parameters.

- 2.-5. Pass when the redirection number restriction parameter with the coding "01 Presentation restricted" is received in one of the allowed messages.
- 6. Check the ringing tone from SPA to SPB.

TSS CDIV/	TP ISS_V_12_21	ISUP '97 reference 2.5.2.5.1.2 b) 1) /Q.732 [42]	Selection expression DLE AND	Q.788 [34] reference None
		, 4 02 []	PICS A.15/2	

Test purpose

Setting the redirection counter in the diverting exchange - first diversion.

To verify that the IUT can successfully divert a call which has not been diverted before and set the redirection counter to the correct value.

The call is diverted directly to another exchange; the redirection counter should be set to 1.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

SPC SPA (IUT) SPB

```
(No diversions) (One diversion)
----IAM---->
.
```

1. The PTC will send an IAM with a national (significant) OriCdNb.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_22	2.5.2.5.1.2 b) 1)	expression	reference
		/Q.732 [42]	DLE AND	None
			PICS A.15/2	

Test purpose

Setting of redirection counter in the diverting exchange - multiple local diversions.

To verify that the IUT can successfully divert a call which has not been diverted before and set the redirection counter to the correct value.

The call is diverted N < = 5 times; the redirection counter should be set to N. (e.g. for the pre-test condition the call is diverted twice: once to the same exchange and then to an external exchange, N = 2).

SPC SPA (IUT) SPB

```
(No diversions) (one local diversion) (Two diversions) -----IAM----->
```

- 1. The PTC will send an IAM with a national (significant) OriCdNb.
- 2. RnCnt = 2 = "010"B expected.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_23	2.5.2.5.1.2 b) 1)	expression	reference
		/Q.732 [42]	DLE AND	None
			PICS A.15/2	

Updating of redirection counter in the diverting exchange.

To verify that the IUT can successfully divert a call which has already been diverted and increment the redirection counter

NOTE: The call has been diverted 1 - 4 times.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

TSS CDIV/	TP ISS_V_12_24	ISUP '97 reference 2.5.2.5.1.2 b) 2) /Q.732 [42]	Selection expression DLE	Q.788 [34] reference None
Test purpose				•
	generated by the diverting e			
	the address presentation re		riginal called number	according to the
	his/her number to the diverte	•	Call diverted	
Pre-test conditions.	or in the redirection informa	ition shall be set to "OTT	Call diverted".	
	IUT so that called user has	activated diversion to an	external exchange	
SPC	SPA (IUT)	SPB	oxiomar oxonango.	
	(Subscription o	ption release inf	formation)	
IAM OriCdNb.APRI =	>IAM	> RnInf.RgIr	id = "011" &	

1. The PTC will send an IAM with a national (significant) OriCdNb.

/Q.732 [42] DLE None

Test purpose

Redirecting number generated by the diverting exchange.

Verify that the IUT sets the address presentation restricted indicator of the **redirecting number** according to the "served user releases his/her number to the diverted-to user" option.

The redirecting indicator in the redirection information shall be set to "011 Call diverted".

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

```
SPC SPA (IUT) SPB
```

```
(Subscription option = Do not release information)
-----IAM----> RnInf.RgInd = "100" &
RgNb.APRI = "00"
```

:

1. The PTC will send an IAM with a national (significant) ${\tt OriCdNb.}$

TSS CDIV/	TP ISS_V_12_26	ISUP '97 reference 2.5.2.5.1.2 b) 5) /Q.732 [42]	Selection expression DLE	Q.788 [34] reference None
To verify that the IUT ca forward call indicators not required all the wa preferred all the way" required all the way" Pre-test conditions	nce indicator in the diverting an successfully divert a call s with the value "ISDN user ay" shall be changed to "IS shall be left unchanged. shall be left unchanged.	and that ISDN user part p r part DN user part preferred al		ceived in the
SPC	SPA (IUT)	SPB		
ISUP not requi	red ISUP pref	erred		
IAM	>IAM	>		
:				
1. The PTC will exchange.	send a call with	the expected stim	nulus to the div	verting
_	Terence indicator i	g checked		
z. The 150F prei	erence indicator i	.s checked.		
a 1)				
Case b)				
SPC	SPA (IUT)	SPB		
ISUP preferred	ISUP pref	erred		
IAM	>IAM	>		
:				
1. The PTC will exchange.	send a call with t	he expected stimu	ulus to the dive	erting
2. The ISUP pref	Terence indicator i	s checked.		
Case c)				
SPC	SPA (IUT)	SPB		
ISUP required	ISUP requ	ired		
IAM	>IAM	>		
IAM	>IAM	>		

2. The ISUP preference indicator is checked.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_27	2.5.2.5.1.2 c) ii);	expression	reference
		iii)/Q.732 [42]	DLE	None

Call diversion may occur in the diverting exchange.

To verify that the IUT includes an **optional backward call indicator** with the indication "call diversion may occur" in the **ACM** in case of CFNR, CD(a), CFB(u,e) and CD(i,e).

Pre-test conditions.

Arrange the data in the IUT so that called user has activated the appropriate diversion service to an external exchange.

1. The stimulus ISUP will initiate a call set up to diverting user at IUT and expect to receive the indication "call diversion may occur".

2. Verdict is set by checking status on left PTC.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_28	2.5.2.5.1.2 c) ii);	expression	reference
		table 2-2/Q.732 [42]	DLE AND	None
			PICS A.16/5	

Test purpose

Served user answers the call before T_{CFNR} expiry.

To verify that a call may be answered by the served user and that no signalling occurs on the diverted-to user leg if the call is answered before timeout of Timer T_{CFNR}, in case of CFNR.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated the CFNR service.

Case a)

1. The stimulus ISUP will initiate a call set up to diverting user at IUT and expect to receive the indication "call diversion may occur".

2. Pass if no signalling is observed on the AB link.

TSS CDIV/	TP ISS_V_12_28	ISUP '97 reference 2.5.2.5.1.2 c) ii); table 2-2/Q.732 [42]	Selection expression DLE AND PICS A.16/5	Q.788 [34] reference None
Case b)				
SPC	SPA	SPB		
IAM	>			
<acm< td=""><td> CDmo</td><td></td><td></td><td></td></acm<>	CDmo			
		TCFNR expiry		
<cpg< td=""><td>IA</td><td>M></td><td></td><td></td></cpg<>	IA	M>		
<cpg< td=""><td> <ac< td=""><td>M</td><td></td><td></td></ac<></td></cpg<>	<ac< td=""><td>M</td><td></td><td></td></ac<>	M		
• • •	ringing tone			
<answer< td=""><td> <an< td=""><td>M</td><td></td><td></td></an<></td></answer<>	<an< td=""><td>M</td><td></td><td></td></an<>	M		
:				

- 1. The stimulus ISUP will initiate a call set up to diverting user at IUT and expect to receive the indication "call diversion may occur".
- 2. Window for receiving the forwarding call is created.
- 3. Pass if IAM is received inside window.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_29	2.5.2.5.1.2 c) i); ii);	expression	reference
		iii)/Q.732 [42]	DLE AND NOT	None
			PICS A.16/1	

Immediate through-connection in the diverting exchange.

To verify that the IUT can successfully divert a call and that the incoming circuit is connected to the chosen outgoing circuit immediately, in case of CFU, CFB, CD(i), CFNR(B) and CD(a,B).

Pre-test conditions.

Arrange the data in the IUT so that called user has activated the appropriate diversion service to an external exchange.

1. The stimulus ISUP will initiate a call set up with the expected signalling information.

TSS CDIV/	TP ISS_V_12_29	ISUP '97 reference 2.5.2.5.1.2 c) i); ii); iii)/Q.732 [42]	Selection expression DLE AND NOT PICS A.16/1	Q.788 [34] reference None
2. The incoming circuit should be connected to outgoing circuit in both directions immediately.				

TSS CDIV/	TP ISS_V_12_30	ISUP '97 reference 2.5.2.5.1.2 c) ii) /Q.732 [42]	Selection expression DLE AND PICS A.16/1	Q.788 [34] reference None
			(option A)	

Through-connection backwards upon alerting and forwards upon answer in the diverting exchange. To verify that the IUT through-connects in the backward direction (incoming circuit) after receiving the alerting indication and in the forward direction (outgoing circuit) after receiving the answer (connect) indication, in case of CFNR(A) and CD(a,A).

NOTE: The IUT can through-connect in both directions after receiving the alerting indication.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated the appropriate diversion service to an external exchange.

- 1. The stimulus ISUP will initiate a call set up with the expected signalling information.
- 2. Will disrupt the call handling and cause failure if received unexpectedly at left PTC.
- 3. Steps checks backward through-connection in backward direction before ANM and two-way communication after ANM.

TSS CDIV/	TP ISS_V_12_31	ISUP '97 reference 2.5.2.5.1.2 c) ii); /Q.732 [42]	Selection expression DLE AND	Q.788 [34] reference None
			PICS A.16/1	
			(option A)	

Served user answers before receipt of alerting indication from diverted-to exchange.

To verify that the IUT allows the served user to answer the call after the **IAM** has been sent to the diverted-to exchange, in case of CFNR(A) and CD(a,A). The served user shall be allowed to answer the call after **ACM** (no indication) has been received and the connection towards the diverted-to exchange shall be released. Pre-test conditions.

Arrange the data in the IUT so that called user has activated CFNR(A) or CD(a,A) to an external exchange. SPC SPA SPB

1. The stimulus ISUP will initiate a call set up to diverting user at IUT.

- 2. The stimulus access will assist the call set up at the served user side.
- 3. ACM with no indication as if another diversion may occur in order to give time to the user at UNI at SPA to answer the call.
- 4. Call on forwarding leg is released.
- 5. Successful call set up carried out by the PTC.

CDIV/ ISS_V_12_32 2.5.2.5.1.2 c) ii); /Q.732 [42]	expression DLE AND PICS A.16/1 (option A)	reference 2.7.4; 2.9.7
---	--	------------------------------

Test nurnose

Unsuccessful call setup to the diverted-to user, ringing tone applied by the diverting exchange.

To verify that, if the IUT receives a release indication with cause "user busy" from the diverted-to exchange, it continues to provide ringing tone to the calling user until he releases the connection (or timer T9 in the controlling exchange expires), in case of CFNR(A) and CD(a,A).

Pre-test conditions.

Arrange the data in the IUT so that called user has activated CFNR(A) or CD(a,A) to an external exchange. \mbox{SPC} \mbox{SPB}

-----IAM----->
<-----ACM----- CDmo

| TCFNR expiry
| -----IAM----->

TSS CDIV/	TP ISS_V_12_32	ISUP '97 reference 2.5.2.5.1.2 c) ii); /Q.732 [42]	Selection expression DLE AND PICS A.16/1 (option A)	Q.788 [34] reference 2.7.4; 2.9.7
	<rel< td=""><td> busy</td><td></td><td></td></rel<>	busy		
1	RLC	>		
ringi	ng tone			
Т9				
REL	>			
<rlc< td=""><td></td><td></td><td></td><td></td></rlc<>				

- 1. The stimulus ISUP will initiate a call set up to the diverting user at IUT and check ringing tone.
- 2. The stimulus access is mainly responsible for generating the ringing tone.
- 3. Release with cause #17.

TSS CDIV/	TP ISS_V_12_33	ISUP '97 reference 2.5.2.5.2.1 c) iii) /Q.732 [42]	Selection expression DLE AND NOT PICS A.16/1	Q.788 [34] reference 2.6.4 2.7.5 2.8.3 2.9.5
				2.9.6

Unsuccessful call setup to the diverted-to user, call released by the diverting exchange.

To verify that, if the IUT receives a release indication with cause "user busy" from the diverted-to exchange, it releases the call (incoming circuit) and the resources, in case of CFU, CFB, CD(i), CFNR(B) and CD(a,B). Pre-test conditions.

Arrange the data in the IUT so that called user has activated CFU, CFB, CD(i), CFNR(B) or CD(a,B) to an external exchange.

- 1. The stimulus ISUP will initiate a call set up to the diverting user at IUT and check the release of resources.
- 2. Release the call with cause #17, location "user".

TSS TP ISUP 1 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2	
---	--

Notification procedures in the diverting exchange-collecting information for the backward direction.

To verify that the IUT can successfully divert a call and store the diversion information parameters in the backward direction until an alerting indication is received from the diverted-to exchanges, in case of CFNR(A) and CD(a,A). The IUT receives several **CPG** messages with **call diversion information** and shall retain the most recent redirection reason and the most severe notification subscription option.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated CFNR(A) or CD(a,A) to an external exchange.

- 1. The PTC will provide the necessary stimulus.
- 2. ACM with CDInf, GenNot = "call is diverting" and RnNb = TSP_Nb_D.
- 3. CPG (progress) with RnNbRes = 00 from user at UNI SPB (no COLR activated).
- 4. CPG (alerting) with RnNbRes = 01 from user at UNI SPD (COLR activated) coded as if it has been mapped from ACM including BCI.

ISS_V_12_35	2.5.2.5.1.2 e) i-iv) 1)	expression	reference
	/Q.732 [42]	DLE AND NOT	None
		/Q.732 [42]	/Q.732 [42] DLE AND NOT PICS A.16/1

Test purpose

Notification procedures in the diverting exchange - passing on information in the backward direction.

To verify that the IUT can successfully divert a call and pass on in the backward direction the diversion information parameters received from the diverted-to exchanges, in case of CFU, CFB, CD(i), CFNR(B) and CD(a,B). Pre-test conditions.

Arrange the data in the IUT so that called user has activated CFU, CFB, CD(i), CFNR(B) or CD(a,B) to an external exchange.

SPC SPA SPB SPD

TSS CDIV/	TP ISS_V_12_35	ISUP '97 reference 2.5.2.5.1.2 e) i-iv) 1) /Q.732 [42]	Selection expression DLE AND NOT PICS A.16/1	Q.788 [34] reference None		
IAM	>			l		
<acm< td=""><td colspan="6"><></td></acm<>	<>					
(<cpg) cd(i,e)<="" cfb(u,e),="" td=""></cpg)>						
<cpg< td=""><td colspan="5">< (IAM>)</td></cpg<>	< (IAM>)					
		NoInd, RnReas	= CFU, TSP_Nb_D)		
<cpg< td=""><th> <cpg< th=""><td></td><th></th><th></th></cpg<></th></cpg<>	<cpg< th=""><td></td><th></th><th></th></cpg<>					
		progress, R	nNbRes = 00			
<cpg< td=""><th> <cpg< th=""><td> (<acm-< td=""><th>)</th><th></th></acm-<></td></cpg<></th></cpg<>	<cpg< th=""><td> (<acm-< td=""><th>)</th><th></th></acm-<></td></cpg<>	(<acm-< td=""><th>)</th><th></th></acm-<>)			
subscriber free		RnNbRes = 0	1, alerting RnN	IbRes = 01,		
	ringing tone					
<anm< td=""><th> <anm< th=""><td> (<anm< td=""><th>[)</th><th></th></anm<></td></anm<></th></anm<>	<anm< th=""><td> (<anm< td=""><th>[)</th><th></th></anm<></td></anm<>	(<anm< td=""><th>[)</th><th></th></anm<>	[)			
1. The PTC will	1. The PTC will provide the necessary stimulus.					
2. ACM with CDInf, GenNot = "call is diverting" and RnNb = TSP_Nb_D.						
3. CPG (progress) with RnNbRes = 00 from user at UNI SPB (no COLR activated).						
1	4. CPG (alerting) with RnNbRes = 01 from user at UNI SPD (COLR activated) - coded as if it has been mapped from ACM including BCI.					

TSS CDIV/	TP ISS_V_12_36	ISUP '97 reference 2.5.2.5.1.2 e) i-iv) /Q.732 [42]	Selection expression DLE AND PICS A.16/1 (option A)	Q.788 [34] reference 2.7.1 case C 2.9.4 case C		
Test purpose Mapping of CON to ANM in the diverting exchange - option A. To verify that the IUT can successfully divert a call and map a received CON from the forwarding leg to a CPG (alerting), followed by an ANM on the preceding leg in case of CFNR(A) or CD(a,A). Pre-test conditions. Arrange the data in the IUT so that called user has activated CFNR(A) or CD(a,A). to an external exchange.						
SPC	SPA	SPB	,	Ü		
>						
<acm td="" {cdmo}<=""></acm>						
<cpg td="" {diverting<=""><td>ng}IAM</td><td>> In case of</td><th>f CFNR(A), CD(a</th><th>a,A)</th></cpg>	ng}IAM	> In case of	f CFNR(A), CD(a	a,A)		

<--CPG (alerting}-- <----- RnNbRes

<----ANM-----

TSS CDIV/	TP ISS_V_12_36	ISUP '97 reference 2.5.2.5.1.2 e) i-iv) /Q.732 [42]	Selection expression DLE AND PICS A.16/1 (option A)	Q.788 [34] reference 2.7.1 case C 2.9.4 case C
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- 1. The stimulus ISUP will initiate a call set up with the expected signalling information.
- 2. The incoming circuit should be connected to outgoing circuit in both directions immediately.

TSS CDIV/	TP ISS_V_12_37	ISUP '97 reference 2.5.2.5.1.2 e) i-iv) /Q.732 [42]	Selection expression DLE AND NOT PICS A.16/1	Q.788 [34] reference 2.6.1 case C 2.8.1 case C
			1 100 A.10/1	2.9.1 case C

Mapping of CON to ANM in the diverting exchange - option B.

To verify that the IUT can successfully divert a call and map a received **CON** from the forwarding leg to an **ANM** on the preceding leg, in case of CFU, CFB, CD(i), CFNR(B) or CD(a,B).

Pre-test conditions.

Arrange the data in the IUT so that called user has activated CFU, CFB, CD(i), CFNR(B) or CD(a,B) to an external exchange.

- 1. The stimulus ISUP will initiate a call set up with the expected signalling information.
- 2. The incoming circuit should be connected to outgoing circuit in both directions immediately.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_38	2.1.1.1 e);	expression	reference
		table A1/Q.764 [25]	DLE	None

Timer T7 expiry in the diverting exchange.

To verify that the IUT can divert a call and release the resources upon T7 timer expiry, if no **ACM** is received from the forwarded-to exchange.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

SPC SPA

-----IAM----->
<-----ACM----- CDmo
<-----IAM----->
|
| T7

<-----REL----->
-----RLC----> <-----RLC-----

1. The stimulus ISUP will initiate a call set up to diverting user at IUT and expect to receive the indication "call diversion may occur".

2. Verdict is set by checking status on left PTC together with the receipt of the REL message.

TSS CDIV/	TP ISS_V_12_39	ISUP '97 reference 2.1.4.6 b); table A1/Q.764 [25]	Selection expression DLE	Q.788 [34] reference None
--------------	-------------------	--	--------------------------------	---------------------------------

Test purpose

Timer T9 expiry in the diverting exchange.

To verify that the IUT can divert a call and release the resources upon T9 timer expiry, if no **ANM** is received from the forwarded-to exchange.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

SPC SPA SPB

---->

<----- CDmo

<----IAM---->

<-----ACM------

| T9

-----RLC-----> <-----RLC-----

1. The stimulus ISUP will initiate a call set up to diverting user at IUT and

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_39	2.1.4.6 b);	expression	reference
		table A1/Q.764 [25]	DLE	None

expect to receive the indication "call diversion may occur".

- 2. ACM subscriber free.
- 3. Verdict is set by checking status on left PTC together with the receipt of the REL message.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_40	2.5.2.5.2.2/Q.732 [42]	expression	reference
			DLE AND	None
			PICS A.15/2 AND	
			NOT PICS A.16/1	

Test purpose

Call clearing in the diverting exchange - redirection counter set to maximum value.

To verify that the IUT will refuse any further external diversions and clear the call, if it is received with the redirection counter in the **redirection information** set to the maximum value, in case of CFU, CFB, CD(i), CFNR(B) and CD(a,B).

The cause values shall be in case of:
CFU "call rejected" (21).
CFB "user busy" (17).

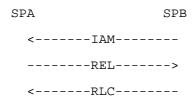
CFNR(B) "no answer from user (user alerted)" (19).

CD(i), CD(a,B) "no user responding" (18).

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

Case a)



1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).

2. Call rejected - Cause #21 for CFU.

Case b)

SPA SPB

<-----REL----->
<-----RLC------

- 1. IAM with Redirection counter set to 5 (or TSP_max_div if not equal 5).
- 2. User busy Cause #17 for CFB.

Case c)

TSS CDIV/	TP ISS_V_12_40	ISUP '97 reference 2.5.2.5.2.2/Q.732 [42]	Selection expression DLE AND PICS A.15/2 AND NOT PICS A.16/1	Q.788 [34] reference None
	SPA	SPB		
	<iam-< td=""><td></td><td></td><td></td></iam-<>			
	REL-	>		
	<rlc-< td=""><td></td><td></td><td></td></rlc-<>			
1. IAM with Red:	irection counter s	set to 5 (or TSP_max		ual 5).
2. No user respo	onding - Cause #18	3 for CD(i).		
Case d)				
	SPA	SPB		
	<iam-< td=""><td></td><td></td><td></td></iam-<>			
	ACM-			
	REL-	•		
	<rlc-< td=""><td></td><td></td><td></td></rlc-<>			
	KIIC			
	irection counter s	set to 5 (or TSP_max	_div if not equ	ual 5).
Case e)				
	SPA	SPB		
	<iam-< td=""><td></td><td></td><td></td></iam-<>			
	ACM-	>		
	REL-	>		
	REL-			

TSS CDIV/	TP ISS_V_12_41	ISUP '97 reference 2.5.2.5.2.2/Q.732 [42]	Selection expression DLE AND PICS A.15/2 AND PICS A.16/1	Q.788 [34] reference None
To verify that the IUT w the calling user clears t redirection informatio Pre-test conditions.	ill refuse any further (extended) the call (or timer T9 in OLEnded) net to the maximum value.	exchange - redirection counter rnal or internal) diversions ar E expires), if it is received with ue, in case of CFNR(A) and (as activated diversion to an e	nd continue providing in the redirection count CD(a,A).	inging tone until
access	SPA	SPB		
<setup< td=""><td> <iam-< td=""><td></td><td></td><td></td></iam-<></td></setup<>	<iam-< td=""><td></td><td></td><td></td></iam-<>			
	ACM-	>		
ri	inging tone			
1				
Т9	<rel-< td=""><td></td><td></td><td></td></rel-<>			
	RLC-	>		
1. IAM with Redi	rection counter s	set to 5 (or TSP_max	_div if not eq	ual 5).
2. This timer si	imulates T9 at the	e controlling exchan	ige.	
3. Release the d	call with cause 16	5 - Normal call clea	ring (default)	
Case b)				
access	SPA	SPB		
<setup< td=""><td> <iam-< td=""><td></td><td></td><td></td></iam-<></td></setup<>	<iam-< td=""><td></td><td></td><td></td></iam-<>			
	ACM-	>		
ri	inging tone			
Т9	<rel-< td=""><td></td><td></td><td></td></rel-<>			
	RLC-	>		
1 724 111 7 21			1' '6 '	
		set to 5 (or TSP_max		
2. Release the d	call with cause 16	5 - Normal call clea	ring (default)	

TSS CDIV/	TP ISS_V_12_42	ISUP '97 reference 2.5.2.5.1.2 c)/Q.732 [42]; 2.6/Q.764 [25]	Selection expression DLE AND BCall PICS A.13/11	Q.788 [34] reference None
		2.0/Q./04 [25]	PICS A.13/11	

Interactions with the propagation delay determination procedure.

To verify that the IUT can successfully divert a call and set the required propagation delay value on the outgoing circuit correctly. The value should be set to the received value plus the propagation delay for the outgoing route, as if the IUT was an intermediate exchange.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange. \mbox{SPC} \mbox{SPB}

- 1. The stimulus IAM contains an initial propagation delay value of X ms.
- 2. The received IAM should contain a propagation delay value increased by $\ensuremath{\mathsf{D}}$ $\ensuremath{\mathsf{ms}}$.
- 3. Send an ANM with Call history information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_43	2.6.3/Q.732 [42]	expression	reference
			DLE AND	None
			PICS A.3/3	

Test purpose

Call diversion - interaction with COLP.

To verify that the **connected number** and the additional connected number in the **generic number** received in an **ANM** or **CON** message are passed on unmodified at a diverting exchange.

NOTE: The CON will be mapped to an ANM.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

Case a)

```
      SPC
      SPA
      SPB

      -----IAM----->
      (with RnInf, OriCdNb, RgNb)

      <-----CPG------</td>
      <------ACM------</td>
      RnNbRes

      ... ringing tone ...
      <------ANM------</td>
      ConNb, addConNb in GenNb

      :
```

TSS CDIV/	TP ISS_V_12_43	ISUP '97 reference 2.6.3/Q.732 [42]	Selection expression	Q.788 [34] reference
			DLE AND PICS A.3/3	None
1. The stimulus information.	ISUP will initiate	a call set up wi	th the expected	l signalling
2. Send the Con	Nb and addConNb in (GenNb from user a	t SPB.	
Case b)				
SPC	SPA	SPB		
IAM	>			
<-ACM{CDmo/NoI	nd}IAM	> (with RnI	nf, OriCdNb, Rg	Nb)
<anm< td=""><td> <con< td=""><td> RnNbRes, C</td><td>onNb, addConNb</td><td>in GenNb</td></con<></td></anm<>	<con< td=""><td> RnNbRes, C</td><td>onNb, addConNb</td><td>in GenNb</td></con<>	RnNbRes, C	onNb, addConNb	in GenNb
:				
1. The stimulus information.	ISUP will initiate	a call set up wi	th the expected	l signalling
2. Send the Con	Nb and addConNb in	GenNb from user a	it SPB.	

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_44	2.6.5/Q.732 [42]	expression	reference
			DLE AND	None
			PICS A.3/1	

Call diversion - interaction with CLIP.

To verify that the diverting exchange diverts the **calling party number** and the additional calling number in the **generic number**.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange.

 SPC
 SPA
 SPB

 -----IAM----->
 (with RnInf, OriCdNb, RgNb)

 <-----CPG------</td>
 <-----ACM------</td>
 RnNbRes

 ... ringing tone ...
 <------ANM------</td>
 <------ANM------</td>

 :
 :

1. The stimulus ISUP will initiate a call set up with CgPN and addCgPN in ${\tt GenNb}.$

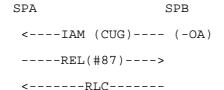
Note for the selection: Called party has to subscribe to CLIP, although diverted-to user beneficiates of the information.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_45	2.6.7/Q.732 [42]	expression	reference
			DLE AND	None
			PICS A.3/7	

Call diversion - interaction with CUG - CUG call not diverted.

To verify that a CUG call with outgoing access not allowed to a non-CUG user who has activated diversion is not forwarded.

access



- 1. No call set up should be observed on the access side.
- 2. Send an IAM with ISUP preference indicator in the FCI set to "ISUP required all the way" and CUG call indicator in the OFCI set to "CUG call, outgoing access not allowed".
- 3. REL with cause \$87 "User not member of CUG". See also CUG test case $ISS_V_7_14$

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_46	2.6.7/Q.732 [42]	expression	reference
			DLE AND	None
			PICS A.3/7	

Test purpose

Call diversion - interaction with CUG - CUG call diverted.

To verify that a CUG call with outgoing access not allowed to a CUG member who has activated diversion is successful and that the CUG restrictions are forwarded.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange and has subscribed to CUG.

1. Initiate a CUG call set up from SPC specifying a CUG interlock code. The CUG call is with outgoing access not allowed.

2. CUG call indicator set to "CUG call, outgoing access not allowed".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CDIV/	ISS_V_12_47	2.6.17/Q.732 [42]	expression	reference
			DLE AND	None
			PICS A.3/8	

Call diversion - interaction with SUB - old called party sub-address not diverted.

To verify that the IUT does not divert the called party sub-address.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange. SPC SPA SPB

-----IAM---->
<-ACM{CDmo/NoInd}- -----IAM----->with RnInf, OriCdNb, RgNb
<------CPG------ <-----ACM------ RnNbRes

... ringing tone ...

- 1. The stimulus ISUP will initiate a call set up with a called party sub-address.
- 2. If IUT diverts the called party sub-address it's a "fail".
- 3. If the IUT does not divert a sub-address in the ATP it's a "pass".
- 4. IF the IUT changed the called party sub-address from TSP_Sub_A to TSP_Sub_B it's a "pass".

TSS CDIV/	TP ISS_V_12_48	ISUP '97 reference 2.6.17/Q.732 [42]	Selection expression	Q.788 [34] reference
			DLE AND	None
			PICS A.3/8	

Test purpose

Call diversion - interaction with SUB - new called party sub-address included.

To verify that a new called party sub-address corresponding to the diverted-to user shall be provided by the served user at call diversion activation and shall be included in the **access transport** parameter in the **IAM** sent on the diverted leg.

Pre-test conditions.

Arrange the data in the IUT so that called user has activated diversion to an external exchange and has subscribed to SUB.

 SPC
 SPA
 SPB

 -----IAM----->
 <-ACM{CDmo/NoInd}- -----IAM-----> with RnInf, OriCdNb, RgNb

 <-----CPG----- <-----ACM------ RnNbRes</td>
 ... ringing tone ...

 <------ANM------ <------ANM------</td>
 :

1. The stimulus ISUP will initiate a call set up with a called party sub-address.

TSS CDIV/	TP ISS_V_12_48	ISUP '97 reference 2.6.17/Q.732 [42]	Selection expression DLE AND PICS A.3/8	Q.788 [34] reference None
2. The IUT chan	ged the called part	y sub-address fro	m TSP_Sub_A to	TSP_Sub_B.

TSS CDIV/	TP ISS V 12 49	ISUP '97 reference 2.7/Q.732 [42];	Selection expression	Q.788 [34] reference
CDIV	133_V_12_49	2.1.1.1/Q.764 [25]	DLE AND IWorkE	None

Call diversion - interworking with other networks.

To verify that the IUT is able to handle the call to other signalling systems according to the basic call procedures. If the ISDN user part preference indicator in the **forward call indicators** is set to "ISDN user part...:

- ...not required all the way" (01) then the call should be diverted.
- ...preferred all the way "
- (00) then the call should be diverted.
- ...required all the way"
- (10) then the call should be rejected/released.

Pre-test conditions.

Arrange the data in the IUT so that the called user has activated diversion with a diverted-to number which is to be routed to another signalling system.

Case a)

 SPC
 non-ISUP
 SPA
 SPB

 <-----IAI------</td>
 <----IAM------</td>

 -----ACM----->
 ----ANM----->

 :

- 1. Assist a call set up from the UNI at SPB on a non-ISUP route.
- 2. Initiate a call set up specifying "ISDN user part not required all the way" in the FCI of the IAM.
- 3. The call should complete. For the non-ISUP side TUP messages have been chosen as an example.

Case b)

 SPC
 non-ISUP
 SPA
 SPB

 <-----IAI------</td>
 <----IAM------</td>

 -----ACM----->
 -----ANM----->

 :
 :

- 1. Assist a call set up from the UNI at SPB on a non-ISUP route.
- 2. Initiate a call set up specifying "ISDN user part preferred all the way" in the FCI of the IAM.
- 3. The call should complete.

TSS CDIV/	TP ISS_V_12_49	ISUP '97 reference 2.7/Q.732 [42]; 2.1.1.1/Q.764 [25]	Selection expression DLE AND IWorkE	Q.788 [34] reference None
Case c)				
SPC non-IS	UP SPA	SPB		
	<iam-< td=""><td></td><td></td><td></td></iam-<>			
	REL-	>		
	<rlc-< td=""><td></td><td></td><td></td></rlc-<>			
:				
1. Assist a cal	l set up from the U	NI at SPB on a no	on-ISUP route.	
2. Initiate a cathe FCI of the	all set up specifyi: IAM.	ng "ISDN user par	t required all	the way" in

7.3.13 Call hold (HOLD)

3. The call should be released.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
HOLD/	ISS_V_13_1	2.5.2.1.1.1; 2.5.2.1.1.2/Q.733 [38]	expression	reference 2.11.3
		2.5.2.1.1.2/Q./33 [36]	Local	2.11.3

Test purpose

Call hold after answer, requested by the local user.

To verify that a call can be placed on hold and can be retrieved again by the local user and that notifications are sent with **CPG** messages having the **event indicator** set to "progress".

Pre-test conditions.

Arrange the data in the IUT so that the local user subscribes to the Call hold service.

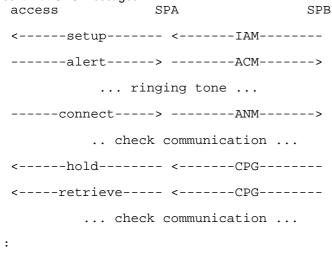
access	SPA		SPE
<setup-< td=""><td> <</td><td>IAM</td><td></td></setup-<>	<	IAM	
alert-	>	ACM	>
	ringing tone		
connect	:>	ANM	>
0	heck communic	ation	
hold	>	CPG	>
retriev	re>	CPG	
0	heck communic	ation	
:			

- 1. The call is put on HOLD by the called party.
- 2. The call is retrieved by the called party.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
HOLD/	ISS_V_13_2	2.5.2.1.1.1;	expression	reference
		2.5.2.1.1.2/Q.733 [38]	Local	2.11.3

Call hold after answer, requested by the remote user.

To verify that a call can be placed on hold and can be retrieved again by the remote user and that notifications are sent with **CPG** messages.



1. The call is put on HOLD by the remote user.

2. The call is retrieved by the remote user.

TSS HOLD/	TP ISS_V_13_3	ISUP '97 reference 2.2.1; 2.5.2.1.1.1; 2.5.2.1.1.2/Q.733 [38]	Selection expression OLE and PICS A.17/2	Q.788 [34] reference 2.11.1

Test purpose

Call hold after alerting, requested by the local user.

To verify that an outgoing call can be placed on HOLD after alerting has commenced and can be retrieved afterwards by the local user and that notifications are sent with **CPG** messages.

Pre-test conditions.

Arrange the data in the IUT so that the local user subscribes to the Call hold service.

TSS HOLD/	TP ISS_V_13_4	ISUP '97 reference 2.2.1; 2.9/Q.733 [38]	Selection expression OLE and PICS A.17/2	Q.788 [34] reference None
Test purpose				
Call hold after alerting,	expiry of T9 while the call II is released if it is not and	is on hold. swered before expiry of T9 (v	waiting for ANM).	
Call hold after alerting, To verify that a held ca Pre-test conditions.	Il is released if it is not and		,	

- 1. Call HOLD received.
- 2. Cause #19: No answer from user (user alerted).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
HOLD/	ISS_V_13_5	2.2.1;	expression	reference
		2.5.2.1.1.1;	OLE and	2.11.1
		2.5.2.1.1.2/Q.733 [38]	PICS A.17/1	

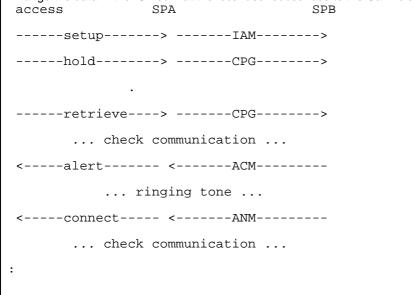
Test purpose

Call hold after IAM, local user requests HOLD for outgoing call.

To verify that an outgoing call can be placed on hold and can be retrieved afterwards by the local user and that notifications are sent with **CPG** messages.

Pre-test conditions.

Arrange the data in the IUT so that the local user subscribes to the Call hold service.



HOLD/	TP ISS_V_13_6	ISUP '97 reference 2.5.2.2.1; 2.5.2.3.1; 2.5.2.4.1/Q.733 [38]	Selection expression IntermE	Q.788 [34] reference 2.11.3
		and can be retrieved again b	by the served user (ca	alled or calling
SPC	SPA	SPB		
MAI	>IAM	>		
<acm< td=""><td> <acm< td=""><th></th><td></td><td></td></acm<></td></acm<>	<acm< td=""><th></th><td></td><td></td></acm<>			
	ringing tone			
<anm< td=""><td> <anm< td=""><th></th><td></td><td></td></anm<></td></anm<>	<anm< td=""><th></th><td></td><td></td></anm<>			
che	ck communication .			
CPG	>CPG	> hold		
CPG	>CPG	> retrieve		
C	heck communication	n		
:				
	put on HOLD by th			
2. The call is	retrieved by the	calling user.		
Case b)				
SPC	SPA	SPB		
	>IAM	>		
	7 (7)			
<acm< td=""><td> <acm< td=""><th></th><td></td><td></td></acm<></td></acm<>	<acm< td=""><th></th><td></td><td></td></acm<>			
<acm< td=""><td>ringing tone</td><th></th><td></td><td></td></acm<>	ringing tone			
<acm <anm< td=""><td>ringing tone</td><th></th><td></td><td></td></anm<></acm 	ringing tone			
<acm <anm< td=""><td>ringing tone <anm .<="" ck="" communication="" td=""><th></th><td></td><td></td></anm></td></anm<></acm 	ringing tone <anm .<="" ck="" communication="" td=""><th></th><td></td><td></td></anm>			
<acm <anm="" <cpg<="" che="" td=""><td>ringing tone <anm .="" <cpg<="" ck="" communication="" td=""><th> hold</th><td></td><td></td></anm></td></acm>	ringing tone <anm .="" <cpg<="" ck="" communication="" td=""><th> hold</th><td></td><td></td></anm>	 hold		
<acm <anm="" <cpg="" <cpg<="" che="" td=""><td>ringing tone <anm .="" <cpg<="" ck="" communication="" td=""><th> hold retrieve</th><td></td><td></td></anm></td></acm>	ringing tone <anm .="" <cpg<="" ck="" communication="" td=""><th> hold retrieve</th><td></td><td></td></anm>	 hold retrieve		
<acm <anm="" <cpg="" <cpg<="" che="" td=""><td>ringing tone <anm .="" <cpg<="" ck="" communication="" td=""><th> hold retrieve</th><td></td><td></td></anm></td></acm>	ringing tone <anm .="" <cpg<="" ck="" communication="" td=""><th> hold retrieve</th><td></td><td></td></anm>	 hold retrieve		

2. The call is retrieved by the called party.

TSS HOLD/	TP ISS_V_13_7	ISUP '97 reference 2.2.2; 2.5.2.2.1; 2.5.2.3.1; 2.5.2.4.1/Q.733 [38]	Selection expression IntermE	Q.788 [34] reference 2.11.1
	call can be placed on hold	after alerting has commence passed on transparently by the		and can be

- 1. The call is put on HOLD by the calling party.
- 2. The call is retrieved by the calling party.

Case b)

Case a)

- 1. The call is put on HOLD by the called party.
- 2. The call is retrieved by the called party.

TSS HOLD/	TP ISS_V_13_8	ISUP '97 reference 2.7/Q.733 [38]	Selection expression IWorkE and	Q.788 [34] reference None
			PICS A.17/3	
-	interworking with PSTN. ad indication is sent to the PS SPA	STN subscriber if a call is	placed on hold by the	ISDN subscriber.
	>IAM	>		
<	<acm< td=""><td></td><td></td><td></td></acm<>			
	ringing tone			
<	<anm< td=""><td></td><td></td><td></td></anm<>			
chec	k communication			
<in-band indi<="" td=""><td>C <cpg< td=""><td></td><td></td><td></td></cpg<></td></in-band>	C <cpg< td=""><td></td><td></td><td></td></cpg<>			
:				
1. Continue if	an indication of in	-band information	is received.	

TSS HOLD/	TP ISS_V_13_9	ISUP '97 reference 2.3/Q.764 [25]	Selection expression Local	Q.788 [34] reference 2.11.4
To verify that a call in the Pre-test conditions.	release of the call by the loc he held state can be release IUT so that the local user su SPA	d by the user who activat		€.
<setup< td=""><td> <iam< td=""><td></td><td></td><td></td></iam<></td></setup<>	<iam< td=""><td></td><td></td><td></td></iam<>			
alert	>ACM	>		
	ringing tone			
connect-	>ANM	>		
	check communication	n		
hold	>CPG	>		
check	no through-connecti	on		
disc	>REL	>		
1. The call is	put on HOLD by the	called party.		

TSS HOLD/	TP ISS_V_13_10	ISUP '97 reference 2.3/Q.764 [25]	Selection expression Local	Q.788 [34] reference 2.11.5		
Test purpose Call hold after answer, release of the call by the non-served user. To verify that a call in the held state can be released by the user who did not activate the Call hold service. SPA SPB						
<setup-< td=""><th> <iam< th=""><th></th><th></th><th></th></iam<></th></setup-<>	<iam< th=""><th></th><th></th><th></th></iam<>					
alert-	>ACM-	>				
	ringing tone					
connect	>ANM-	>				
	check communication	n				
<hold< td=""><th> <cpg< th=""><th></th><th></th><th></th></cpg<></th></hold<>	<cpg< th=""><th></th><th></th><th></th></cpg<>					
disc	disc>REL>					
1. The call is	1. The call is put on HOLD by the called party.					

			Local	2.11.2
Γο verify that a held cal Pre-test conditions.	release of the call by the loc Il can be released by the use IUT so that the local user su	er who activated the Call h		trieving the call.
<setup< td=""><td>></td><td></td><td></td><td></td></setup<>	>			
hold	. ringing tone>REL			

TSS HOLD/	TP ISS_V_13_12	ISUP '97 reference 2.2.1; 2.5.2.5.1/Q.733 [38]	Selection expression DLE	Q.788 [34] reference 2.11.1
	requested by the remote using call can be placed on his	ser. old and can be retrieved aft SPB	terwards by the remo	te user.
<setup< td=""><th> <iam< th=""><th></th><th></th><th></th></iam<></th></setup<>	<iam< th=""><th></th><th></th><th></th></iam<>			

TSS HOLD/	TP ISS_V_13_12	ISUP '97 reference 2.2.1; 2.5.2.5.1/Q.733 [38]	Selection expression DLE	Q.788 [34] reference 2.11.1	
alert	>ACM-	>			
	ringing tone				
<hold< td=""><td colspan="5"><hold <cpg<="" td=""></hold></td></hold<>	<hold <cpg<="" td=""></hold>				
<retrieve <res<="" td=""></retrieve>					
1					

7.3.14 Call waiting (CW)

TSS CW/	TP ISS_V_14_1	ISUP '97 reference 1.5.2.1.1/Q.733 [38]	Selection expression OLE	Q.788 [34] reference 2.10.1
Test purpose	n ACM			
Call waiting indication i		ned if the ACM indicates that	it is a waiting call	
access	SPA	SPB	it is a waiting sail.	
setup	>IAN	VI>		
<alert< td=""><td> <aci< td=""><td>M</td><td></td><td></td></aci<></td></alert<>	<aci< td=""><td>M</td><td></td><td></td></aci<>	M		
	call waiting	g		
:				

TSS CW/	TP ISS_V_14_2	ISUP '97 reference 1.5.2.1.1/Q.733 [38]	Selection expression OLE	Q.788 [34] reference 2.10.1
Test purpose	000			
Call waiting indication i		if the CDC indicates that	tit is a waiting sall	
access	n be successfully established SPA	SPB	it is a waiting call.	
access	SPA	SPD		
setup	>IAM-	>		
<alert< td=""><td> <acm-< td=""><td></td><td></td><td></td></acm-<></td></alert<>	<acm-< td=""><td></td><td></td><td></td></acm-<>			
	<cpg-< td=""><td></td><td></td><td></td></cpg-<>			
	call waiting			
:				

TSS CW/	TP ISS_V_14_3	ISUP '97 reference 1.5.2.2.1; 1.5.2.3.1; 1.5.2.4.1/Q.733 [38]	Selection expression IntermE	Q.788 [34] reference 2.10.1		
Test purpose Call waiting indication in ACM (transit). To verify that a call can be successfully established if the ACM indicates that it is a waiting call. SPC SPA SPB IAM> ACM call waiting						
1. Call waiting indication is sent in ACM.						

TSS CW/	TP ISS_V_14_4	ISUP '97 reference 1.5.2.2.1; 1.5.2.3.1; 1.5.2.4.1/Q.733 [38]	Selection expression IntermE	Q.788 [34] reference 2.10.1			
Test purpose Call Waiting indication in CPG (transit). To verify that a call can be successfully established if the CPG indicates that it is a waiting call. SPC SPA SPB							
IAM>IAM> <acm (noind)<="" td=""></acm>							
<cpg (call="" <cpg="" td="" waiting)<=""></cpg>							
1. Call waiting indication is sent in CPG.							

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CW/	ISS_V_14_5	1.5.2.5.1/Q.733 [38]	expression	reference
			DLE	2.10.1

Call waiting indication in ACM or CPG.

To verify that a call can be successfully established if the user has subscribed to the call waiting service (with notification) and if he is currently busy, but answers the waiting call. The indication shall be sent either in an **ACM** or a **CPG**.

Pre-test conditions.

Arrange the data in the IUT so that the called user subscribes to the call waiting service with the notification option.

access SPA SPB

TSS CW/	TP ISS_V_14_5	ISUP '97 reference 1.5.2.5.1/Q.733 [38]	Selection expression DLE	Q.788 [34] reference 2.10.1			
<setup< td=""><th> <iam< th=""><th></th><th></th><td></td></iam<></th></setup<>	<iam< th=""><th></th><th></th><td></td></iam<>						
(no ch	(no channel)						
alert	alert>ACM> call waiting						
	(CPG	> call wait	ing)				
connect	>ANM	>					
check	check communication						
<disc< td=""><td colspan="6"><disc <rel<="" td=""></disc></td></disc<>	<disc <rel<="" td=""></disc>						
>							
:							
1. Set up calls on every B-channel busy.							
2. Call waiting indication in ACM.							
3. Call waiting indication in CPG.							
4. Release the	4. Release the calls in order to get an idle state.						

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CW/	ISS_V_14_6	1.5.2.5.1/Q.733 [38]	expression	reference
			DLE	2.10.1

Call waiting without notification.

To verify that a call can be successfully established if the user has subscribed to the call waiting service (without notification) and if he is currently busy, but answers the waiting call. No indication shall be sent to the calling user. Pre-test conditions.

Arrange the data in the IUT so that the called user subscribes to the call waiting service without the notification option.

```
| Access | SPA | SPB | S
```

DLE 2.10.1		TSS CW/	TP ISS_V_14_6	ISUP '97 reference 1.5.2.5.1/Q.733 [38]	Selection expression DLE	Q.788 [34] reference 2.10.1
--------------	--	------------	------------------	--	--------------------------------	-----------------------------------

- 1. Set up calls on every B-channel busy.
- 2. No call waiting indication in ACM.
- 3. Release the calls in order to get an idle state.

DLE 2.10.2	TSS CW/	TP ISS V 14 7	ISUP '97 reference 1.5.2.5.2/Q.733 [38]	Selection expression	Q.788 [34] reference
l = .		100_1-14_7	1.5.2.5.2/4.755 [50]	• • • • • • • • • • • • • • • • • • • •	

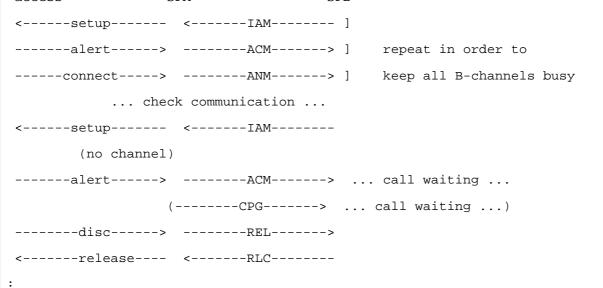
Call waiting rejected.

To verify that the IUT sends a REL with cause #21 (call rejected) if a busy user rejects the waiting call.

Pre-test conditions.

Arrange the data in the IUT so that the called user subscribes to the call waiting service with the notification option.

access SPA SPB



- 1. Set up calls on all B-channels.
- 2. Call waiting indication in ACM.
- 3. Call waiting indication in CPG.
- 4. Release the calls in order to get an idle state.

TSS CW/	TP ISS_V_14_8	ISUP '97 reference 1.5.2.5.2/Q.733 [38]	Selection expression DLE	Q.788 [34] reference 2.10.3	
Test purpose Call waiting ignored (expiry of call waiting supervision timer). To verify that the IUT sends a REL with cause #19 (no answer from user, user alerted) if a busy user does not answer the waiting call. Pre-test conditions. Arrange the data in the IUT so that the called user subscribes to the call waiting service with the notification option access SPA SPB					

- 1. Call waiting indication in ACM.
- 2. Call waiting indication in CPG.

7.3.15 Completion of calls to busy subscribers (CCBS)

TSS CCBS-ISUP/	TP ISS_V_15_1	ISUP '97 reference 3.4.2.1.1; 3.5.3.1.1 /Q.733.3 [14]	Selection expression OLE	Q.788 [34] reference None		
Test purpose ISUP Preference Indicator in the CCBS call. To verify that for the CCBS call, the IUT sets the ISUP preference indicator in the forward call indicator parameter in the IAM to "ISDN User Part required all the way". Pre-test conditions. Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service. access SPA SPB						
-	>IAM					
<recall< td=""><td></td><th>ransaccion</th><th></th><th></th></recall<>		ransaccion				
setup CCBS ca	all>IAM	> ISUP r	equired all the	e way		

TSS CCBS-ISUP/	TP ISS_V_15_1	ISUP '97 reference 3.4.2.1.1; 3.5.3.1.1 /Q.733.3 [14]	Selection expression OLE	Q.788 [34] reference None			
:							
·							

- 1. Set up a call to busy user at SPB.
- 2. User at SPB is found busy.
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE operation.
- 4. CCBS call with "ISDN User Part required all the way" in the FCI of the IAM.

TSS CCBS-ISUP/	TP ISS_V_15_2	ISUP '97 reference 3.4.2.1.3/Q.733.3 [14]	Selection expression OLE	Q.788 [34] reference None

CCBS parameter in the CCBS call.

To verify that for the CCBS call, the IUT includes in the **IAM** the CCBS call indicator in the **CCBS parameter** coded as "CCBS call".

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

- 1. Set up a call to busy user at SPB.
- 2. User at SPB is found busy.
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE operation.
- 4. Check Indication "CCBS call" in the IAM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_3	3.5.1.1.1.1/Q.733.3 [14]	expression	reference
			OLE	None

CCBS call with retained basic call information.

To verify that for the CCBS call, the IUT includes the retained call information in the IAM:

User service information;

User service information prime;

Access transport (e.g. called party sub-address);

SPA

Called party number.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS and such that the relevant call information that is to be tested may be provided by the calling user.

- 1. Set up a call with USI, USIp, ATP and/or CdPN, which encounters user at SPB busy, activates TCAP and terminates the call.
- 2. User at SPB is found busy.
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE operation.
- 4. CCBS call with "ISDN User Part required all the way" in the FCI of the IAM. The retained call information about ATP, USI, USIp and CdPN shall be checked too.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_4	3.5.1.1.1.1; 3.6.13	expression	reference
		/Q.733.3 [14]	OLE AND PICS	None
		1	A.18/3	

Test purpose

CCBS call with retained call information & interactions with other supplementary services.

To verify that for the CCBS call, the IUT includes the retained call information in the IAM:

Calling party number (if supported);

Access transport (e.g. calling party sub-address if supported);

UUS1,2,3 (retained request if supported);

UUS1 (information given by user in response to CCBS recall, if supported);

Optional forward call indicator (with COLP request).

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS and such that the relevant call information for the applicable supplementary services may be provided by the calling user (e.g. SUB, COLP).

access

SPA

SPB

Selection

Q.788 [34]

ΤP

ISUP '97 reference

CCBS-ISUP/	ISS_V_15_4	3.5.1.1.1.1; 3.6.13 /Q.733.3 [14]	expression OLE AND PICS A.18/3	reference None
setup	>IAM	>		
<disconnect< td=""><th> <rel< th=""><th></th><th></th><th></th></rel<></th></disconnect<>	<rel< th=""><th></th><th></th><th></th></rel<>			
1	RLC	>		
TO	CAP transaction			
<recall-< td=""><th></th><th></th><th></th><th></th></recall-<>				
setup CCBS ca	all>IAM-	> ISUP 1	required all the	e way
:				
<disconne< td=""><th>ect <rel< th=""><th></th><th></th><th></th></rel<></th></disconne<>	ect <rel< th=""><th></th><th></th><th></th></rel<>			
:				
l				

- 1. Set up a call with Calling party number (if supported) ATP (e.g. calling party sub-address if supported); UUS1, 2, 3 (retained request if supported) UUS1 (information given by user in response to CCBS recall, if supported) OFCI (with COLP request) which encounters user at SPB busy, activates TCAP and terminate the call.
- 2. User at SPB is found busy.

TSS

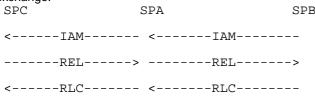
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCBS ASE operation.
- 4. CCBS call with "ISDN User Part required all the way" in the FCI of the IAM. The retained call information. about ATP, UUS1,2,3 request, UUI in CCBS recall and CdPN shall be checked too.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_5	3.5.3.2.1; 3.5.3.3.1;	expression	reference
		3.5.3.4.1/Q.733.3 [14]	IntermE	None

Test purpose

Transit support of diagnostics field in REL.

To verify that the IUT is able to pass the diagnostics field including the CCBS indicator transparently to the preceding exchange.



1. Check diagnostics field in the REL.

TSS CCBS-ISUP/	TP ISS_V_15_6	ISUP '97 reference 3.5.3.2.1; 3.5.3.3.1; 3.5.3.4.1/Q.733.3 [14]	Selection expression IntermE	Q.788 [34] reference None
Test purpose				
Transit support of CCB		tor transparantly to the aug	acadina ayahanaa	
SPC	s able to pass CCBS parame	SPB	ceeding exchange.	
DIC DIA DID				
IAM	>IAM	> CCBS paramete	r	
:				
•				
1. Set up a CCBS call to user at SPB.				
2. Check that CCBSpar is received.				

TSS CCBS-ISUP/	TP ISS_V_15_7	ISUP '97 reference 3.4.2.1.2/Q.733.3 [14]	Selection expression DLE	Q.788 [34] reference None		
Test purpose CCBS possible to destination B. To verify that the IUT is able to generate in a REL message with cause # 17 "User busy" or # 34 "No circuit available" the diagnostics field containing a CCBS indicator with a "CCBS possible" indication. access SPA SPB						
set the destina	ation					
B busy						
user busy	<iam< td=""><td></td><td></td><td></td></iam<>					
	REL	>				
	<rlc< td=""><td></td><td></td><td></td></rlc<>					
<disconnec< td=""><td>t <rel< td=""><td></td><td></td><td></td></rel<></td></disconnec<>	t <rel< td=""><td></td><td></td><td></td></rel<>					
	RLC	>				
:						

- 1. UNI at SPA becomes busy.
- 2. Check that "CCBS possible" is received in the release message with cause value #17 or #34.
- 3. Release the busy call.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_8	3.4.2.1.3/Q.733.3 [14]	expression	reference
			DLE	None

CCBS parameter in the CCBS call.

To verify that the IUT is able to terminate the CCBS call, with the CCBS call indicator in the **CCBS parameter** in the **IAM** coded as "CCBS call".

access SPA SPB

set the destination B busy

<-----IAM------ normal call
-----REL-----> CCBS possible
<-----RLC------</pre>

... TCAP transaction ...

user frees resources

RemoteUserFree to CCBS call (& reserve resource)

resource(s) still available

<----setup----- <----IAM----- CCBS call
-----alert-----> -----ACM----->
----connect----> <-----REL-----

:

- 1. UNI at SPA becomes busy.
- 2. Check that remote user is free by using the RemoteUserFree CCBS ASE operation.
- 3. Process a CCBS call specified in the IAM.
- 4. Check that the call is terminated (ANM, CON, ...).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_9	3.5/Q.733.3 [14]	expression	reference
			DLE	None

Test purpose

CCBS not possible to destination B.

To verify that the IUT is able to generate in a REL message with cause #17 "User busy" or cause #34 "No circuit available" the diagnostics field containing a CCBS indicator with a "CCBS not possible" indication.

NOTE: CCBS is not possible because e.g. the queue is set to zero or filled up or due to maintenance reasons. Pre-test conditions.

Arrange the data in the IUT such that CCBS for destination B is not possible.

access SPA SPB

set the destination

B busy

user busy <----IAM-----

---->

TSS CCBS-ISUP/	TP ISS_V_15_9	ISUP '97 reference 3.5/Q.733.3 [14]	Selection expression DLE	Q.788 [34] reference None
	<rlc< th=""><td></td><td></td><td></td></rlc<>			
<disconnect-< td=""><th> <rel< th=""><td></td><td></td><td></td></rel<></th></disconnect-<>	<rel< th=""><td></td><td></td><td></td></rel<>			
	RLC	>		
•				

- 1. Set up a call to busy user at SPA.
- 2. Check that "CCBS not possible" is received in the release message with cause value #17 or #34.
- 3. Release the busy call.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_10	3.6.10.2.2 c);	expression	reference
		3.5.3.5.2 c)	DLE and PICS	None
		/Q.733.3 [14]	A.18/1	

Destination busy upon arrival of CCBS call -Interaction with CFB and retention option supported.

To verify that the IUT sends a REL with cause #17 or #34 and diagnostics "CCBS possible".

The DLE should retain the original request in the queue.

access SPA SPB

set the destination

B busy

user busy <----IAM-----

----->

<-----RLC-----

<-----disconnect-- <-----REL-----

---->

- 1. Set up a call to busy user at access.
- 2. Check that "CCBS possible" is received in the release message with cause value #17 or #34.
- 3. Release the busy call.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_11	3.6.10.2.2 c);	expression	reference
		3.5.3.5.2 c)	DLE AND NOT	None
		/Q.733.3 [14]	PICS A.18/1	

Destination busy upon arrival of CCBS call - Interaction with CFB and no retention option supported.

To verify that the IUT sends a **REL** with cause #17 or #34 with diagnostics "CCBS possible" when the terminals are compatible

The DLE releases all its resources for the original request and waits for new CCBS request.

access SPA SPB

set the destination

B busy

user busy <----IAM-----

-----> CCBS possible

<-----RLC-----

... TCAP transaction ..

RemoteUserFree

user busy again <----- CCBS call

-----> CCBS possible

<-----

<--disconnect--- <----REL-----

- 1. Set up a call to busy user at access.
- 2. CCBS call.
- 3. Check that "CCBS possible" is received in the release message with cause value # 17 or #34.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_12	3.7.10.2.2 c)	expression	reference
		/Q.733.3 [14]	DLE AND PICS	None
			A.18/9	

Test purpose

CCBS call as a normal call - Interaction with CFB.

To verify that the IUT deletes the CCBS parameter in the **IAM** if the CCBS call is forwarded by the initially busy user. Pre-test conditions.

User at destination B must subscribe to and activate CFB to an external user while the recall timer is running (CCBS-T9).

```
SPC SPA SPB
-----IAM------> (busy)
<-----REL-------
-----RLC------>
(user at SPA activates CDIV while CCBS-T9 runs)
-----IAM------> CFB
```

TSS CCBS-ISUP/	TP ISS_V_15_12	ISUP '97 reference 3.7.10.2.2 c) /Q.733.3 [14]	Selection expression DLE AND PICS A.18/9	Q.788 [34] reference None		
with CCBSpar	no CCBSpar					
:						
1. Set up a call to busy user at SPA.						
2. Check that no	CCBSpar is receive	ed in the IAM.				

TSS CCBS-ISUP/	TP ISS_V_15_13	ISUP '97 reference 3.5.3.5.1/Q.733.3 [14]	Selection expression DLE AND PICS A.18/6	Q.788 [34] reference None
	CBS request queue entries of upports the maximum number SPA			
set the destina	ation			
B busy				
user busy	<iam< td=""><td></td><td></td><td></td></iam<>			
	REL	>		
	<rlc< td=""><td></td><td></td><td></td></rlc<>			
	TCAP trans	action		
Repeat mo:	re than 5 set up to	busy user at SPA		
:				
<disconnect< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></disconnect<>	<rel< td=""><td></td><td></td><td></td></rel<>			
	RLC	>		

- 1. Set up a call to busy user at access.
- 2. Send maximum number of CCBS requests and check that user at SPA becomes free by using the RemoteUserFree CCBS ASE operation.
- 3. One more IAM after the maximum number of calls is reached at SPA.
- 4. Check that "not CCBS possible" is received in the REL with cause value # 17 or #34.
- 5. Release the busy call.
- 6. Set up calls (maximum 5 different) from SPB to SPA which encounters user at SPA busy. Activate CCBS for the different calls.
- 6. User at SPB requests maximum allowed CCBS request.
- 7. Received REL with cause value #17 or #34.

Taskanimasas						
			DLE	None		
CCBS-ISUP/	ISS_V_15_14	3.5.3.5.1/Q.733.3 [14]	expression	reference		
TSS	TP	ISUP '97 reference	Selection	Q.788 [34]		

Incoming non-CCBS call with identical service requirements released.

To verify that the IUT, having an entry in the CCBS queue, releases a second incoming call if the service requirements of the second call are identical to the entry being processed and resources are available.

The original request remains in the queue. NOTE:

Pre-test conditions.

Arrange the data in the IUT so that there are free resources in addition to the resource reserved for the first CCBS request. SPB

access

set the destination

B busy

<---- 1st call user busy

-----> CCBS possible

<----RLC-----

... TCAP transaction ..

user frees resources

RemoteUserFree to 1st call (& reserve resource)

resource(s) still available for potential 2^{nd} call

<----IAM----- 2nd. independent call

-----REL----> released because identical requirements

<----RLC-----

... check TCAP transaction ...

<----IAM----- 1st. CCBS call (empty queue)

...continue CCBS call 1st call.

:

- 1. Set up a 1^{st} call to busy user at access.
- 2. Check release message with cause value # 17 or # 34 (1 $^{\text{st}}$ call).
- 3. Check that remote user is free by using the RemoteUserFree CCBS ASE operation.
- 4. Process a second identical (with the same requirement to the one being processed) set up to the same remote user.
- 5. Check that the call is released with cause #17 or #34 (2^{nd} call).
- 6. Continue the 1^{st} CCBS call in order to get an idle state.
- 7. Continue the 2^{nd} CCBS call in order to get an idle state.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ISUP/	ISS_V_15_15	3.5.3.5.1/Q.733.3 [14]	expression	reference
			DLE	None

Incoming non-CCBS call with not identical service requirements accepted.

To verify that the IUT, having a queue entry in the CCBS queue, accepts a second incoming call if the service requirements of the second call are not identical to the entry being processed and resources are available.

NOTE: The original request remains in the queue.

Pre-test conditions.

Arrange the data in the IUT so that there are free resources in addition to the resource reserved for the first CCBS request.

access SPA SPB

set the destination

B busy

user busy <----- 1st call

-----> CCBS possible

<----

... TCAP transaction ..

user frees resources

RemoteUserFree to 1st call (& reserve resource)

resource(s) still available for potential 2nd call

<----setup----- ----- 2^{nd} . independent call

-----alert-----> -----ACM----->

----connect----> -----ANM---->

<----disc----- <----REL-----

...continue with the $1^{\rm st}$ CCBS call...

:

- 1. Set up a call to busy user at access.
- 2. Check release message with cause value #17 or # 34 (1st call).
- 3. Check that remote user is free by using the RemoteUserFree CCBS $\ensuremath{\mathsf{ASE}}$ operation.
- 4. Process a second non-identical (without the same requirement to the one being processed) set up.
- 5. Check that the call is accepted (ANM, CON, ...).
- 6. End the TCAP dialogue for the 1st call.

CCBS Application Service Element (ASE)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_V_15_1	3.5.1.1.1.1/Q.733.3 [14]	expression	reference
			OLE	None

Test purpose

Ability to perform a CCBS REQUEST class 1 operation - successful.

To verify that the IUT can successfully perform a CCBS REQUEST operation if required by the calling user:

NOTE 1: Send a **CcbsRequest invoke** to the DLE by using the TCAP primitive **TC-BEGIN request**(TC-INVOKE request).

NOTE 2: Receive a **CcbsRequest return result** from the DLE in a **TC-CONTINUE** indication(TC-INVOKE indication).

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
access
                                  SPB
-----setup-----> -----IAM----->
<----disconnect---- <----REL-----
                   ----- RLC----> (normal call, user at SPB busy)
              ... TCAP transaction ...
start CCBS-T1
             ___
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2
               xxxxTC_BEGIN_REQ-->
stop CCBS-T2
                  <--TC_CONTINUE_INDx
start CCBS-T3
----CCBS recall---> -----IAM-----> CCBS call
<----REL-----
```

- 1. The access side activates CCBS.
- 2. The CcbsRequest invocation is received.
- 3. The user at SPB is now free for a CCBS call.
- $4.\ \mbox{CCBS}$ call set up with "ISDN User Part required all the way" in the FCI of the IAM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_I_15_2	3.5.1.1.1.2/Q.733.3 [14]	expression	reference
			OLE	None

Ability to perform a CCBS REQUEST class 1 operation - unsuccessful.

To verify that if a failure occurs (short or long term denial) while invoking a CCBS REQUEST operation, the IUT is able to indicate the result to the calling user.

- NOTE 1: Send a **CcbsRequest invoke** to the DLE by using the TCAP primitive **TC-BEGIN request**(TC-INVOKE request).
- NOTE 2: Receive a **CcbsRequest return error** from the DLE in a **TC-END indication**(TC-U-ERROR indication). Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

- 1. The access side activates CCBS.
- 2. The CcbsRequest invocation is received.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_V_15_3	3.5.1.2.1.1/Q.733.3 [14]	expression	reference
			OLE	None

Test purpose

Ability to perform a CCBS CANCEL class 4 operation.

To verify that the IUT can successfully perform a deactivation request if required by the calling user.

NOTE: Send a **CcbsCancel invoke** without cancelCause to the DLE by using the TCAP primitive **TC-END** request(TC-INVOKE request).

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

TSS CCBS-ASE/	TP ISS_TC_V_15_3	ISUP '97 reference 3.5.1.2.1.1/Q.733.3 [14]	Selection expression OLE	Q.788 [34] reference None	
stop CCBS-T1					
start CCBS-T2	xxxxTC_BEGIN	_REQxx->			
stop CCBS-T2	<tc_contin< td=""><th>UE_INDxx</th><td></td><td></td></tc_contin<>	UE_INDxx			
start CCBS-T3					
<ccbs deact="" re<="" td=""><td>equest-</td><th></th><td></td><td></td></ccbs>	equest-				
CCBS Deact re	sponse->				
	xxTC_END REQ	xxxx>			
stop CCBS-T3					
1. The access side activates and deactivates CCBS.					
2. Check that the CcbsRequest invocation is received.					

TSS CCBS-ASE/	TP ISS_TC_V	_15_4	ISUP '97 refe 3.5.3.1.1/Q.73		Selection expression OLE	Q.788 [34] reference None
Test purpose Ability to indicate a CCBS recall to the calling user. To verify that the IUT can successfully initiate a CCBS recall to the calling user. NOTE: Receive a RemoteUserFree invoke from the DLE in a TC-CONTINUE indication(TC-INVOKE indication). Pre-test conditions. Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.						
access	SPA	odining do	SP:		Supplementary servi	00.
setup	>	IAI	M>			
<disconnec< td=""><td>ct <</td><th>RE</th><th>L</th><td></td><td></td><td></td></disconnec<>	ct <	RE	L			
		RL	C>	(norm	al call, user	at SPB busy)
		TCAP t	ransaction			
start CCBS-T1						
<ccbs act="" requ<="" td=""><td>ıest</td><th></th><th></th><td></td><td></td><td></td></ccbs>	ıest					
CCBS Act respo	onse>					
stop CCBS-T1						
start CCBS-T2	xx	xxTC_BE	GIN_REQxxxx	>		
stop CCBS-T2	<-	-TC_CON	TINUE_INDxx:	xx		
start CCBS-T3						
:						
<ccbs recal<="" td=""><td>l act</td><th></th><th></th><td></td><td></td><td></td></ccbs>	l act					
CCBS recal	11> -	I	AM>	CCBS c	all	
:						

TSS CCBS-ASE/	TP ISS_TC_V_15_4	ISUP '97 reference 3.5.3.1.1/Q.733.3 [14]	Selection expression OLE	Q.788 [34] reference None
<disconnec< td=""><td>tR</td><td>EL</td><td></td><td></td></disconnec<>	tR	EL		
;				
:				
· 				

- 1. The access side activates CCBS request and CCBS recall.
- 2. Check that the CcbsRequest invocation is received.
- 3. The user at SPB is now free for a CCBS call.
- 4. Check that CCBS call with "ISDN User Part required all the way" in the FCI of the IAM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_I_15_5	3.5.3.1.1/Q.733.3 [14]	expression	reference
			OLE	None

Calling user busy when destination B becomes free.

To verify that the IUT can act correctly after receipt of the indication that destination B is free but calling user A is still busy:

- NOTE 1: Receive a RemoteUserFree invoke from the DLE in a TC-CONTINUE indication(TC-INVOKE indication).
- NOTE 2: Notify the calling user A.
- NOTE 3: Send CcbsSuspend invoke in a TC-CONTINUE request(TC-INVOKE request) to the DLE.
- NOTE 4 eventually send **CcbsResume invoke** in **TC-CONTINUE request**(TC-INVOKE request) to the DLE if the calling user becomes free.

Pre-test conditions.

```
Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.
```

```
access
 -----setup-----> -----IAM----->
 <----disconnect----- <----REL-----
                      ----- RLC----> (normal call, user at SPB busy)
                     ... TCAP transaction ...
start CCBS-T1
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2
                      xxxxTC_BEGIN_REQxxxx->
stop CCBS-T2
                       <--TC_CONTINUE_INDxxxx
                                               CcbsRequest return result
start CCBS-T3
                       <--TC_CONTINUE_INDxxxx
                                               RemoteUserFree
stop CCBS-T3
arrange user to be
found busy
                      xxxxTC_CONTINUE_REQ--> CcbsSuspend
```

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_I_15_5	3.5.3.1.1/Q.733.3 [14]	expression	reference
			OLE	None

or CCBS busy

--Receive notification that

the user at SPB is now free,

- --Send no response for that
- --User A is now free

xxxTC_CONTINUE_REQ--> CcbsResume

- 1. The access side activates CCBS.
- 2. Check that the CcbsRequest invocation is received.
- 3. The user at SPB is now free for a CCBS call.

SPA

4. End the TCAP dialogue in order to get an initial state.

TSS CCBS-ASE/	TP ISS_TC_V_15_6	ISUP '97 reference 3.1.3 m)/Q.733.3 [14]	Selection expression Local AND PICS	Q.788 [34] reference None
			A.18/1	

Test purpose

access

Support of the retain option.

To verify that the IUT performs the retain option by setting the **retainSupported** parameter to TRUE or FALSE in the **CcbsRequest** or in the **CcbsRequest return result**.

SPB

Pre-test conditions for OLE.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service. Case a)

- 1. The access side activates CCBS.
- 2. Check that the CcbsRequest invocation is received with

TSS CCBS-ASE/	TP ISS_TC_V_15_6	ISUP '97 reference 3.1.3 m)/Q.733.3 [14]	Selection expression Local AND PICS A.18/1	Q.788 [34] reference None
"RetainSupported	= TRUE".		·	
3. End the TCAP	dialogue in order	to get an initial	state.	
Case b)				
access	SPA	SPB		
set the dest	ination			
B busy				
	<iam-< td=""><td></td><td></td><td></td></iam-<>			
user busy	REL-	>		
	<rlc-< td=""><td></td><td></td><td></td></rlc-<>			
	TCAP tran	saction		
	<tc_begin_< td=""><td>REQxxxx retainSu</td><td>pported = TRUE</td><td></td></tc_begin_<>	REQxxxx retainSu	pported = TRUE	
	xxxTC_CONTIN	UE_IND-> retainSu	pported = TRUE	
user free	<rel-< td=""><td></td><td></td><td></td></rel-<>			
	RLC-	>		

- 1. UNI at SPA becomes busy.
- 2. Check that the CcbsRequest invocation is received with
 "RetainSupported = TRUE".
- 3. Free destination B

TSS CCBS-ASE/	TP ISS_TC_V_15_7	ISUP '97 reference 3.5.1.1.1.1/Q.733.3 [14]	Selection expression OLE AND PICS	Q.788 [34] reference None
			A.18/2	

Maximum number of outstanding CCBS requests of a user.

To verify that the IUT does not send any **CcbsRequest** to the DLE if the maximum number of outstanding requests is reached.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

TSS CCBS-ASE/	TP ISS_TC_V_15_7	ISUP '97 reference 3.5.1.1.1.1/Q.733.3 [14]	Selection expression OLE AND PICS A.18/2	Q.788 [34] reference None
< CCBS Not rea	10at			

<--CCBS Act request---

--CCBS Act response-->

stop CCBS-T1

start CCBS-T2 xxxxTC_BEGIN_REQxxxx-->

stop CCBS-T2 <--TC_CONTINUE_INDxxxx CcbsRequest return result

start CCBS-T3

repeat activate CCBS request until the maximum

number of CCBS request supported by SPA

check that no CCBS request is send after the specified number of entries

1. The access side activates CCBS.

- 2. Check that no TC_BEGIN_REQ is sent after the maximum number of CCBS request is reached at SPA.
- 3. The test case fails if the maximum number of outstanding requests is reached and CcbsRequest

is received.

4. 4. End the TCAP dialogue in order to get an initial state.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_I_15_8	3.5.1.1.2.2; 3.5.3.5.1;	expression	reference
		3.5.5.4/Q.733.3 [14]	DLE AND PICS	None
			A.18/6	

Test purpose

Maximum number of queue entries CCBS requests.

To verify that the IUT sends a **CcbsRequest return error** to the OLE if the maximum number of queue entries is reached.

NOTE: Send CcbsRequest return error in TC-END request(TC-INVOKE request).

access SPA SPB

set the destination

B busy

<----IAM-----

User busy -----REL----->

<----RLC-----

... TCAP transaction ...

<---xxTC_BEGIN_REQx

xxTC_CONTINUE_IND--> CcbsRequest return result

 \dots repeat activate CCBS request

until the maximum number of CCBS

TSS CCBS-ASE/	TP ISS_TC_I_15_8	ISUP '97 reference 3.5.1.1.2.2; 3.5.3.5.1; 3.5.5.4/Q.733.3 [14]	Selection expression DLE AND PICS A.18/6	Q.788 [34] reference None	
	re	quest supported b	y the IUT		
	is	reached (fill up	the queue)		
	<iam< td=""><th></th><th></th><th></th></iam<>				
User busy	REL>				
	<rlc< td=""></rlc<>				
	<xxtc_begin_reqx< td=""></xxtc_begin_reqx<>				
	XXXXTC_EN	D_IND> Co	bsRequest retur	n error	
		(short	or long term d	lenial)	
User free	<r< td=""><th>EL</th><th></th><th></th></r<>	EL			
	R	LC>			

- 1. UNI at SPA becomes busy.
- 2. Call to get the destination B busy.
- 3. Check that "CCBS possible" is received in the release message with cause value \sharp 17 or \sharp 34.
- 4. Check that CcbsRequest return error is received in TC_END_IND .
- 5. Free destination B

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_V_15_9	3.5.5.4/Q.733.3 [14]	expression	reference
			Local	None
Test purpose				
Ability to end a dialogu		(0000		
	an end a TCAP dialogue after			0011
NOTE: Send a TC-I	END request without compor	nent primitive upon senai	ng of the ACM, CPG o	or CON.
	OLE. IUT such that the calling us	or subscribes to the CCR	S cunnlementary cervi	ice
access	SPA	SPB	S supplementary servi	ice.
access	5111	51.5		
set the destina	ation			
_				
B busy				
	<iam< td=""><th></th><td></td><td></td></iam<>			
User A busy	REL	>		
1				
	<rlc< td=""><th></th><td></td><td></td></rlc<>			
	TCAP tran	saction		
	<xxtc be<="" td=""><th>GIN REOx</th><td></td><td></td></xxtc>	GIN REOx		
	_	_ ~		
	xxTC_CONTIN	UE_IND> CcbsRe	quest return re	esult
•				

TSS CCBS-ASE/	TP ISS_TC_V_15_9	ISUP '97 reference 3.5.5.4/Q.733.3 [14]	Selection expression Local	Q.788 [34] reference None
	xxTC_CONTIN	UE_IND> Remote	UserFree	
<set td="" up<=""><td> <iam< td=""><td> CCBS</td><td>S call</td><td></td></iam<></td></set>	<iam< td=""><td> CCBS</td><td>S call</td><td></td></iam<>	CCBS	S call	
	ACM	[>		
	xxxxTC_END_	IND>		
: <disconnec< td=""><td>t <rel< td=""><td></td><td></td><td></td></rel<></td></disconnec<>	t <rel< td=""><td></td><td></td><td></td></rel<>			
1. UNI at SPA b	ecomes busy.			

2. Check that a TC_END_IND primitive without component is received in order to end the CCBS operation.

TSS CCBS-ASE/	TP ISS_TC_V_15_10	ISUP '97 reference 3.7.1/Q.733.3 [14]	Selection expression OLE AND PICS A.18/7	Q.788 [34] reference None
To verify that the IUT's Pre-test conditions.	olementary service even if no sends a CcbsRequest invo l e IUT such that the calling us SPA	ke if the calling user activa	ites the CCBS.	
setup	>IAM	>		
<disconne< td=""><td>ct <rel< td=""><td></td><td></td><td></td></rel<></td></disconne<>	ct <rel< td=""><td></td><td></td><td></td></rel<>			
	RLC	> (normal	call, user at	SPB busy)
	TCAP transac	ction		
start CCBS-T1				
<ccbs act="" req<="" td=""><td>uest</td><td></td><td></td><td></td></ccbs>	uest			
CCBS Act resp	onse>			
stop CCBS-T1				
start CCBS-T2	xxxxTC_BEG	IN_REQxxxx>		
stop CCBS-T2	<tc_cont< td=""><td>INUE_INDxxxx</td><td></td><td></td></tc_cont<>	INUE_INDxxxx		
start CCBS-T3				
:				
CCBS recal	l>IAM-	> CCBS c	all	

<----REL-----

TSS CCBS-ASE/	TP ISS_TC_V_15_10	ISUP '97 reference 3.7.1/Q.733.3 [14]	Selection expression OLE AND PICS	Q.788 [34] reference None
			A.18/7	

- 1. The access side activates CCBS.
- 2. Send a REL without diagnostics "CCBS is possible".
- 3. Check that the CcbsRequest invocation is received.
- 4. The user at SPB is now free for a CCBS call.
- 5. CCBS call set up with "ISDN User Part required all the way" in the FCI oh the IAM.

TSS	TP	ISUP '97 reference	Selection expression	Q.788 [34]
CCBS-ASE/	ISS_TC_V_15_11	3.9.1/Q.733.3 [14]		reference
			OLE	None

Support of the retention timer CCBS-T1.

To verify that the retention timer CCBS-T1 can be started after receive of a **release message** with cause value # 17 or # 34 from the DLE and stopped normally after activation of the CCBS supplementary service by the calling user.

Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service. access SPA SPB

-----setup-----> -----IAM-----> <-----disconnect--- <-----REL------

------ (normal call, user at SPB busy)

SPB starts CCBS-T1 and receives nothing until the timer expires

<-----facility-----

Act CCBS

start CCBS-T1

send nothing until it expires

- 1. The access side activates CCBS after CCBS-T1 runs out.
- 2. Check that no CCBS request is stored in the queue.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_V_15_12	3.5.5.4.1 c); 3.9.1	expression	reference
		/Q.733.3 [14]	OLE	None

Support of the CCBS request operation timer CCBS-T2.

To verify that the timer CCBS-T2 can be started after sending of a **CcbsRequest** to the DLE and stopped normally after receipt of **CcbsRequest return result** from the DLE.

NOTE: If the timer expires a **TC-END** with **TC-L-CANCEL** indication primitive is received from the DLE and the service request is rejected.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

access

SPA

SPB

-----setup-----> -----IAM-----> <----disconnect---- <-----REL------

------ (normal call, user at SPB busy)

... TCAP transaction ...

start CCBS-T2 xxxTC_BEGIN_REQ--> SPB starts CCBS-T2 and sends

<--TC_ENDxxxxxxxxxx TC_END_IND if the timer expires

1. The access side activates CCBS.

2. End the TCAP dialogue in order to get an initial state.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_I_15_13	3.5.1.2.1.2/Q.733.3 [14]	expression	reference
			OLE	None

Test purpose

Support of the CCBS service duration timer CCBS-T3.

To verify that the IUT can successfully deactivate a CCBS request if the CCBS service duration timer CCBS-T3 expires.

NOTE: Send a **CcbsCancel invoke** with cancelCause to the DLE by using the TCAP primitive **TC-END** request(TC-INVOKE request) with cancelCause "CCBS-T3 Timeout".

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

access SPA SPB

----setup----> ----IAM-----> <----disconnect--- <----REL-----

----- RLC----> (normal call, user at SPB busy)

... TCAP transaction ...

start CCBS-T2 xxxxTC_BEGIN_REQ--> CcbsRequest invoke

stop CCBS-T2 <---TC_CONT_INDxxxx CcbsRequest return result

start CCBS-T3

starts CCBS-T3 and sends TC_CONTINUE_IND with RemoteUserFree if it expires

<---TC_CONT_INDxxxxx RemoteUserFree

xxxxxTC_END_REQ----> TC_END_IND with CancelCause

TSS CCBS-ASE/	TP ISS_TC_I_15_13	ISUP '97 reference 3.5.1.2.1.2/Q.733.3 [14]	Selection expression OLE	Q.788 [34] reference None
"timeout CCBS-T	3 "			

- 1. The access side activates CCBS.
- 2. After CCBS-T3 timer expiry the IUT shall send the CancelCause "CCBS-T3 timeout" in a TC_END.

TSS CCBS-ASE/	TP ISS_TC_I_15_14	ISUP '97 reference 3.5.1.2.1.2 ii); 3.9.1 /Q.733.3 [14]	Selection expression OLE	Q.788 [34] reference None
------------------	----------------------	---	--------------------------------	---------------------------------

Support of the CCBS recall timer CCBS-T4.

To verify that the timer CCBS-T4 can be stopped after receiving an indication from the user for a CCBS recall. CCBS-T4 contains the maximum time the network will wait for the calling user A to respond to a CCBS recall. The OLE sends a CcbsCancel invoke in TC-END request to the DLE in case of CCBS-T4 expiry.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

access SPB -----setup-----> -----IAM-----> <----disconnect--- <----REL---------- (normal call, user at SPB busy) ... TCAP transaction ... start CCBS-T2 xxxxTC_BEGIN_REQ--> CcbsRequest invoke start CCBS-T3 <---TC_CONT_INDxxxx CcbsRequest return result

> <---TC_CONT_INDxxxxx RemoteUserFree

SPB starts CCBS-T4 and receives TC_END_IND with CancelCause if it expires xxxxxTC_END_REQ----> TC_END_IND with CancelCause

"timeout CCBS-T3"

- 1. The access side activates CCBS and does not accept the CCBS recall within CCBS-T4.
- 2. Check that the CancelCause "CCBS-T4 timeout" is received in a TC_END.

TSS CCBS-ASE/	TP ISS_TC_I_15_15	ISUP '97 reference 3.5.3.1.2 b) i) /Q.733.3 [14]	Selection expression OLE AND PICS A.18/5	Q.788 [34] reference None
Test nurnose				

Reject a second identical activation of CCBS.

To verify that the IUT does not send any CcbsRequest to the DLE if a second identical activation of CCBS is done. Pre-test conditions.

Arrange the data in the IUT so that the calling user subscribes to CCBS supplementary service.

```
access
 -----setup-----> -----IAM----->
 <----disconnect---- <----REL-----
                    ----- (1st normal call, user at SPB busy)
                   ... TCAP transaction ...
start CCBS-T1
<--CCBS Act request---
--CCBS Act response-->
stop CCBS-T1
start CCBS-T2
                   xxxxTC_BEGIN_REQ-->
stop CCBS-T2
                    <--TC_CONTINUE_INDx
start CCBS-T3
 -----setup-----> -----IAM----->
 <----disconnect---- <----REL-----
                    ----- RLC----> (2<sup>nd</sup> normal call, user at SPB busy)
```

- 1. The access side activates CCBS.
- 2. First call to busy user at SPB.
- 3. Check that the CcbsRequest invocation is received.
- 4. Second identical call from the IUT to the same SPB.
- 5. End the TCAP dialogue.

TSS CCBS-ASE/	TP ISS_TC_I_15_16	ISUP '97 reference 3.5.3.1.2 b) ii) /Q.733.3 [14]	Selection expression OLE AND PICS A.18/4	Q.788 [34] reference None
			A.10/4	

Test purpose

Treat a second identical activation of CCBS as a new request.

To verify that the IUT treats a second identical activation of CCBS as a new request.

Pre-test conditions.

Arrange the data in the IUT so that the calling user subscribes to CCBS supplementary service.

access SPA

TSS CCBS-ASE/	TP ISS_TC_I_15_16	ISUP '97 reference 3.5.3.1.2 b) ii) /Q.733.3 [14]	Selection expression OLE AND PICS A.18/4	Q.788 [34] reference None
setup	>IAM	>		
<disconnect< td=""><td>t <rel< td=""><td></td><td></td><td></td></rel<></td></disconnect<>	t <rel< td=""><td></td><td></td><td></td></rel<>			
	RLC	> (1 st norm	mal call, user a	at SPB busy)
	TCAP trans	saction		
start CCBS-T1				
<ccbs act="" requ<="" td=""><td>uest</td><td></td><td></td><td></td></ccbs>	uest			
CCBS Act respo	onse>			
stop CCBS-T1				
start CCBS-T2	xxxxTC_BEGI	N_REQ>		
stop CCBS-T2	<tc_conti< td=""><td>NUE_INDx</td><td></td><td></td></tc_conti<>	NUE_INDx		
start CCBS-T3				
:				
setup	>IAM	>		
<disconnect< td=""><td>t <rel< td=""><td></td><td></td><td></td></rel<></td></disconnect<>	t <rel< td=""><td></td><td></td><td></td></rel<>			
	RLC	> (2 nd norm	nal call, user a	at SPB busy)
	TCAP trans	saction		
start CCBS-T1				
<ccbs act="" requ<="" td=""><td>uest</td><td></td><td></td><td></td></ccbs>	uest			
CCBS Act respo	onse>			
stop CCBS-T1				
start CCBS-T2	xxxxTC_BEGI	N_REQ>		
stop CCBS-T2	<tc_conti< td=""><td>NUE_INDx</td><td></td><td></td></tc_conti<>	NUE_INDx		
start CCBS-T3				
:				
1. The access s	ide activates CCBS.			
2. First call to	o busy user at SPB.			
3. Check that the	he CcbsRequest invo	cation is receive	d.	
4. Second identical call from the IUT to the same SPB.				
5. Second ident:	ical activation of	the CCBS request.		
6. End the TCAP	dialogue.			

TSS CCBS-ASE/	TP ISS_TC_I_15_17	ISUP '97 reference 3.5.1.2.2.2/Q.733.3 [14]	Selection expression DLE	Q.788 [34] reference None
To verify that the IUT d NOTE 1: CCBS-T7 is NOTE 2: CCBS-T7 is OLE.	stopped after the destination		e sending Remotel	
access	SPA	SPB		
set the destina	ation			
B busy				
	<iam< td=""><td></td><td></td><td></td></iam<>			
user busy	REL	>		
	<rlc< td=""><td></td><td></td><td></td></rlc<>			
	TCAP tra	ansaction		
	<xxtc_be< td=""><td>GIN_REQx</td><td></td><td></td></xxtc_be<>	GIN_REQx		
	xxTC_CONTIN	JE_IND> CcbsReque	st return res	ult
SPB starts CCBS	-T7 and receives T	C_END_IND with Cance	lCause	
"CCBS-T7 Timeou	t" if it expires			
	xxxxxTC_END	_IND>		
user free	<rel< td=""><td></td><td></td><td></td></rel<>			
	RLC	>		

TSS CCBS-ASE/	TP ISS_TC_I_15_18	ISUP '97 reference 3.5.3.1.5 a); 3.9.1 /Q.733.3 [14]	Selection expression DLE	Q.788 [34] reference None	
Test purpose Support of the destination B idle guard timer CCBS-T8. To verify that no resources are available at the destination B side until timer CCBS-T8 expires. SPA SPB					
set the destina	ation				
B busy					
	<iai< td=""><th>M</th><td></td><td></td></iai<>	M			
user busy	RE	L>			
	<rl0< td=""><th>C</th><td></td><td></td></rl0<>	C			
	TCAP trans	saction			
	<xxtc_be< td=""><th>GIN_REQx CcbsR</th><td>lequest</td><td></td></xxtc_be<>	GIN_REQx CcbsR	lequest		

TSS CCBS-ASE/	TP ISS_TC_I_15_18	ISUP '97 reference 3.5.3.1.5 a); 3.9.1 /Q.733.3 [14]	Selection expression DLE	Q.788 [34] reference None
l .	xxTC_CONTINU	E_IND> CcbsRe	quest return re	esult
:				
User is now free	SPB starts	timers CCBS-T8		
	SPB checks	every second that	no resources	
	are availab	le by using T_LOC	AL timer	
	<ia< td=""><td>M</td><td></td><td></td></ia<>	M		
	RE	L>		
	<rl< td=""><td>C</td><td></td><td></td></rl<>	C		
:				
<setup< td=""><td> <iai< td=""><td>M CCE</td><td>S-T8 expires</td><td></td></iai<></td></setup<>	<iai< td=""><td>M CCE</td><td>S-T8 expires</td><td></td></iai<>	M CCE	S-T8 expires	
alert	>ACI	M>		
connect	>ANI	M>		
:				
1. Check that no	resources are ava	ilable within CCE	S-T8, e.g., ser	nd an IAM a:

TSS	TP	ISUP '97 reference	Selection expression	Q.788 [34]
CCBS-ASE/	ISS TC V 15 19	3.5.3.5.2 d); 3.9.1		reference
OODO NOL	100_10_1	/Q.733.3 [14]	DLE	None

2. Check that resources are now available by sending an IAM and receiving an

Test purpose

ACM, etc.

receiving a REL.

Support of the DLE recall timer CCBS-T9.

To verify that the timer CCBS-T9 can be started after sending of a TC-CONTINUE with RemoteUserFree from the DLE and stopped after CCBS call is received from the OLE.

NOTE: Send a CcbsCancel invoke in a TC-END request(TC-INVOKE request) with cancelCause "CCBS-T9

```
Timeout".
access
                     SPA
                                     SPB
set the destination
B busy
                      <----IAM-----
user busy
                      -----REL---->
                      <----RLC-----
                      ... TCAP transaction ...
                      <---xxTC_BEGIN_REQx
                      xxTC_CONTINUE_IND--> CcbsRequest return result
```

TSS CCBS-ASE/	TP ISS_TC_V_15_19	ISUP '97 reference 3.5.3.5.2 d); 3.9.1 /Q.733.3 [14]	Selection expression DLE	Q.788 [34] reference None	
:	xxTC_CONT	INUE_IND> Remo	teUserFree		
	SPB starts	s CCBS-T9 and rec	eives		
	TC_END_IND with CancelCause				
	"CCBS-T9 Timeout" if it expires				
xxxxTC_END_IND>					
user free	<r< td=""><th>EL</th><th></th><td></td></r<>	EL			
>					
1. Check that the control of the con	he CancelCause "CCB:	S-T9 timeout" is	received in a T	C_END.	

TSS	TP	ISUP '97 reference	Selection expression	Q.788 [34]
CCBS-ASE/	ISS TC I 15 20	3.7.7.3.3.1:		reference
	10021022	3.7.7.3.3.2; 3.9.3 /Q.733.3 [14]	Local AND PICS A.18/19	None

Support of the interworking supervision timer $T_{\text{\scriptsize SUP}}$

To verify that the timer T_{SUP} is used correctly in case of interworking with a private network.

NOTE 1: The DLE sends a **CcbsCancel invoke** in **TC-END request** to the OLE without cancelCause in case of T_{SUP} timer expiry.

NOTE 2: The OLE sends a **CcbsCancel invoke** in **TC-END request** to the DLE without cancelCause in case of T_{SUP} timer expiry.

Pre-test conditions for OLE.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service.

```
SPC SPA SPB (private network)

-----IAM-----> -----IAM----->
<-----REL------ (normal call, user at SPB busy)

... TCAP transaction ...

xxxTC_BEGIN_REQ--> xxTC_BEGIN_REQ-->

SPB starts T_SUP and sends no

CcbsRequest return result within T_SUP

xxxTC_END_REQ---> TC_END_IND without CancelCause
```

1. Check that a TC_END without CancelCause is received.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCBS-ASE/	ISS_TC_I_15_21	3.5.1.1.1.1/Q.733.3 [14]	expression	reference
			OLE	None

CCBS REQUEST not invoked.

To verify that if a call is released with a cause other than #17 or #34, then no CCBS REQUEST shall be sent from the OLE to the DLE.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCBS supplementary service. access SPA SPB

---->

-----setup-----> -----IAM-----> <----disconnect--- <----REL------

- 1. The access side shouldn't activate CCBS.
- 2. Release call with a cause other than #17 or #34.

7.3.16 Three party service (3PTY)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
THREE_PTY/	ISS_V_16_1	2.4;	expression	reference
		2.2.1/Q.734.2 [17]	Local	2.14.1

Test purpose

Served user initiates 3PTY.

To verify that the IUT, where the served user with two active calls is located, can successfully join these calls to form a three-way conversation, and notify the implied remote parties accordingly.

The IUT should send **CPG** messages with the **generic notification indicator** set to "conference established" to both implied parties. The **event indicator** in the **CPG** should be set to "progress".

The notification should be independent of the call set up direction of the two calls; i.e. it should apply to all of the following scenarios:

A -->B ; A<--B ; A -->B ; A<--B. A -->C ; A -->C ; A<--C ; A<--C

Pre-test conditions.

Arrange the data in the IUT such that the served user subscribes to the 3PTY and HOLD supplementary services. SPC SPA SPB

-----IAM----->
<-----ACM----<-----ANM---------CPG-----> check held state
<----IAM----------ACM----->
-----ACM----->

conf est conf est

<----CPG----->

... 3PTY communication ...

<----CPG----- <----REL----conf disc -----RLC---->

<----REL----->

1. Set up a first call from SPA to SPB and put it on hold.

- 2. Set up a second call from SPA to SPC.
- 3. Join the two calls into a $\ensuremath{\mathsf{3PTY}}$ communication and check "conference established" in the CPG.
- 4. Check the 3PTY communication through the three-party bridge between users from UNI at SPB and SPC.
- 5. Release the call from UNI at SPB.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
THREE_PTY/	ISS_V_16_2	2.5.2.1.1.3 a)	expression	reference
		/Q.734.2 [17]	Local	2.14.1

Served user creates a private communication with a remote user.

To verify that the IUT (controlling the conference) on a 3PTY call can successfully create private communication with one of the remote users. The appropriate notification (depending on A-B active-held or A-C active-idle connection) is sent in **CPG** messages to the two users.

Pre-test conditions.

Arrange the data in the IUT such that the served user subscribes to the 3PTY and HOLD supplementary services. Case a)

SPC	SPA	SPB
	IAM	->
	<acm< td=""><td></td></acm<>	
	ringing ton	e
	<anm< td=""><td></td></anm<>	
	check communica	tion
	CPG	-> check held state
<iam< td=""><td></td><td></td></iam<>		
>		
>		
<	CPG	->
conf est	conf est	
3PTY co	mmunication	
<	CPG	->
conf disc	conf disc	
	CPG	-> check remote hold
	<rel< td=""><td></td></rel<>	
	RLC	->
<rel< td=""><td></td><td></td></rel<>		
>		

- 1. Set up a first call from SPA to SPB and put it on hold.
- 2. Set up a second call from SPA to SPC.
- 3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
- 4. Check the 3PTY communication towards each party.
- 5. Disconnect the 3PTY call.
- 6. Check the held state at SPB.
- 7. Release the held call.

TSS THREE_PTY/	TP ISS_V_16_2	ISUP '97 reference 2.5.2.1.1.3 a)	Selection expression	Q.788 [34] reference
	100_1_10	/Q.734.2 [17]	Local	2.14.1
Case b)	<u> </u>	<u> </u>		<u> </u>
SPC	SPA	SPB		
	IAM	>		
	<acm< td=""><td></td><td></td><td></td></acm<>			
	ringing t	one		
	<anm< td=""><td></td><td></td><td></td></anm<>			
	check commun	ication		
	CPG	> check held s	state	
<iam< td=""><td></td><td></td><td></td><td></td></iam<>				
ACM	>			
ANM	>			
<cpg< td=""><td>CPG</td><td>></td><td></td><td></td></cpg<>	CPG	>		
conf est	conf est			
3PTY	communication			
<cpg< td=""><td>CPG</td><td>></td><td></td><td></td></cpg<>	CPG	>		
conf disc	remote hold			
<cpg< td=""><td>CPG</td><td>></td><td></td><td></td></cpg<>	CPG	>		
remote hold	d conf disc			
	<rel< td=""><td></td><td></td><td></td></rel<>			
	RLC	>		
<rel< td=""><td></td><td></td><td></td><td></td></rel<>				
RLC	>			

- 1. Set up a first call from $\ensuremath{\mathsf{SPA}}$ to $\ensuremath{\mathsf{SPB}}$ and put it on hold.
- 2. Set up a second call from $\ensuremath{\mathsf{SPA}}$ to $\ensuremath{\mathsf{SPC}}.$
- 3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
- 4. Check the 3PTY communication towards each party.
- 5. Check "Remote hold" at SPB with which private communication is required.
- 6. Check "conference disconnected" after retrieving the held call.
- 7. Release the retrieved call.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
THREE_PTY/	ISS_V_16_3	2.5.2.1.1.3 b)	expression	reference
		/Q.734.2 [17]	Local	2.14.2

Served user disconnects one remote user and retains the other.

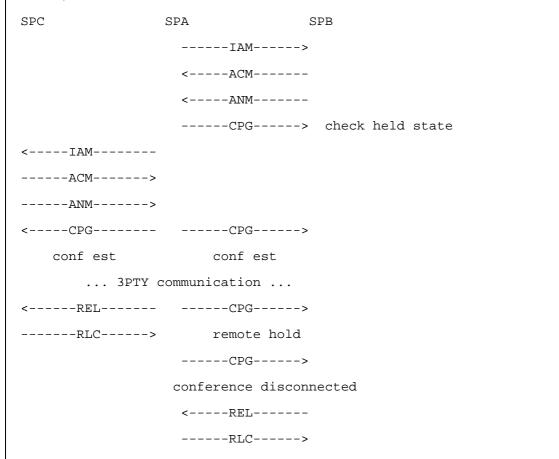
To verify that the IUT (controlling the conference) on a 3PTY call can successfully disconnect one remote user and retain and notify the other user appropriately using **CPG** messages.

The IUT should send to the appropriate remote users **CPG** messages with a **generic notification indicator** (depending on A-B active-held or A-C active-idle connection). The **event indicator** in the **CPG** should be set to "progress".

NOTE: The "remote hold" notification should be sent in a **CPG** to the remaining remote user, followed by the "conference disconnected" notification in a separate **CPG**.

Pre-test conditions.

Arrange the data in the IUT such that the served user has activated 3PTY and HOLD supplementary services. Case a)



- 1. Set up a first call from $\ensuremath{\mathsf{SPA}}$ to $\ensuremath{\mathsf{SPB}}$ and put it on hold.
- 2. Set up a second call from SPA to SPC.
- 3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
- 4. Check the 3PTY communication towards each party.
- 5. Check "Remote hold" at SPB after.
- 6. Check "conference disconnected" after retrieving the held call.

Case b)

SPC SPA SPB IAM> <acm <cpg=""> check held sta <acm>ACM> conf est conf est 3PTY communication <cpg> conf disc <rel> <</rel></cpg></acm></acm>	Selection expression Local	Q.788 [34] reference 2.14.2
<pre></pre>		1
<pre></pre>		
CPG> check held state <iam>ACM>CPG> conf est conf est 3PTY communication <cpg> conf disc <rel></rel></cpg></iam>		
<iam>ACM>ANM> conf est conf est 3PTY communication <cpg <rlc<="" conf="" disc="" td=""><td></td><td></td></cpg></iam>		
ACM>ANM> <cpg> conf est conf est 3PTY communication <cpg> conf disc <rel></rel></cpg></cpg>	ate	
ACM>ANM> <cpg> conf est conf est 3PTY communication <cpg> conf disc <rel></rel></cpg></cpg>		
ANM> <cpg> conf est conf est 3PTY communication <cpg> conf disc <rel></rel></cpg></cpg>		
<pre><cpg 3pty="" <cpg="" <rlc<="" communication="" conf="" disc="" est="" pre=""></cpg></pre>		
conf est conf est 3PTY communication <cpg <rlc<="" conf="" disc="" td=""><td></td><td></td></cpg>		
3PTY communication <cpg <rlc<="" conf="" disc="" td=""><td></td><td></td></cpg>		
<> conf disc <rlc< td=""><td></td><td></td></rlc<>		
conf disc <rlc< td=""><td></td><td></td></rlc<>		
<rei< td=""><td></td><td></td></rei<>		
RLC>		

- 1. Set up a first call from SPA to SPB and put it on hold.
- 2. Set up a second call from SPA to SPC.
- 3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
- 4. Check the 3PTY communication towards each party.
- 5. The user at SPB is released with Cause #16 Normal call clearing.

TSS THREE_PTY/	TP ISS_V_16_4	ISUP '97 reference 2.5.2.1.1.3/Q.734.2 [17]	Selection expression Local	Q.788 [34] reference 2.14.4
			Local	2.17.7

Served user disconnects both remote users and terminates the call.

To verify that the IUT (controlling the conference) can send the appropriate notification to the two remote users when disconnecting both remote users on the 3PTY call.

The IUT should send to the appropriate remote users a **CPG** with a **generic notification indicator** (depending on A-B active-held or A-C active-idle connection). The **event indicator** in the **CPG** is set to "progress".

Pre-test conditions.

Arrange the data in the IUT such that the served user has activated 3PTY and HOLD supplementary services. Case a)

SPC SPA SPB

TSS THREE_PTY/	TP ISS_V_16_4	ISUP '97 reference 2.5.2.1.1.3/Q.734.2 [17]	Selection expression Local	Q.788 [34] reference 2.14.4
	<acm< td=""><td></td><td></td><td></td></acm<>			
	<anm< td=""><td></td><td></td><td></td></anm<>			
	CPG	> check held sta	ate	
<iam< td=""><td></td><td></td><td></td><td></td></iam<>				
ACM	>			
ANM	>			
<cpg< td=""><td>CPG</td><td>></td><td></td><td></td></cpg<>	CPG	>		
conf est	conf est			
3PT	Y communication			
<rel< td=""><td>CPG</td><td>></td><td></td><td></td></rel<>	CPG	>		
RLC	> remote 1	hold		
	REL	>		
	<rlc< td=""><td></td><td></td><td></td></rlc<>			
established" in 4. Check the 3P 5. Check "Remot	the CPG. TY communication to e hold as a react	communication and communicatio	ng user at SP	C.
Case b)				
SPC	SPA	SPB		
	IAM	>		
	<acm< td=""><td></td><td></td><td></td></acm<>			
	<anm< td=""><td></td><td></td><td></td></anm<>			
	CPG	> check held st	ate	
<iam< td=""><td></td><td>> check held sta</td><td>ate</td><td></td></iam<>		> check held sta	ate	
<iam< td=""><td></td><td>> check held sta</td><td>ate</td><td></td></iam<>		> check held sta	ate	
		> check held sta	ate	
ACM			ate	
ACM	 >		ate	

TSS THREE_PTY/	TP ISS_V_16_4	ISUP '97 reference 2.5.2.1.1.3/Q.734.2 [17]	Selection expression Local	Q.788 [34] reference 2.14.4
<cpg< td=""><th>REL</th><td>></td><td></td><td></td></cpg<>	REL	>		
conf disc	<rlc< th=""><td></td><td></td><td></td></rlc<>			
<rel< td=""><th></th><td></td><td></td><td></td></rel<>				
RLC	->			

- 1. Set up a first call from SPA to SPB and put it on hold.
- 2. Set up a second call from SPA to SPC.
- 3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
- 4. Check the 3PTY communication towards each party.
- 5. Check that Release is received at SPB with Cause #16 Normal call clearing.

TSS THREE_PTY/	TP ISS_V_16_5	ISUP '97 reference 2.2.1/Q.734.2 [17]	Selection expression Local	Q.788 [34] reference 2.14.3

Remote user disconnects 3PTY call.

To verify that the IUT (controlling the conference) can successfully continue the 3PTY call after receiving disconnection by one of the remote users, and send the appropriate notification to the remaining party. The IUT should send to the other remote user **CPG** with a **generic notification indicator** (depending on A-B active-held or A-C active-idle connection). The **event indicator** in the **CPG** is set to "progress".

NOTE: The "remote hold" notification should be sent in a **CPG** to the other remote user, followed by the "conference disconnected" notification in a separate **CPG**.

Pre-test conditions.

Arrange the data in the IUT such that the served user has activated 3PTY and HOLD supplementary services. Case a)

SPC	SPA	SPB
	IAM	>
	<acm< td=""><td></td></acm<>	
	<anm< td=""><td></td></anm<>	
	CPG	> check held state
<iam< td=""><td>_</td><td></td></iam<>	_	
ACM	>	
ANM	>	
<cpg< td=""><td>CPG</td><td>></td></cpg<>	CPG	>
conf est	conf est	=
3PTY o	communication	
REL	>CPG	>

TSS THREE_PTY/	TP ISS_V_16_5	ISUP '97 reference 2.2.1/Q.734.2 [17]	Selection expression Local	Q.788 [34] reference 2.14.3
<rlc< td=""><td>- remote hol</td><td>.d</td><td></td><td><u> </u></td></rlc<>	- remote hol	.d		<u> </u>
	CPG	>		
	conf disc			
	REL	>		
	<rlc< td=""><td></td><td></td><td></td></rlc<>			
1. Set up a firs	t call from SPA to	SPB and put it o	n hold.	
2. Set up a seco	nd call from SPA t	co SPC.		
3. Join the two established" in	calls into a 3PTY the CPG.	communication and	l check "confer	ence
4. Check the 3PT	Y communication to	wards each party.		
5. Check "Remote	hold" indication	at SPB.		
6. Check "confer	ence disconnected"	after retrieving	the held call	
7. Check that Reclearing.	lease is received	at SPB with Cause	e #16 - Normal o	call
Case b)				
SPC	SPA	SPB		
	IAM	·>		
	<acm< td=""><td>-</td><td></td><td></td></acm<>	-		
	<anm< td=""><td>-</td><td></td><td></td></anm<>	-		
	CPG	> check held st	ate	
<iam< td=""><td>-</td><td></td><td></td><td></td></iam<>	-			
ACM	>			
ANM	-			
<cpg< td=""><td>CPG</td><td>·></td><td></td><td></td></cpg<>	CPG	·>		
conf est	conf est			
3PTY c	ommunication			
<cpg< td=""><td>- <rel< td=""><td></td><td></td><td></td></rel<></td></cpg<>	- <rel< td=""><td></td><td></td><td></td></rel<>			
conf disc	RLC	·>		
<rel< td=""><td>_</td><td></td><td></td><td></td></rel<>	_			

2. Set up a second call from SPA to SPC.

TSS THREE_PTY/	TP ISS_V_16_5	ISUP '97 reference 2.2.1/Q.734.2 [17]	Selection expression Local	Q.788 [34] reference 2.14.3

- 3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
- 4. Check the 3PTY communication towards each party.
- 5. User at SPB disconnects with Cause #16 Normal call clearing.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
THREE_PTY/	ISS_V_16_6	2.5.2.2-4.1; table 2-1/Q.734.2 [17]	expression IntermE	reference 2.14.1

Transit support of 3PTY.

To verify that the IUT can transparently transfer all information related to 3PTY.

The IUT should be able to transparently transfer the **CPG** message with the following notifications in the **generic notification indicator** in both the forward and the backward direction:

- 1) "Conference established".
- 2) "Conference disconnected".
- 3) "Remote hold".

Case a)

SPC SI	PA	SPB
>	>	
<acm< td=""><td><acm< td=""><td></td></acm<></td></acm<>	<acm< td=""><td></td></acm<>	
<anm< td=""><td><anm< td=""><td></td></anm<></td></anm<>	<anm< td=""><td></td></anm<>	
>		check held state
>	CPG>	
conf est	conf est	
3PTY con	mmunication	
>	>	
remote hold	remote hold	
>		
conf disc	conf disc	
>	>	
<rlc< td=""><td><rlc< td=""><td></td></rlc<></td></rlc<>	<rlc< td=""><td></td></rlc<>	

- 1. Set up a call from SPB to SPC and put it on hold.
- 2. Check "conference established" indication in the CPG.
- 3. Check through-connection of the speech path.
- 4. Check "remote hold" indication at SPB.
- 5. Check "conference disconnected" indication.

TSS THREE_PTY/	TP ISS_V_16_6	ISUP '97 reference 2.5.2.2-4.1; table 2-1/Q.734.2 [17]	Selection expression IntermE	Q.788 [34] reference 2.14.1
Case b)		<u> </u>		
SPC	SPA	SPB		
<iam< td=""><th> <iam< th=""><th></th><td></td><td></td></iam<></th></iam<>	<iam< th=""><th></th><td></td><td></td></iam<>			
ACM	>ACM	>		
ANM	>ANM	>		
<cpg< td=""><th> <cpg< th=""><th> check held s</th><td>tate</td><td></td></cpg<></th></cpg<>	<cpg< th=""><th> check held s</th><td>tate</td><td></td></cpg<>	check held s	tate	
<cpg< td=""><th> <cpg< th=""><th></th><td></td><td></td></cpg<></th></cpg<>	<cpg< th=""><th></th><td></td><td></td></cpg<>			
conf est	conf est			
3	PTY communication .			
<cpg< td=""><th> <cpg< th=""><th></th><td></td><td></td></cpg<></th></cpg<>	<cpg< th=""><th></th><td></td><td></td></cpg<>			
remote h	old remote hole	d		
<cpg< td=""><th> <cpg< th=""><th></th><td></td><td></td></cpg<></th></cpg<>	<cpg< th=""><th></th><td></td><td></td></cpg<>			
conf dis	c conf disc			
<rel< td=""><th> <rel< th=""><th></th><td></td><td></td></rel<></th></rel<>	<rel< th=""><th></th><td></td><td></td></rel<>			
RLC	>RLC	>		

- 1. Set up a call from SPB to SPC and put it on hold.
- 2. Send "conference established" indication in the CPG.
- 3. Check through-connection of the speech path.
- 4. Send "remote hold" indication from SPB.
- 5. Send "conference disconnected" indication.

TSS THREE_PTY/	TP ISS_V_16_7	ISUP '97 reference 2.5.2.5.1; table 2-1 /Q.734.2 [17]	Selection expression DLE	Q.788 [34] reference 2.14.1
-------------------	------------------	---	--------------------------------	-----------------------------------

Remote user included in 3PTY.

To verify that the IUT can receive the notification information related to 3PTY, and pass it on to the access signalling system.

The IUT should be able to transparently transfer the **CPG** message with the following notifications in the **generic notification indicator** in both the forward and the backward direction:

- 1) "Conference established".
- 2) "Conference disconnected".
- 3) "Remote hold".

access	SPA	SPB(M	TC)	SPD	(controlling	3PTY)
<setup< td=""><td>- <iam< td=""><td></td><td><iam< td=""><td></td><td></td><td></td></iam<></td></iam<></td></setup<>	- <iam< td=""><td></td><td><iam< td=""><td></td><td></td><td></td></iam<></td></iam<>		<iam< td=""><td></td><td></td><td></td></iam<>			
alerting	>ACM	>	ACM	->		
connect	>ANM	>	ANM	->		

TSS THREE_PTY/	TP ISS_V_16_7	ISUP '97 reference 2.5.2.5.1; table 2-1 /Q.734.2 [17]	Selection expression DLE	Q.788 [34] reference 2.14.1
<remote hold<="" td=""><td>- <cpg< td=""><td> <cpg< td=""><th></th><td>_ I</td></cpg<></td></cpg<></td></remote>	- <cpg< td=""><td> <cpg< td=""><th></th><td>_ I</td></cpg<></td></cpg<>	<cpg< td=""><th></th><td>_ I</td></cpg<>		_ I
	remote hold	remote ho	old	
<conf est<="" td=""><td>- <cpg< td=""><td> <cpg< td=""><th></th><td></td></cpg<></td></cpg<></td></conf>	- <cpg< td=""><td> <cpg< td=""><th></th><td></td></cpg<></td></cpg<>	<cpg< td=""><th></th><td></td></cpg<>		
	conf est	conf est		
3PTY	communication			
<remote hold-<="" td=""><td>- <cpg< td=""><td> <cpg< td=""><th></th><td></td></cpg<></td></cpg<></td></remote>	- <cpg< td=""><td> <cpg< td=""><th></th><td></td></cpg<></td></cpg<>	<cpg< td=""><th></th><td></td></cpg<>		
	remote hold	remote hol	.d	
<conf disc<="" td=""><td>- <cpg< td=""><td> <cpg< td=""><th></th><td></td></cpg<></td></cpg<></td></conf>	- <cpg< td=""><td> <cpg< td=""><th></th><td></td></cpg<></td></cpg<>	<cpg< td=""><th></th><td></td></cpg<>		
	conf disc	conf disc	2	
<disconnect< td=""><td>- <rel< td=""><td> <rel< td=""><th></th><td></td></rel<></td></rel<></td></disconnect<>	- <rel< td=""><td> <rel< td=""><th></th><td></td></rel<></td></rel<>	<rel< td=""><th></th><td></td></rel<>		
	RLC	->RLC	>	

- 1. Set up a call to a UNI at SPA and put it on hold.
- 2. Assist call set up to the access observe the indications: "conference established", "conference disconnected and "remote hold".
- 3. The 3PTY served user starts the 3PTY conversation
- 4. Check the 3PTY communication towards the remote party.
- 5. Send "remote hold" indication to the remote party, sign that the other party has been disconnected.
- $6.\ \mbox{Send}$ "conference disconnected", sign that the remote user has been retrieved.
- 7. Check that communication is possible and release the call.

TSS THREE_PTY/	TP ISS_V_16_8	ISUP '97 reference 2.6.15/Q.734.2 [17]	Selection expression Local	Q.788 [34] reference None		
Test purpose Served user initiates 3PTY; interaction with HOLD. To verify that the IUT does not send any notifications to the remote users by request of HOLD by the served user during the 3PTY conversation active phase. Pre-test conditions. Arrange the data in the IUT such that the served user has activated 3PTY and HOLD supplementary services. SPC SPA SPB						

-----IAM----->
<-----ACM-----<----ANM---------CPG-----> check held state

TSS THREE_PTY/	TP ISS_V_16_8	ISUP '97 reference 2.6.15/Q.734.2 [17]	Selection expression Local	Q.788 [34] reference None
ACM	->	1		
ANM	->			
<cpg< td=""><td>CPG</td><th>-></th><th></th><td></td></cpg<>	CPG	->		
conf est	conf est			
3PTY co	ommunication			
	S	erved user at SPA	A activates hold	
		> nothing is o	observed at SPB	
<cpg< td=""><td>REL</td><th>></th><th></th><td></td></cpg<>	REL	>		
conf disc	<rlc< td=""><th></th><th></th><td></td></rlc<>			
<rel< td=""><td></td><th></th><th></th><td></td></rel<>				
RLC	->			

- 1. Set up a first call from SPA to SPB and put it on hold.
- 2. Set up a second call from SPA to SPC.
- 3. Join the two calls into a 3PTY communication and check "conference established" in the CPG.
- 4. Check the 3PTY communication towards each party.
- 5. Check that no notification of call Hold is received at SPC.

TSS THREE_PTY/	TP ISS_V_16_9	ISUP '97 reference 2.7/Q.734.2 [17]	Selection expression IWorkE	Q.788 [34] reference None
Test purpose 3PTY; interaction with a To verify that the IUT w provide it. The 3PTY sh	vill discard the call progress	information in case of inte	eraction with network w	hich does not
SP(non-ISUP)	•	SPB(MTC)	SPD (controllin	ıg 3PTY)
	- <iam></iam>			
ANC	>ANM	·>		
	<cpg< td=""><td>-</td><td></td><td></td></cpg<>	-		
	remote hold	l		
	<cpg< td=""><td></td><td></td><td></td></cpg<>			
	conf est			
3PT	Y communication			
	<cpg< td=""><td></td><td></td><td></td></cpg<>			

TSS THREE_PTY/	TP ISS_V_16_9	ISUP '97 reference 2.7/Q.734.2 [17]	Selection expression IWorkE	Q.788 [34] reference None
	remote hold			•
	<cpg< td=""><td>_</td><td></td><td></td></cpg<>	_		
	conf disc			
<ccl< td=""><td>REL</td><td>_</td><td></td><td></td></ccl<>	REL	_		
	RLC	>		

- 1. Set up a call from SPB to a non-ISUP destination at SPC and put it on hold.
- 2. Send "conference established" indication in the CPG.
- 3. Check through-connection of the speech path.
- 4. Send "remote hold" indication from SPB.
- 5. Send "conference disconnected" indication.

7.3.17 Completion of calls on No Reply (CCNR)

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]	
CCNR-ISUP/	ISS_V_17_1_1	4.2.1.1; 5.3.1.1 /Q.733.5	expression OLE	reference None	
		, 40.000			
Test purpose ISUP Preference Indicator in the CCNR call. To verify that for the CCNR call, the IUT sets the ISUP preference indicator in the forward call indicator parameter in the IAM to "ISDN User Part required all the way". Pre-test conditions. Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service. access SPA SPB					
setup	>IAM-	>			
	<acm< td=""><td></td><td></td><td></td></acm<>				
No :	reply				
disconnect	disconnect>REL>				
	<				
	TCAP transaction				
<recall-< td=""><td colspan="5"><recall< td=""></recall<></td></recall-<>	<recall< td=""></recall<>				
setup CCNR ca	all>IAM-	> ISUP r	equired all the	way	
:					
<disconne< td=""><td>ect <rel-< td=""><td></td><td></td><td></td></rel-<></td></disconne<>	ect <rel-< td=""><td></td><td></td><td></td></rel-<>				
:					
1. Set up a call to free user at SPB.					

TSS CCNR-ISUP/	TP ISS_V_17_1_1	ISUP '97 reference 4.2.1.1; 5.3.1.1 /Q.733.5	Selection expression OLE	Q.788 [34] reference None

- 2. User at SPB has no reply.
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCNR ASE operation.
- 4. CCNR call with "ISDN User Part required all the way" in the FCI of the IAM.

TSS	TP	ISUP '97 reference	Selection expression	Q.788 [34]
CCNR-ISUP/	ISS_V_17_1_2	4.2.1.3/Q.733.5		reference
			OLE	None

CCNR parameter in the CCNR call.

To verify that for the CCNR call, the IUT includes in the **IAM** the CCNR call indicator in the **CCSS parameter** coded as "CCSS call".

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

access SPA SPB

... TCAP transaction ...

: CCNR call

<----disconnect---- <----REL-----

1. Set up a call to free user at SPB.

- 2. User at SPB has no reply.
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCNR ASE operation.
- 4. Check Indication "CCSS call" in the IAM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ISUP/	ISS_V_17_1_3	5.1.1.1.1/Q.733.5	expression	reference
			OLE	None

CCNR call with retained basic call information.

To verify that for the CCNR call, the IUT includes the retained call information in the IAM:

User service information;

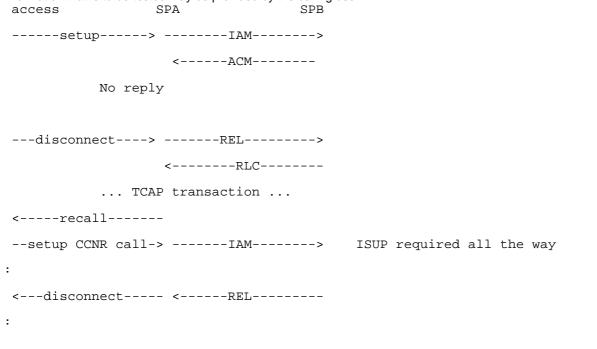
User service information prime;

Access transport (e.g. called party sub-address);

Called party number.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR and such that the relevant call information that is to be tested may be provided by the calling user.



- 1. Set up a call with USI, USIp, ATP and/or CdPN, which encounters user at SPB no answer, activates TCAP and terminates the call.
- 2. User at SPB is free.
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCNR ASE operation.
- $4.\ \text{CCNR}$ call with "ISDN User Part required all the way" in the FCI of the IAM. The retained call information about ATP, USI, USIp and CdPN shall be checked too.

ISUP '97 reference	Selection	Q.788 [34]
5.1.1.1.1/Q.733.5	expression	reference
	OLE AND PICS	None
	A.19/3	
_4		4 5.1.1.1/Q.733.5 expression OLE AND PICS

CCNR call with retained call information & interactions with other supplementary services.

To verify that for the CCNR call, the IUT includes the retained call information in the IAM:

Calling party number (if supported);

Access transport (e.g. calling party sub-address if supported);

UUS1,2,3 (retained request if supported);

UUS1 (information given by user in response to CCNR recall, if supported);

Optional forward call indicator (with COLP request).

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR and such that the relevant call information for the applicable supplementary services may be provided by the calling user (e.g. SUB, COLP).

access

SPA

SPB

- 1. Set up a call with Calling party number (if supported) ATP (e.g. calling party sub-address if supported); UUS1, 2, 3 (retained request if supported) UUS1 (information given by user in response to CCNR recall, if supported) OFCI (with COLP request) which encounters user at SPB with no answer, activates TCAP and terminate the call.
- 2. User at SPB is free.
- 3. Check that user at SPB becomes free by using the RemoteUserFree CCNR ASE operation.
- 4. CCNR call with "ISDN User Part required all the way" in the FCI of the IAM. The retained call information. about ATP, UUS1,2,3 request, UUI in CCNR recall and CdPN shall be checked too.

TSS CCNR-ISUP/	TP ISS_V_17_1_5	ISUP '97 reference 5.3.2.1; 5.3.3.1; 5.3.4.1/Q.733.5	Selection expression IntermE	Q.788 [34] reference None
Test purpose				
	R Possible Indicator parame			
To verify that the IUT is preceding exchange.	able to pass the CCNR Pos	sible Indicator parameter	in the ACM/CPG trans	sparently to the
SPC	SPA	SPB		
ACM	<iam>ACM <rel< td=""><td>></td><td></td><td></td></rel<></iam>	>		
1. Check CCNR Po	ossible Indicator pa	arameter in the A	CM/CPG.	

TSS CCNR-ISUP/	TP ISS_V_17_1_6	ISUP '97 reference 5.3.2.1; 5.3.3.1; 5.3.4.1/Q.733.5	Selection expression IntermE	Q.788 [34] reference None
Test purpose Transit support of CCSS parameter in IAM. To verify that the IUT is able to pass CCSS parameter transparently to the succeeding exchange. SPC SPA SPB				
IAM:	>IAM	> CCSS paramet	er	
	R call to user at S	PB.		
2. Check that Co	CSSpar is received.			

TSS CCNR-ISUP/	TP ISS_V_17_1_7	ISUP '97 reference 4.2.1.2/Q.733.5	Selection expression DLE	Q.788 [34] reference None	
Test purpose CCNR possible to dest	ination P				
	able to generate in a ACM/	CPG message the field o	ontaining a CCNR pos	sible indicator with	
access	SPA	SPB			
set the destination					
B user free					
	<iam< td=""><td></td><td></td><td></td></iam<>				
	ACM	>			
No reply					
[

TSS CCNR-ISUP/	TP ISS_V_17_1_7	ISUP '97 reference 4.2.1.2/Q.733.5	Selection expression DLE	Q.788 [34] reference None
	<rel< th=""><th></th><th></th><th></th></rel<>			
<disconnect< th=""><th>RLC</th><th>></th><th></th><th></th></disconnect<>	RLC	>		
:				
1. UNI at SPA no	o answer.			
2. Check that "(CCNR possible" is r	eceived in the AC	M/CPG message.	
3. Release the d	call.			

TSS CCNR-ISUP/	TP ISS_V_17_1_8	ISUP '97 reference 4.2.1.3/Q.733.5	Selection expression	Q.788 [34] reference
301t 1331 /			DLE	None
Test purpose CCNR parameter in the To verify that the IUT is IAM coded as "CCNR"	s able to terminate the CCNR	call, with the CCNR call	indicator in the CCNR	parameter in the
access	SPA	SPB		
set the destina	ation B no answer			
	<iam< td=""><td> normal ca</td><td>11</td><td></td></iam<>	normal ca	11	
	ACM	> CCNR possi	ble	
No :	reply			
<disconnect< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></disconnect<>	<rel< td=""><td></td><td></td><td></td></rel<>			
	RLC	>		
	TCAP tran	saction		
user frees reso	urces			
	RemoteUserFree	to CCNR call (& r	eserve resource)
	resource(s) stil	l available		
<setup< td=""><td> <iam< td=""><td> CCNR cal</td><td>1</td><td></td></iam<></td></setup<>	<iam< td=""><td> CCNR cal</td><td>1</td><td></td></iam<>	CCNR cal	1	
alert	>ACM	>		
connect	>ANM	>		
<disc< td=""><td> <rel< td=""><td></td><td></td><td></td></rel<></td></disc<>	<rel< td=""><td></td><td></td><td></td></rel<>			
:				
1. UNI at SPA n	o answer.			
2. Check that re	emote user is free 1	by using the Remo	teUserFree CCNR	ASE

TSS CCNR-ISUP/	TP ISS_V_17_1_8	ISUP '97 reference 4.2.1.3/Q.733.5	Selection expression DLE	Q.788 [34] reference None
-------------------	--------------------	---------------------------------------	--------------------------------	---------------------------------

operation.

- 3. Process a CCNR call specified in the IAM.
- 4. Check that the call is terminated (ANM, CON, ...).

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ISUP/	ISS_V_17_1_9	5/Q.733.5	expression	reference
			DLE	None

Test purpose

CCNR not possible to destination B.

To verify that the IUT is able to generate in a **ACM/CPG** the CCNR possible indicator parameter with a "CCNR not possible" indication.

NOTE: CCNR is not possible. Possible reasons include the queue is set to zero or filled up or due to maintenance reasons.

Pre-test conditions.

Arrange the data in the IUT such that CCNR for destination B is not possible.

access SPA SPB

set the destination

B user free

<----IAM------ normal call
-----ACM-----> CCNR not possible

No reply

<---disconnect---- <----REL-----

----->

- 1. Set up a call to free user at SPA.
- 2. Check that "CCNR not possible" is received in the ACM or CPG message.
- 3. Release the call.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ISUP/	ISS_V_17_1_10	6.10.2.2 c)	expression	reference
		/Q.733.5	DLE AND PICS	None
			A.19/9	

CCNR call as a normal call - Interaction with CFB.

To verify that the IUT deletes the CCNR parameter in the IAM if the CCNR call is forwarded by the initially busy user. Pre-test conditions.

User at destination B must subscribe to and activate CFB to an external user while the recall timer is running (CCNR-T9).

```
SPC
           SPA
                       SPB
----- (free)
<---- CCNR possible
   No Reply
---->
-----
 (user at SPA activates CDIV while CCNR-T9 runs)
----IAM----> CFB
 with CCNRpar
              no CCNRpar
:
```

- 1. Set up a call to free user at SPA.
- 2. Check that no CCNRpar is received in the IAM.

TSS CCNR-ISUP/	TP ISS_V_17_1_11	ISUP '97 reference 5.3.5.1/Q.733.5	Selection expression DLE AND PICS A.19/6	Q.788 [34] reference None
Test purpose				

Maximum number of CCNR request queue entries of destination B.

To verify that the IUT supports the maximum number of up to 5 queue entries.

SPA

set the destination

B Free

user no reply <----IAM-----

-----> CCNR possible

----->

<----

...TCAP transaction ...

Repeat more than 5 set up to no reply user at SPA

:

<----disconnect--- <----REL-----

TSS CCNR-ISUP/	TP ISS_V_17_1_11	ISUP '97 reference 5.3.5.1/Q.733.5	Selection expression DLE AND PICS A.19/6	Q.788 [34] reference None		
	DI G					

---->

- 1. Set up a call to free user at access.
- 2. Send maximum number of CCNR requests and check that user at SPA becomes free by using the RemoteUserFree CCNR ASE operation.
- 3. One more IAM after the maximum number of calls is reached at SPA.
- 4. Check that "CCNR not possible" is received in the ACM/CPG.
- 5. Release the call.
- $6.\ \text{Set}$ up calls (maximum $5\ \text{different}$) from SPB to SPA which encounters user at SPA no answer. Activate CCNR for the different calls.
- 6. User at SPB requests maximum allowed CCNR request.
- 7. Received ACM/CPG with "CCNR not possible".

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ISUP/	ISS_V_17_1_12	5.3.5.1/Q.733.5	expression	reference
			DLE	None

Test purpose

Incoming non-CCNR call with identical service requirements released.

To verify that the IUT, having an entry in the CCNR queue, releases a second incoming call if the service requirements of the second call are identical to the entry being processed and resources are available.

NOTE: The original request remains in the queue.

Pre-test conditions.

Arrange the data in the IUT so that there are free resources in addition to the resource reserved for the first CCNR request.

access SPA SPB

set the destination

B free

user no reply <-----IAM------ 1st call
------ACM------> CCNR possible
<-----REL------>

... TCAP transaction ..

user frees resources

RemoteUserFree to $1^{\rm st}$ call (& reserve resource)

resource(s) still available for potential 2^{nd} call

<-----IAM------ 2^{nd} independent call

-----REL----> released because identical requirements

<----RLC-----

... check TCAP transaction ...

TSS CCNR-ISUP/	TP ISS_V_17_1_12	ISUP '97 reference 5.3.5.1/Q.733.5	Selection expression DLE	Q.788 [34] reference None	
				•	_

 \leftarrow CCNR call (empty queue)

...continue CCNR call 1st call.

:

- 1. Set up a 1^{st} call to free user at access.
- 2. Check address complete message with CCNR possible(1st call).
- 3. Check that remote user is free by using the RemoteUserFree CCNR ASE operation.
- 4. Process a second identical (with the same requirement to the one being processed) set up to the same remote user.
- 5. Check that the call is released with cause XXXXXXXX (2^{nd} call).
- 6. Continue the 1^{st} CCNR call in order to get an idle state.
- 7. Continue the 2^{nd} CCNR call in order to get an idle state.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]			
CCNR-ISUP/	ISS_V_17_1_13	5.3.5.1/Q.733.5	expression	reference			
			DLE	None			
Test purpose	Test purpose						
Incoming non-CCNR ca	all with not identical service r	requirements accepted.					
			econd incoming call if	the service			
	To verify that the IUT, having a queue entry in the CCNR queue, accepts a second incoming call if the service						
requirements of the second call are not identical to the entry being processed and resources are available.							
NOTE: The original	request remains in the queu	e.					
Pre-test conditions							

Arrange the data in the IUT so that there are free resources in addition to the resource reserved for the first CCNR request.

access SPA SPB

set the destination

B free

user no reply <----- 1^{st} call ------ ACM------> CCNR possible

<-----REL----->

... TCAP transaction ..

user frees resources

RemoteUserFree to 1^{st} call (& reserve resource)

resource(s) still available for potential 2nd call

<----setup-----
 <----- $2^{\rm nd}$. independent call

-----alert-----> -----ACM----->

TSS CCNR-ISUP/	TP ISS_V_17_1_13	ISUP '97 reference 5.3.5.1/Q.733.5	Selection expression DLE	Q.788 [34] reference None
connect	>ANM	>		

----connect----> ----ANM---->

<----disc----- <----REL-----

 \dots continue with the 1st CCNR call \dots

:

- 1. Set up a call to free user at access.
- 2. Check address complete message with CCNR possible($1^{\rm st}$ call).
- 3. Check that remote user is free by using the $\mbox{\it RemoteUserFree}$ CCNR ASE operation.
- 4. Process a second non-identical (without the same requirement to the one being processed) set up.
- 5. Check that the call is accepted (ANM, CON, \ldots).
- 6. End the TCAP dialogue for the 1^{st} call.

CCNR Application Service Element (ASE)

TSS CCNR-ASE/	TP ISS_TC_V_17_2_1	ISUP '97 reference 5.1.1.1.1/Q.733.5	Selection expression OLE	Q.788 [34] reference None	
- ,					1

Test purpose

Ability to perform a CCNR REQUEST class 1 operation - successful.

To verify that the IUT can successfully perform a CCNR REQUEST operation if required by the calling user:

NOTE 1: Send a **CCNRRequest invoke** to the DLE by using the TCAP primitive **TC-BEGIN request**(TC-INVOKE request).

NOTE 2: Receive a **CCNRRequest return result** from the DLE in a **TC-CONTINUE indication**(TC-INVOKE indication).

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
access
                SPA
                                 SPB
-----setup-----> -----IAM----->
                  <----- CCNR possible
       (normal call, user at SPB no answer)
                  -----
                  <----RLC-----
             ... TCAP transaction ...
start CCNR-T1
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2
                 xxxxTC_BEGIN_REQ-->
stop CCNR-T2
                  <--TC_CONTINUE_INDx
start CCNR-T3
----CCNR recall---> -----IAM-----> CCNR call
<----REL-----
```

- 1. The access side activates CCNR.
- 2. The CCNRRequest invocation is received.
- 3. The user at SPB is now free for a CCNR call.
- 4. CCNR call set up with "ISDN User Part required all the way" in the FCI of the IAM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_2	5.1.1.1.2/Q.733.5	expression	reference
			OLE	None

Ability to perform a CCNR REQUEST class 1 operation - unsuccessful.

To verify that if a failure occurs (short or long term denial) while invoking a CCNR REQUEST operation, the IUT is able to indicate the result to the calling user.

NOTE 1: Send a **CCNRRequest invoke** to the DLE by using the TCAP primitive **TC-BEGIN request**(TC-INVOKE request).

NOTE 2 Receive a **CCNRRequest return error** from the DLE in a **TC-END indication**(TC-U-ERROR indication). Pre-test conditions

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service. ${\tt access}$ ${\tt SPA}$ ${\tt SPB}$

xxxxxTC_BEGIN_REQxxxx->

<---TC_END_INDxxxxxxxxx

1. The access side activates CCNR.

start CCNR-T2

stop CCNR-T2

2. The CCNRRequest invocation is received.

TSS CCNR-ASE/	TP ISS_TC_V_17_2_3	ISUP '97 reference 5.1.2.1.1/Q.733.5	Selection expression OLE	Q.788 [34] reference None	
Test purpose Ability to perform a CCNR CANCEL class 4 operation. To verify that the IUT can successfully perform a deactivation request if required by the calling user: NOTE: Send a CCNRCancel invoke without cancelCause to the DLE by using the TCAP primitive TC-END request(TC-INVOKE request). Pre-test conditions.					
Arrange the data in the access	e IUT such that the calling use SPA	er subscribes to the CCN SPB	R supplementary servi	ce.	
setup	>IAM	>			
	<acm< td=""><td> CCNR possi</td><td>ble</td><td></td></acm<>	CCNR possi	ble		
(norma	l call, user at SPB	no answer)			
	REL	>			
	<rlc< td=""><td></td><td></td><td></td></rlc<>				
	TCAP trans	saction			
start CCNR-T1					
<-CCNR Act reque	est				
CCNR Act respo	onse>				
stop CCNR-T1					
start CCNR-T2	xxxxTC_BEGIN	_REQxx->			
stop CCNR-T2	<tc_contin< td=""><td>UE_INDxx</td><td></td><td></td></tc_contin<>	UE_INDxx			
start CCNR-T3					
<ccnr deact="" re<="" td=""><td>equest-</td><td></td><td></td><td></td></ccnr>	equest-				
CCNR Deact re	sponse->				

1. The access side activates and deactivates CCNR.

stop CCNR-T3

2. Check that the CCNRRequest invocation is received.

xxTC_END REQxxxx--->

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_4	5.3.1.1/Q.733.5	expression	reference
			OLE	None

Ability to indicate a CCNR recall to the calling user.

To verify that the IUT can successfully initiate a CCNR recall to the calling user:

NOTE: Receive a RemoteUserFree invoke from the DLE in a TC-CONTINUE indication(TC-INVOKE indication).

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

access SPA SPB

```
----setup----> -----IAM----->
                   <---- CCNR possible
       (normal call, user at SPB no answer)
                   -----
                   <-----RLC-----
                    ... TCAP transaction ...
start CCNR-T1
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2
                    xxxxTC_BEGIN_REQxxxx-->
stop CCNR-T2
                     <--TC CONTINUE INDxxxx
start CCNR-T3
<---CCNR recall act---
 ----CCNR recall---->
                     ----- CCNR call
<----disconnect----- <----REL-----
```

- 1. The access side activates CCNR request and CCNR recall.
- 2. Check that the CCNRRequest invocation is received.
- 3. The user at SPB is now free for a CCNR call.
- 4. Check that CCNR call with "ISDN User Part required all the way" in the FCI of the IAM.

TSS CCNR-ASE/	TP ISS_TC_V_17_2_5	ISUP '97 reference 5.3.1.1/Q.733.5	Selection expression OLE	Q.788 [34] reference None
	n destination B becomes free an act correctly after receipt		•	
NOTE 1: Receive a Re NOTE 2: Notify the ca NOTE 3: Send CCNR NOTE 4: Eventually se	emoteUserFree invoke fror illing user A. Suspend invoke in a TC-Co end CCNRResume invoke i becomes free.	ONTINUE request(TC-IN	NVOKE request) to the I	DLE.
Pre-test conditions.	IUT such that the calling us	er subscribes to the CCN SPB	NR supplementary servi	ce.
setup	>IAM	>		
	<acm< td=""><td> CCNR poss</td><td>ible</td><td></td></acm<>	CCNR poss	ible	
(norma)	l call, user at SPB	no answer)		
	REL	>		
	<rlc< td=""><td></td><td></td><td></td></rlc<>			
	TCAP tra	nsaction		
start CCNR-T1				
<ccnr act="" requ<="" td=""><td>ıest</td><td></td><td></td><td></td></ccnr>	ıest			
CCNR Act respo	onse>			
stop CCNR-T1				
start CCNR-T2	xxxxTC_BEG	IN_REQxxxx->		
stop CCNR-T2	<tc_cont< td=""><td>INUE_INDxxxx Co</td><td>CNRRequest retur</td><td>n result</td></tc_cont<>	INUE_INDxxxx Co	CNRRequest retur	n result
start CCNR-T3				
	<tc_cont< td=""><td>INUE_INDxxxx Re</td><td>emoteUserFree</td><td></td></tc_cont<>	INUE_INDxxxx Re	emoteUserFree	
stop CCNR-T3				
arrange user to	be			
found busy	xxxxTC_CON	TINUE_REQ> CO	CNRSuspend	
or CCNR busy				
Receive notifi	ication that			
the user at SPB	is now free,			
Send no respor	ise for that			
User A is now	free			
	xxxTC_CONT	INUE_REQ> CO	CNRResume	

- 1. The access side activates CCNR.
- 2. Check that the CCNRRequest invocation is received.

	TSS CCNR-ASE/	TP ISS_TC_V_17_2_5	ISUP '97 reference 5.3.1.1/Q.733.5	Selection expression OLE	Q.788 [34] reference None
3.	The user at	SPB is now free for	a CCNR call.		
4.	End the TCAP	dialogue in order	to get an initial	state.	

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_6	1.3/Q.733.5	expression	reference
			Local AND PICS	None
			A.19/1	

Support of the retain option.

To verify that the IUT performs the retain option by setting the **retainSupported** parameter to TRUE or FALSE in the **CCNRRequest** or in the **CCNRRequest** return result.

SPB

Pre-test conditions for OLE.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

SPA

Case a)

- 1. The access side activates CCNR.
- 2. Check that the CCNRRequest invocation is received with
 "RetainSupported = TRUE".
- 3. End the TCAP dialogue in order to get an initial state.

Case b)

access SPA SPB

set the destination

B free

TSS CCNR-ASE/	TP ISS_TC_V_17_2_6	ISUP '97 reference 1.3/Q.733.5	Selection expression Local AND PICS A.19/1	Q.788 [34] reference None
	<iam-< td=""><th></th><th></th><td></td></iam-<>			
	ACM-	>CCNR possi	ble	
(norma	l call, user at SPB	no answer)		
	<rel< td=""><th></th><th></th><td></td></rel<>			
	RLC	>		
TCAP transa	ction			
	<tc_begin_< td=""><th>REQxxxx retainSup</th><th>ported = TRUE</th><td></td></tc_begin_<>	REQxxxx retainSup	ported = TRUE	
	xxxTC_CONTIN	UE_IND-> retainSu	pported = TRUE	
user free	<rel-< td=""><th></th><th></th><td></td></rel-<>			
	RLC-	>		
1. UNI at SPA f	ree.			

- 2. Check that the CCNRRequest invocation is received with "RetainSupported = TRUE".
- 3. Free destination B

	TSS CCNR-ASE/	TP ISS_TC_V_17_2_7	ISUP '97 reference 5.1.1.1.1/Q.733.5	OLE AND PICS	Q.788 [34] reference None
--	------------------	-----------------------	---	--------------	---------------------------------

Maximum number of outstanding CCNR requests of a user.

To verify that the IUT does not send any **CCNRRequest** to the DLE if the maximum number of outstanding requests is reached.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

access SPA SPB

... TCAP transaction ...

<--CCNR Act request---

--CCNR Act response-->

stop CCNR-T1

start CCNR-T1

start CCNR-T2 xxxxTC_BEGIN_REQxxxx-->

stop CCNR-T2 <--TC_CONTINUE_INDxxxx CCNRRequest return result

start CCNR-T3

repeat activate CCNR request until the maximum

number of CCNR request supported by SPA

check that no CCNR request is send after the specified number of entries

- 1. The access side activates CCNR.
- 2. Check that no TC_BEGIN_REQ is sent after the maximum number of CCNR request is reached at SPA.
- 3. The test case fails if the maximum number of outstanding requests is reached and ${\tt CCNRRequest}$

is received.

4. 4. End the TCAP dialogue in order to get an initial state.

TSS CCNR-ASE/	TP ISS_TC_V_17_2_8	ISUP '97 reference 5.1.1.2.2; 5.3.5.1; 5.5.4/Q.733.5	Selection expression DLE AND PICS A.19/6	Q.788 [34] reference None		
Test purpose Maximum number of queue entries CCNR requests. To verify that the IUT sends a CCNRRequest return error to the OLE if the maximum number of queue entries is reached. NOTE: Send CCNRRequest return error in TC-END request(TC-INVOKE request).						

SPB access SPA set the destination B free <----IAM---------->CCNR possible (normal call, user at SPB no answer) <----REL---------> ... TCAP transaction ... <---xxTC_BEGIN_REQx xxTC_CONTINUE_IND--> CCNRRequest return result ... repeat activate CCNR request until the maximum number of CCNR request supported by the IUT is reached (fill up the queue) <----IAM---------> -----REL----> User no answer <----RLC-----<---xxTC_BEGIN_REQx xxxxTC_END_IND----> CCNRRequest return error (short or long term denial)

- 1. UNI at SPA becomes free.
- 2. Call to the destination B.
- 3. Check that "CCNR possible" is received in the address complete message.

<-----REL----->

- 4. Check that CCNRRequest return error is received in TC_END_IND.
- 5. Free destination B

User free

TSS CCNR-ASE/	TP ISS_TC_V_17_2_9	ISUP '97 reference 5.5.4/Q.733.5	Selection expression Local	Q.788 [34] reference None		
Test purpose						
Ability to end a dialogu		on a successful COND call	1			
To verify that the IUT can end a TCAP dialogue after a successful CCNR call. NOTE: Send a TC-END request without component primitive upon sending of the ACM , CPG or CON .						
	· · · · · · · · · · · · · · · · · · ·	nent primitive upon sendir	ng of the ACM, CPG	or CON.		
Pre-test conditions for	OLE.					

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

access SPA SPB

set the destination

set the destination

B free

<-----IAM----->
------ACM----->

User no answer

<----RLC-----

 \dots TCAP transaction \dots

<---xxTC_BEGIN_REQx

xxTC_CONTINUE_IND--> CCNRRequest return result

:

xxTC_CONTINUE_IND--> RemoteUserFree

:

xxxxTC_END_IND---->

:

<----disconnect---- <-----REL------

1. UNI at SPA free.

2. Check that a TC_END_IND primitive without component is received in order to end the CCNR operation.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_10	7.1/Q.733.5	expression	reference
			OLE AND PICS	None
			A.19/7	

Initiate the CCNR supplementary service even if no CCNR possible indicator is received in the ACM/CPG.

To verify that the IUT sends a **CCNRRequest invoke** if the calling user activates the CCNR.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

```
access
 -----setup-----> -----IAM----->
                   <----ACM-----
(normal call, user at SPB no answer)
                   ----->
                   <-----RLC-----
               ... TCAP transaction ...
start CCNR-T1
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2
                   xxxxTC_BEGIN_REQxxxx-->
stop CCNR-T2
                   <--TC_CONTINUE_INDxxxx
start CCNR-T3
----CCNR recall---> -----IAM-----> CCNR call
<----disconnect----
```

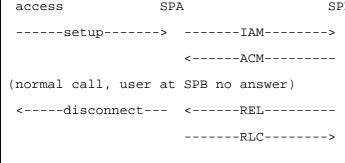
- 1. The access side activates CCNR.
- 2. Check that the CCNRRequest invocation is received.
- 3. The user at SPB is now free for a CCNR call.
- $4.\ \mbox{CCNR}$ call set up with "ISDN User Part required all the way" in the FCI of the IAM.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_11	9.1/Q.733.5	expression	reference
			OLE	None

Support of the retention timer CCNR-T1.

To verify that the retention timer CCNR-T1 can be started after receive of a **address complete message** with CCNR possible from the DLE and stopped normally after activation of the CCNR supplementary service by the calling user. Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.



SPB starts CCNR-T1 and receives nothing until the timer expires

<-----facility-----

Act CCNR

start CCNR-T1

send nothing until it expires

- 1. The access side activates CCNR after CCNR-T1 runs out.
- 2. Check that no CCNR request is stored in the queue.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_12	5.5.4.1 c); 9.1	expression	reference
		/Q.733.5	OLE	None

Test purpose

Support of the CCNR request operation timer CCNR-T2.

To verify that the timer CCNR-T2 can be started after sending of a **CCNRRequest** to the DLE and stopped normally after receipt of **CCNRRequest return result** from the DLE.

NOTE: If the timer expires a **TC-END** with **TC-L-CANCEL** indication primitive is received from the DLE and the service request is rejected.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

access

SPA

SPB

... TCAP transaction ...

TSS CCNR-ASE/	TP ISS_TC_V_17_2_12	ISUP '97 reference 5.5.4.1 c); 9.1 /Q.733.5	е	Selection expression OLE	Q.788 [34] reference None
start CCNR-T2	xxxTC_BEGIN_	~		arts CCNR-T2 an _IND if the tim	
1 mb	ide estimates COMP				

- 1. The access side activates CCNR.
- 2. End the TCAP dialogue in order to get an initial state.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]	
CCNR-ASE/	ISS_TC_V_17_2_13	5.1.2.1.2/Q.733.5	expression	reference	
			OLE	None	

Support of the CCNR service duration timer CCNR-T3.

To verify that the IUT can successfully deactivate a CCNR request if the CCNR service duration timer CCNR-T3 expires.

NOTE: Send a **CCNRCancel invoke** with cancelCause to the DLE by using the TCAP primitive **TC-END** request(TC-INVOKE request) with cancelCause "CCNR-T3 Timeout".

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

access SPA SPB

-----setup-----> -----IAM----->

<----ACM-----

(normal call, user at SPB no answer)

<----disconnect--- <----REL-----

----->

... TCAP transaction ...

start CCNR-T2 xxxxTC_BEGIN_REQ--> CCNRRequest invoke

stop CCNR-T2 <---TC_CONT_INDxxxx CCNRRequest return result

start CCNR-T3

starts CCNR-T3 and sends TC_CONTINUE_IND with RemoteUserFree if it expires

<---TC_CONT_INDxxxxx RemoteUserFree

xxxxxTC_END_REQ----> TC_END_IND with CancelCause

"timeout CCNR-T3"

- 1. The access side activates CCNR.
- 2. After CCNR-T3 timer expiry the IUT shall send the CancelCause "CCNR-T3 timeout" in a TC_END.

TSS TP ISS_TC_V_17_2_14	ISUP '97 reference	Selection	Q.788 [34]
	5.1.2.1.2 ii); 9.1	expression	reference
	/Q.733.5	OLE	None

Support of the CCNR recall timer CCNR-T4.

To verify that the timer CCNR-T4 can be stopped after receiving an indication from the user for a CCNR recall. CCNR-T4 contains the maximum time the network will wait for the calling user A to respond to a CCNR recall. The OLE sends a CCNRCancel invoke in TC-END request to the DLE in case of CCNR-T4 expiry.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

access SPA SPB -----setup-----> -----IAM-----> <----ACM-----(normal call, user at SPB no answer) <----disconnect--- <----REL----------> ... TCAP transaction ...

start CCNR-T2 xxxxTC_BEGIN_REQ--> CCNRRequest invoke start CCNR-T3 <---TC CONT INDxxxx CCNRRequest return result

> <---TC_CONT_INDxxxxx RemoteUserFree

SPB starts CCNR-T4 and receives TC_END_IND with CancelCause if it expires xxxxxTC_END_REQ----> TC_END_IND with CancelCause "timeout CCNR-T3"

- 1. The access side activates CCNR and does not accept the CCNR recall within CCNR-T4.
- 2. Check that the CancelCause "CCNR-T4 timeout" is received in a TC_END.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_15	5.3.1.2 b) i)	expression	reference
		/Q.733.5	OLE AND PICS	None
			A.19/5	

Reject a second identical activation of CCNR.

To verify that the IUT does not send any CCNRRequest to the DLE if a second identical activation of CCNR is done. Pre-test conditions.

Arrange the data in the IUT so that the calling user subscribes to CCNR supplementary service. ${\tt access}$ SPA SPB

```
-----setup-----> -----IAM----->
                    <----ACM-----
(normal call, user at SPB no answer)
 <----disconnect---- <----REL-----
                    ----- (1<sup>st</sup> normal call)
                   ... TCAP transaction ...
start CCNR-T1
<--CCNR Act request---
--CCNR Act response-->
stop CCNR-T1
start CCNR-T2
                  xxxxTC_BEGIN_REQ-->
stop CCNR-T2
                   <--TC_CONTINUE_INDx
start CCNR-T3
 -----setup-----> -----IAM----->
                    <----ACM-----
(normal call, user at SPB no answer)
 <----disconnect---- <-----REL------
                    -----> (2<sup>nd</sup> normal call)
```

- 1. The access side activates CCNR.
- 2. First call to no answer user at SPB.
- 3. Check that the CCNRRequest invocation is received.
- 4. Second identical call from the IUT to the same SPB.
- 5. End the TCAP dialogue.

TSS CCNR-ASE/	TP ISS_TC_V_17_2_16	ISUP '97 reference 5.3.1.2 b) ii) /Q.733.5	Selection expression OLE AND PICS A.19/4	Q.788 [34] reference None			
To verify that the IUT tr Pre-test conditions.	Treat a second identical activation of CCNR as a new request. To verify that the IUT treats a second identical activation of CCNR as a new request. Pre-test conditions. Arrange the data in the IUT so that the calling user subscribes to CCNR supplementary service.						
access	SPA		SPB				
setup	>IAM	>					
	<acm< td=""><td></td><td></td><td></td></acm<>						
(normal call, us	ser at SPB no answer	r)					
<disconnec< td=""><td>t <rel< td=""><td></td><td></td><td></td></rel<></td></disconnec<>	t <rel< td=""><td></td><td></td><td></td></rel<>						
	RLC	> (1 st norm	nal call)				
	TCAP trans	saction					
start CCNR-T1							
<ccnr act="" req<="" td=""><td>uest</td><td></td><td></td><td></td></ccnr>	uest						
CCNR Act respo	onse>						
stop CCNR-T1							
start CCNR-T2	xxxxTC_BEGII	N_REQ>					
stop CCNR-T2	<tc_conti< td=""><td>NUE_INDx</td><td></td><td></td></tc_conti<>	NUE_INDx					
start CCNR-T3							
:							
setup	>IAM	>					
	<acm< td=""><td></td><td></td><td></td></acm<>						
(normal call, us	ser at SPB no answe	r)					
<disconnect< td=""><td>t <rel< td=""><td></td><td></td><td></td></rel<></td></disconnect<>	t <rel< td=""><td></td><td></td><td></td></rel<>						
	RLC	> (2 nd norm	nal call)				
	TCAP trans	saction					
start CCNR-T1							
<ccnr act="" req<="" td=""><td>uest</td><td></td><td></td><td></td></ccnr>	uest						
CCNR Act respo	onse>						
stop CCNR-T1							
start CCNR-T2	xxxxTC_BEGII	N_REQ>					
stop CCNR-T2	<tc_conti< td=""><td>NUE_INDx</td><td></td><td></td></tc_conti<>	NUE_INDx					
start CCNR-T3							
:							
1. The access s	ide activates CCNR.						

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_16	5.3.1.2 b) ii)	expression	reference
		/Q.733.5	OLE AND PICS	None
			A.19/4	

- 2. First call to no answer user at SPB.
- 3. Check that the CCNRRequest invocation is received.
- 4. Second identical call from the IUT to the same SPB.
- 5. Second identical activation of the CCNR request.
- 6. End the TCAP dialogue.

CCNR-ASE/	TP ISS_TC_V_17_2_17	ISUP '97 reference 5.1.2.2.2/Q.733.5	Selection expression DLE	Q.788 [34] reference None			
Test purpose Support of the CCNR service supervision timer CCNR-T7. To verify that the IUT deactivates the CCNR-request if CCNR-T7 expires. NOTE 1: CCNR-T7 is started after sending a CCNRRequest return result to the OLE. NOTE 2: CCNR-T7 is stopped after the destination B becomes not busy, before sending RemoteUserFree to the OLE. NOTE 3: Send a CCNRCancel invoke in a TC-END request(TC-INVOKE request) with cancelCause "CCNR-T7"							
Timeout". access	SPA	SPB					
set the destina	ation						
B free							
	<iam< td=""><td></td><td></td><td></td></iam<>						
	ACM	>					
(user at SPB no	answer)						
	REL	>					
	<rlc< td=""><td></td><td></td><td></td></rlc<>						
	TCAP tra	nsaction					
	<xxtc_beg< td=""><td>IN_REQx</td><td></td><td></td></xxtc_beg<>	IN_REQx					
	xxTC_CONTINU	E_IND> CCNRReq	uest return res	ult			
SPB starts CCNR-	-T7 and receives TC	_END_IND with Can	celCause				
"CCNR-T7 Timeout	" if it expires						
	xxxxxTC_END_	IND>					
user free	<rel-< td=""><td></td><td></td><td></td></rel-<>						
	RLC	>					

TSS CCNR-ASE/	TP ISS_TC_V_17_2_18	ISUP '97 reference 5.3.1.5 a); 9.1 /Q.733.5	Selection expression DLE	Q.788 [34] reference None
	on B idle guard timer CCNR les are available at the dest SPA		CCNR-T8 expires.	
set the destina	tion			
B free				
	<ia< td=""><td>M</td><td></td><td></td></ia<>	M		
	AC	M>		
(user at SPB no	answer)			
	RE	L>		
	<rl< td=""><td>C</td><td></td><td></td></rl<>	C		
	TCAP tran	saction		
	<xxtc_be< td=""><td>GIN_REQx CCNRR</td><td>equest</td><td></td></xxtc_be<>	GIN_REQx CCNRR	equest	
	xxTC_CONTINU	E_IND> CCNRRe	quest return r	esult
:				
User is now free	SPB starts	timers CCNR-T8		
	SPB checks	every second that	no resources	
	are availab	le by using T_LOC	AL timer	
	<ia< td=""><td>M</td><td></td><td></td></ia<>	M		
	RE	L>		
	<rl< td=""><td>C</td><td></td><td></td></rl<>	C		
:				
<setup< td=""><td> <ia< td=""><td>M CCN</td><td>R-T8 expires</td><td></td></ia<></td></setup<>	<ia< td=""><td>M CCN</td><td>R-T8 expires</td><td></td></ia<>	M CCN	R-T8 expires	
alert	>AC	M>		
connect	>AN	M>		
:				

- 1. Check that no resources are available within CCNR-T8, e.g., send an IAM and receiving a REL.
- 2. Check that resources are now available by sending an IAM and receiving an ACM, etc. $\,$

TSS CCNR-ASE/	TP ISS_TC_V_17_2_19	ISUP '97 reference 5.3.5.2 d); 9.1 /Q.733.5	Selection expression DLE	Q.788 [34] reference None
DLE and stopped after	call timer CCNR-T9. CCNR-T9 can be started aft CCNR call is received from the cancel invoke in a TC-EN	the OLE.		
access	SPA	SPB		
set the desti	nation			
B free				
	<iam< td=""><th></th><td></td><td></td></iam<>			
	ACM	>		
(user at SPB no	answer)			
	REL	>		
	<rlc< td=""><th></th><td></td><td></td></rlc<>			
	TCAP to	ransaction		
		BEGIN REQx		
	_	— ~ INUE IND> CCNR	Request return	result
:				
	xxTC_CONT	INUE_IND> Remo	teUserFree	
	SPB start	s CCNR-T9 and rec	eives	
	TC_END_IN	D with CancelCaus	e	
	"CCNR-T9 '	Timeout" if it ex	pires	
	xxxxxTC_E	ND_IND>		
user free	<r< td=""><th>EL</th><td></td><td></td></r<>	EL		
	R	LC>		

- 1. Check that the CancelCause "CCNR-T9 timeout" is received in a TC_END.
- 2. Free destination B.

TSS	TP	ISUP '97 reference	Selection	Q.788 [34]
CCNR-ASE/	ISS_TC_V_17_2_20	7.7.3.3.1; 7.7.3.3.2;	expression	reference
		9.3/Q.733.5	Local AND PICS	None
			A.19/19	

Support of the interworking supervision timer T_{SUP}

To verify that the timer T_{SUP} is used correctly in case of interworking with a private network.

NOTE 1: The DLE sends a **CCNRCancel invoke** in **TC-END request** to the OLE without cancelCause in case of $T_{\sf SUP}$ timer expiry.

NOTE 2: The OLE sends a **CCNRCancel invoke** in **TC-END request** to the DLE without cancelCause in case of T_{SUP} timer expiry.

Pre-test conditions for OLE.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

SPC SPA SPB (private network)

1. Check that a TC_END without CancelCause is received.

TSS	TP	ISUP '97 reference	Selection expression	Q.788 [34]
CCNR-ASE/	ISS TC V 17 2 21	5.1.1.1.1/Q.733.5		reference
CONK-AGE/	133_10_1/_1/_2_21	3.1.1.1.1/4./33.3	OLE	None

Test purpose

CCNR REQUEST not invoked.

To verify that if a call is attempted with a ACM without CCNR possible indicator, then no CCNR REQUEST shall be sent from the OLE to the DLE.

Pre-test conditions.

Arrange the data in the IUT such that the calling user subscribes to the CCNR supplementary service.

1. The access side shouldn't activate CCNR.

2. Do not answer the call and do not include CCNR possible indicator.

8 Test Coverage

The test purposes defined in this test specification cover most main capabilities of the ISUP '97 reference specification for supplementary services. A list containing the number of test purposes for each supplementary service is provided in table 3.

Whenever it was possible, the test purposes have been described such that they bundle related requirements of the standard. Due to this fact a test purpose may lead to implementing several test cases for the ATS.

The majority of test purposes (over 80 %) concentrate on valid behaviour. The number of invalid behaviour test purposes is limited. An expansion of the invalid behaviour test purposes is left for further study.

Table 3: Number of tests for the ISUP '97 supplementary services

Item	Supplementary service	Group	Number of
		_	test purposes
1	Calling Line Identification Presentation	CLIP	19
2	Calling Line Identification Restriction	CLIR	11
3	Connected Line Identification Presentation	COLP	18
4	Connected Line Identification Restriction	COLR	12
5	Terminal portability	TP	10
6	User-to-user signalling service 1 implicit	UUS1_I	6
	User-to-user signalling service 1 explicit	UUS1_E	18
	User-to-user signalling service 2	UUS2	16
	User-to-user signalling service 3	UUS3	17
7	Closed User Group	CUG	23
8	Sub-addressing	SUB	5
9	Malicious Call Identification	MCID	16
10	Conference call, add-on	CONF	16
11	Explicit Call Transfer	ECT	30
12	Call diversion services	CDIV	49
13	Call Hold	HOLD	12
14	Call Waiting	CW	8
15	Completion of Calls to Busy Subscriber (ISUP)	CCBS_ISUP	15
	Completion of Calls to Busy Subscriber (ASE)	CCBS_ASE	21
16	Three Party service	THREE_PTY	9
17	Completion of Calls on No Reply	CCNR	34
	Grand total		365

9 Conformance to the PICS proforma specification

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PICS proforma in this clause so that it can be used for its intended purposes and may further publish the completed PICS.

A PICS proforma that conforms to this PICS proforma specification shall be technically equivalent to annex A, and shall preserve the numbering and ordering of the items in annex A.

A PICS that conforms to this PICS proforma specification shall:

- a) describe an implementation which is claimed to conform to ISDN User part (ISUP) '97 reference specification ITU-T Recommendation Q.730 [1];
- b) be a conforming PICS proforma which has been completed in accordance with the instructions for completion given in clause A.1;
- c) include the information necessary to uniquely identify both the supplier and the implementation.

Annex A (normative): PICS proforma for ISDN User Part (ISUP) '97 - supplementary services

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed PICS.

(This annex forms an integral part of this Recommendation).

A.1 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. If necessary, the supplier may provide additional comments separately.

More detailed instructions are given at the beginning of the different subclauses of the PICS proforma.

A.1.1 Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ISDN User Part (ISUP) '97 reference specification ITU-T Recommendation Q.730 [1] may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into subclauses for the following categories of information:

- instructions for completing the PICS proforma;
- identification of the implementation;
- identification of the reference protocol specification;
- PICS proforma tables (containing the global statement of conformance).

A.1.2 Abbreviations and conventions

The PICS proforma contained in this annex is composed of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [32].

Item column

It contains a number that identifies the item in the table.

Item description column

It describes each respective item (e.g. parameters, timers, etc.).

Reference column

It gives reference to the ISUP '97 specification for the supplementary services ITU-T Recommendation Q.730 [1], except where explicitly stated otherwise.

Status column

The following notations, defined in ISO/IEC 9646-7 [32], are used for the status column:

- m mandatory the capability is required to be supported;
- n/a not applicable in the given context, it is impossible to use the capability. No answer in the support column is required;
- optional the capability may be supported or not;
- o.i qualified optional for mutually exclusive or selectable options from a set. "i" is an integer which identifies a unique group of related optional items and the logic of their selection which is defined immediately following the table;
- ci conditional the requirement on the capability ("m", "o" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying a unique conditional status expression that is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." shall be used to avoid ambiguities. If an ELSE clause is omitted, "ELSE n/a" shall be implied.
- NOTE: Support of a capability means that the capability is implemented in conformance to the ISUP '97 specification ITU-T Recommendation Q.730 [1].

Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [32], are used for the support column:

- Y or y supported by the implementation;
- N or n not supported by the implementation;
- N/A or no answer required (allowed only if the status is N/A, directly or after evaluation of a conditional status).

Values allowed column

This column contains the values or the ranges of values allowed.

Values supported column

The support column shall be filled in by the supplier of the implementation. In this column the values or the ranges of values supported by the implementation shall be indicated.

References to items

For each possible item answer (answer in the support column) within the PICS proforma a unique reference exists. It is defined as the table identifier, followed by a slash character "/", followed by the item number in the table. If there is more than one support column in a table, the columns shall be discriminated by letters (a, b, etc.) respectively.

- EXAMPLE 1: A.5/4 is the reference to the answer of item 4 in table A.5 of annex A.
- EXAMPLE 2: A.6/3b is the reference to the second answer (i.e. in the second support column) of item 3 in table A.6 of annex A.

A.2 Identification of the implementation

Identification of the Implementation Under Test (IUT) and the system in which it resides - the System Under Test (SUT) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

A.2.1 Date of the statement

Date of the statement:	
A.2.2 Implement	tation under test (IUT) identification
IUT name:	
IUT version:	
	nder test (SUT) identification
SUT name:	
Hardware configuration:	
Operating system:	
A.2.4 Product su	upplier
Name:	
Address:	
Telephone number:	
Facsimile number:	
Additional information:	
A.2.5 Client	
Name:	
Address:	
Telephone number:	
Facsimile number:	
Additional information:	
A.2.6 ICS conta	ct person
Name:	
Telephone number:	
Facsimile number:	
Additional information:	

A.3 Identification of the reference specification

This PICS proforma applies to the following standard: ITU-T Recommendations Q.730 [1].

Note that as prerequisite it is necessary to support the basic services described in ITU-T Recommendation Q.761 [22]. A separate PICS proforma has been specified for ISUP'97 basic services ITU-T Recommendation Q.788 [34].

A.4 PICS proforma tables

A.4.1 Global statement of conformance

		(Yes/No)
Are all m	andatory capabilities implemented?	
NOTE:	Answering "No" to this question indicates non-cor	
	the reference protocol specification. Non-support	
	capabilities are to be identified in the PICS, with a	an explanation
	of why the implementation is non-conforming.	

A.4.2 Roles

Table A.1: Roles

Item	Is the implementation an	Reference	Status	Support
1	OLE - Originating local exchange	2.1.1.1/Q.764 [25]	o.1	
2	NTE - National transit exchange	2.1.1.2/Q.764 [25]	o.1	
3	OutIE - Outgoing international exchange	2.1.1.3/Q.764 [25]	o.1	
4	ITE - International transit exchange	2.1.1.4/Q.764 [25]	o.1	
5	InclE - Incoming international exchange	2.1.1.5/Q.764 [25]	o.1	
6	DLE - Destination local exchange	2.1.1.6/Q.764 [25]	o.1	
NOTE:	o.1: It is mandatory to support at least one of the	ese items.	•	

A.4.3 Capabilities

The following matrix is an abbreviation guide for roles:

OLE	NTE	OutlE	ITE	InclE	DLE
Local	Transit	Gateway	Transit	Gateway	Local
	IntermE	IntermE	IntermE	IntermE	
CntrlE	CntrlE	CntrlE			
	IWorkE	IWorkE	IworkE	IWorkE	

Table A.2: Generic signalling procedures for supplementary services

Item	Is the exchange able to	Reference	Status	Support
1	End-to-end signalling - Pass along method?	Table 1/Q.761 [22]	0	
2	End-to-end signalling - SCCP connection oriented?	Table 1/Q.761 [22]	0	
3	End-to-end signalling - SCCP connectionless?	Table 1/Q.761 [22]	0	
4	Generic number transfer?	Table 1/Q.761 [22]	0	
5	Generic digit transfer?	Table 1/Q.761 [22]	0	
6	Generic notification procedure?	Table 1/Q.761 [22]	0	
7	Simple service activation procedure?	Table 1/Q.761 [22]	0	
8	Remote operations procedure?	Table 1/Q.761 [22]	0	
9	Network specific procedures?	Table 1/Q.761 [22]	0	

Table A.3: Supplementary Services Major Capabilities

Item	Is the exchange able to	Reference	Status	Support
1	support the service Calling Line Identification Presentation (CLIP)?	Q.731.3 [4]	0	
2	support the service Calling Line Identification Restriction (CLIR)?	Q.731.4 [5]	0	
3	support the service Connected Line Identification Presentation (COLP)?	Q.731.5 [6]	0	
4	support the service Connected Line Identification Restriction (COLR)?	Q.731.6 [7]	0	
5	support the service Terminal Portability (TP)?	Q.733.4 [15]	0	
6	support at least one User-to-User Signalling service (UUS)?	Q.737.1 [21]	0	
7	support the service Closed User Group (CUG)?	Q.735.1 [18]	0	
8	support the service Sub-addressing (SUB)?	Q.731.8 [9]	0	
9	support the service Malicious Call Identification (MCID)?	Q.731.7 [8]	0	
10	support the service Conference Call, add-on (CONF)?	Q.734.1 [16]	0	
11	support the service Explicit Call Transfer (ECT)?	Q.732.7 [11]	0	
12	support the service Call Forwarding Busy (CFB)?	Q.732.2 [43]	0	
13	support the service Call Forwarding No Reply (CFNR)?	Q.732.3	0	
14	support the service Call Forwarding Unconditional (CFU)?	Q.732.4	0	
15	support the service Call Deflection (CD)?	Q.732.5	0	
16	support the service Call Hold (HOLD)?	Q.733.2 [13]	0	
17	support the service Call Waiting (CW)?	Q.732.1	0	
18	support the service Completion of Calls to Busy Subscribers (CCBS)?	Q.733.3 [14]	0	
19	support the Three Party service (3PTY)?	Q.734.2 [17]	0	
20	support the service Completion of Calls on No Reply (CCNR)?	Q.733.5	0	

Table A.4: CLIP

Item	Is the exchange [role] able to	Reference	Statu	Support
			S	
1	[OutlE] omit the calling party number in case of bilateral	3.5.2.3.1/Q.731 [3]	0	
	agreements?			
2	[OutIE] omit the additional calling party number in the	3.5.2.3.1/Q.731 [3]	0	
	generic number in case of bilateral agreements?			
3	[OutlE] omit the calling sub-address in the access transport	3.2.1/Q.731 [3]	c31	
	parameter in case of bilateral agreements?			
4	@[InclE] add a prefix to the calling party number and set its	3.5.2.4.1/Q.731 [3]	0	
	nature of address indicator to "unknown".			
5		3.10/Q.763 [24];	0	
	address presentation restricted indicator of the calling party	3.5.2.4.2/Q.731 [3]		
	number?			
NOTE:	c51: IF A.5/1 THEN m ELSE n/a.		•	
	@: national use.			

Table A.5: CLIR

Item	Is the exchange [role] able to	Reference	Status	Support
1	[OutlE] discard the calling party number if it is received with the address presentation restricted indicator set to "presentation restricted"?	4.5.2.3.2/Q.731 [3]	0	
2	[OutlE] discard the additional calling party number in the generic number if it is received with the address presentation restricted indicator set to "presentation restricted"?	4.5.2.3.2/Q.731 [3]	o	
3	[OutlE] discard the calling sub-address in the access transport parameter if the calling party number is received with the address presentation restricted indicator set to "presentation restricted"?	4.2.1/Q.731 [3]	c31	
NOTE:	c31: IF A.3/1 THEN m ELSE n/a.			

Table A.6: COLP

Item	Is the exchange [role] able to	Reference	Status	Support
1	@[OutIE] add a prefix to the connected number and set its nature of address indicator to "unknown".	5.5.2.3.1/Q.731 [3]	0	
2	[InclE] omit the connected number in case of bilateral agreements?	5.5.2.4.1/Q.731 [3]	0	
3	[InclE] omit the additional connected number in the generic number in case of bilateral agreements?	5.5.2.4.1/Q.731 [3]	0	
4	[IncIE] remove the COL (zero the address signals of the connected number) and set the address presentation restriction indicator to "address not available?	5.5.2.4.1/Q.731 [3]	0	
5	[DLE] deliver the COL?	5.5.2.5.1/Q.731 [3]	m	
6	[DLE] include, if provided by the user, the connected sub-address in the access transport parameter?	5.5.2.5.1/Q.731 [3]	0	
NOTE:	@: national use.			

Table A.7: COLR

Item	Is the exchange [role] able to	Reference	Status	Support
1	[InclE] discard the connected number if it is received with the presentation restriction indicator set to "presentation	6.5.2.4.1/Q.731 [3]	0	
	restricted"?			
2	[InclE] discard the additional connected number in the generic number if it is received with the presentation restriction indicator set to "presentation restricted"?	6.5.2.4.1/Q.731 [3]	0	
3		6.5.2.4.1/Q.731 [3]	0	

Table A.8: Service not supported

Item	Is the exchange [role] able to	Reference	Status	Support
1			c11	
	messages, if the network does not support the TP service?	4.5.2.4.2/Q.733 [38]		
2	[InclE] support correct rejection or processing of CUG calls	1.5.2.4.2;	c22	
	in case of interworking with networks not supporting CUG?	Table 1-1/Q.735 [40]		
3	[OutIE] return an IRS with bit A of the MCID response	7.5.2.3.2/Q.731 [3]	c33	
	indicator set to 0 "MCID not included", if the national			
	network does not support the MCID service?			
NOTE:	c31: IF NOT A.3/5 THEN o ELSE n/a.			
	c32: IF NOT A.3/7 THEN m ELSE n/a.			
	c33: IF NOT A.3/9 THEN o ELSE n/a.			

Table A.9: UUS

Item	Is the exchange [role] able to	Reference	Status	Support
1	support the user-to-user information parameter with at	1.1.2.1; 1.2.2.1;	m	
	least 32 octets as user information?	1.3.2.1/Q.737		
		[39]		
		1.1.2.1; 1.2.2.1;	0	
	l ·	1.3.2.1/Q.737		
	If not 128, specify maximum allowed number.	[39]		
	support implicit request of service UUS1?	1.1/Q.737 [39]	0	
4	support explicit request of service UUS1?	1.1/Q.737 [39]	0	
5	ir a tagairt a can a chairean in a casa a can a fin a c	1.1.5.2.2.2	c51	
	service request or discarding of user-to-user information as	/Q.737 [39]		
	described in 1.1.5.2.5.2/Q.737 [39] .			
6	support service UUS2?	1.2/Q.737 [39]	0	
7	[DLE] deliver user-to-user information after the user has	1.2.2.1/Q.737	c72	
	answered the call?	[39]		
8	support service UUS3?	1.3/Q.737 [39]	0	
NOTE:	c81: IF A.8/4 THEN o ELSE n/a.		•	
	c82: IF A.8/6 THEN o ELSE n/a.			

Table A.10: CUG

Item	Is the exchange [role] able to	Reference	Status	Support
		1/Q.735 [40]	m	
	administration?			
2	support Closed User Group with centralized administration?	1/Q.735 [40]	n/a	
		1.5.2.3.1; 1.5.2.4.1/Q.735 [40]	o	
4	support invocation of CLIR for CUG calls?	1.6.6/Q.735 [40]	О	

Table A.11: SUB

Item	Is the exchange able to	Reference	Status	Support
1	support the maximum 23 octet length of the Sub-address	8.4; 8.7/Q.731 [3]	m	
	parameter?			

Table A.12: MCID

Item	Is the exchange [role] able to	Reference	Status	Support
1	[OLE] provide the calling party sub-address as part of the MCID service?	7.2.1/Q.731 [3]	О	
2	[DLE] store and process the calling party sub-address as part of the MCID service?	7.2.1/Q.731 [3]	0	
3	[DLE] support the registration of the original called number and the redirecting number for MCID when invoking CFB, CFNR, CFU, CD?	7.6.10/Q.731 [3]	0	
4	[OutIE] omit for MCID the calling party number in case of bilateral agreements.	7.5.2.3.1/Q.731 [3]	0	

Table A.13: CONF

Item	Is the exchange [role] able to	Reference	Status	Support
1	support the user notification procedures?	1.5/Q.734 [41]	c11	
2	[OLE] support which maximum number of conference	1.5.2.1.1.2	0	
	participants?	/Q.734 [41]		
NOTE:	c21 IF A.2/6 THEN o ELSE n/a.			

Table A.14: ECT

Item	Is the exchange [role] able to	Reference	Status	Support
1	[Local] store remote user numbers (calling party number/connected number or additional calling party	7.5.2.1.1.1 /Q.732.7 [11]	m	
	number/additional connected number) and send them in the call transfer number when call transfer is performed?			
2	support the loop prevention procedure?	7.2.1; 7.5.2.1.1.2 /Q.732.7 [11]	0	
3	[Local] support the timer T _{ECT} ? If yes, specify the timer value (2-6 s).	7.5.2.1.1.2.1; 7.9/Q.732.7 [11]	c31	
4	[Local] reject the call transfer in case of T _{ECT} timer expiry?	7.5.2.1.1.2.1 /Q.732.7 [11]	c42	
5	[Local] complete the call transfer in case of T _{ECT} timer expiry?	7.5.2.1.1.2.1 /Q.732.7 [11]	c52	
6	[Gateway] omit the call transfer number if the address presentation restriction indicator indicates "presentation restricted"?	7.5.2.3.1; 7.5.2.4.1 /Q.732.7 [11]	О	
7	[IWorkE] support call control interworking between ISUP'97 and protocols not supporting the loop prevention procedure, i.e. return a LOP (response) message with the indication "insufficient information"?	7.7/Q.732.7 [11]	c73	
8	[Local] reject the call transfer in case receipt of LOP messages with the response indicator set to "insufficient information"?	7.5.2.1.1.2.1 /Q.732.7 [11]	c84	
9	[Local] complete the call transfer in case receipt of LOP messages with the response indicator set to "insufficient information"?	7.5.2.1.1.2.1 /Q.732.7 [11]	c94	
NOTE:	c91: IF A.9/2 THEN m ELSE n/a. c92: IF A.9/2 THEN o.2 ELSE n/a. c93: IF A.9/2 THEN o ELSE n/a. c94: IF A.9/2 THEN o.3 ELSE n/a. o.2: It is mandatory to support exactly one of these optio.3: It is mandatory to support exactly one of these option.			

Table A.15: CFB, CFNR, CFU, CD

Item	Is the exchange [role] able to	Reference	Status	Support
1	support the diversion notification procedures?	2.5.2.5.1.2 d)/Q.732 [42]	m	• •
2	support the maximum number of up to 5 diversions for each call? If not 5, specify the maximum allowed number.	Table 2-2/Q.732 [42]	0	
3	[DLE] omit octet 2 of the redirection information if the redirection counter equals 1?	3.45/Q.763 [24]	0	·
4	[DLE] support the usage of the Original redirection reasons in the redirection information parameter with the encoding: 0001 user busy @. 0010 no reply @. 0011 unconditional @?		0	
5	[DLE] include the redirection number in the ACM or CPG?	2.5.2.5.1.2 d)/Q.732 [42]	m	
7	[IncIE] pass on the redirection number if received in an ACM or CPG?	2.5.2.4.1/Q.732 [42]	0	
9	[Local] support the usage of event information with the encoding: 0000100 CFB. 0000101 CFNR. 0000110 CFU?	2.4.2/Q.732 [42]	0	
10	[IntermE] support the transport of event information with the encoding: 0000100 CFB. 0000101 CFNR. 0000110 CFU?	2.4.2/Q.732 [42]	0	
11	[OutIE] omit the original called number in case of bilateral agreements?	2.5.2.3.1/Q.732 [42] 3.5.2.3.1/Q.731 [3]	0	
12	[OutIE] omit the redirecting number in case of bilateral agreements?	2.5.2.3.1/Q.732 [42] 3.5.2.3.1/Q.731 [3]	0	
13	[InclE] omit the redirection number in case of bilateral agreements?	2.5.2.4.1/Q.732 [42] 5.5.2.4.1/Q.731 [3]	0	
14	@[OutlE] add a prefix to the redirection number and set its nature of address indicator to "unknown" (as for COLP A.6/1).	5.5.2.3.1/Q.731 [3]	0	
15	@[InclE] add a prefix to the original called number and set its nature of address indicator to "unknown" (as for CLIP A.4/4).			
16	@[IncIE] add a prefix to the redirecting number and set its nature of address indicator to "unknown" (as for CLIP A.4/4).	3.5.2.4.1/Q.731 [3]	0	
NOTE:	@: national use.			

Table A.16: CFNR, CD

Item	Is the exchange [role] able to	Reference	Status	Support
1	[Local] retain call to the served user until alerting begins at	2.5.2.5.2.2;	0.4	
	the diverted-to user (late release - option A)?	Table 2-2/Q.732 [42]		
2	[Local] clear call to the served user on invocation of call	2.5.2.5.2.2;	0.4	
	diversion (immediate release - option B)?	Table 2-2/Q.732 [42]		
3	[Local] through-connect in both directions immediately after	2.5.2.5.1.2 c) ii)	c31	
	sending the IAM?	/Q.732 [42]		
4	[Local] perform through-connection in both directions at the	2.5.2.5.1.2	c41	
	receipt of ACM or CON?	c) ii)/Q.732 [42]		
5	[Local] support the Call Forwarding No Reply timer?	Table 2-2/Q.732 [42]	c52	
	If yes, specify the timer value.			
NOTE:	o.4: It is mandatory to support exactly one of these option	S.		
c51:	IF A.5/2 THEN o.5 ELSE n/a.			
c52:	IF A.3/13 THEN m ELSE o.			
0.5:	It is mandatory to support at least one of these options.			

Table A.17: HOLD

Item	Is the exchange [role] able to	Reference	Status	Support
	[OLE] support call hold as soon as the calling user has provided all of the information necessary for processing the call?	2.2.1/Q.733 [38]	o	
	[OLE] support call hold by the calling user after alerting has commenced?	2.2.1/Q.733 [38]	c21	
	supply the remote user with an in-band indication in the case of interworking with PSTN?	2.7/Q.733 [38]	0	
NOTE:	c31: IF A. 3/1 THEN m ELSE o.			

Table A.18: CCBS

Item	Is the exchange [role] able to	Reference	Status	Support
1	[Local] support the retain option?	3.1.3 m)/Q.733.3 [14]	0	
2	[OLE] support the maximum number of up to 5 outstanding CCBS requests of a user? If not 5, specify the maximum allowed number.	3.5.1.1.1.1 /Q.733.3 [14]	0	
3	[OLE] include the calling party number in the CCBS request invoke component?	3.5.1.1.1.1 /Q.733.3 [14]	0	·
4	[OLE] treat a second identical activation of CCBS as a new request?	3.5.3.1.2 /Q.733.3 [14]	0.6	
5	[OLE] reject a second identical activation of CCBS?	3.5.3.1.2 /Q.733.3 [14]	0.6	
6	[DLE] support the maximum number of up to 5 queue entries? If not 5, specify the maximum allowed number.	3.5.3.5.1 /Q.733.3 [14]	0	
7	[OLE] initiate the CCBS supplementary service even if no diagnostics is received in the release message with causes #17 or #34?	3.7.1/Q.733.3 [14]	0	
8	[DLE] treat the CCBS call as a "destination B busy upon arrival of CCBS request" in case of interaction between CCBS and CFB?	3.6.10.2.2 c); 3.5.3.5.2 c)/Q.733.3 [14]	0.7	
9	[DLE] forward the CCBS call as a normal call in case of interaction between CCBS and CFB?	3.6.10.2.2 c)/Q.733.3 [14]	0.7	
10	[DLE] release the call with the diagnostics "CCBS possible" when the service is available?	3.5/Q.733.3 [14]	m	
11	[DLE] release the call with the diagnostics "CCBS not possible" if the service is not available?	3.5/Q.733.3 [14]	m	
12	[OLE] support the retention timer CCBS-T1? If yes, specify the timer value (greater than 15 s).	3.9.1/Q.733.3 [14]	m	
13	[OLE] support the CCBS request operation timer CCBS-T2? The value of the timer shall be 10 s.	3.9.1/Q.733.3 [14]	m	
14	[OLE] support the CCBS service duration timer CCBS-T3? If yes, specify the timer value (15-45 min).	3.9.1/Q.733.3 [14]	m	
15	[OLE] support the CCBS recall timer CCBS-T4? If yes, specify the timer value (10-20 s).	3.9.1/Q.733.3 [14]	m	
16	[DLE] support the CCBS service supervision timer CCBS-T7? The value of the timer shall be 60 min.	3.9.2/Q.733.3 [14]	m	
17		3.9.2/Q.733.3 [14]	m	
18	[DLE] support the recall timer CCBS-T9? The value of the timer shall be 30 s.	3.9.2/Q.733.3 [14]	m	
19	[Local] support the interworking supervision timer T _{SUP} ? The value of the timer shall be 60 min.	3.9.3/Q.733.3 [14]	0	
NOTE:	o.6: It is mandatory to support exactly one of these optionso.7: It is mandatory to support exactly one of these options			

Table A.19: CCNR

Item	Is the exchange [role] able to	Reference	Status	Support
1	[Local] support the retain option?	1.3/Q.733.5	О	
2	[OLE] support the maximum number of up to 5 outstanding	5.1.1.1.1	О	
	CCNR requests of a user?	/Q.733.5		
	If not 5, specify the maximum allowed number.			
3	[OLE] include the calling party number in the CCNR request	5.1.1.1.1	o	
	invoke component?	/Q.733.5		
4	[OLE] treat a second identical activation of CCNR as a new	5.3.1.2	0.6	
	request?	/Q.733.5		
5	[OLE] reject a second identical activation of CCNR?	5.3.1.2	0.6	
		/Q.733.5		
6	[DLE] support the maximum number of up to 5 queue	5.3.5.1	o	
	entries?	/Q.733.5		
	If not 5, specify the maximum allowed number.			
7	[OLE] initiate the CCNR supplementary service even if no	7.1/Q.733.5	0	
	CCNR possible indicator is received in the ACM/CPG.			
8	[DLE] treat the CCNR call as a "destination B no reply upon	6.10.2.2 c);	o.7	
	arrival of CCNR request" in case of interaction between	5.3.5.2		
	CCNR and CFNR?	d)/Q.733.5		
9	[DLE] forward the CCNR call as a normal call in case of	6.10.2.2	o.7	
	interaction between CCNR and CFNR?	c)/Q.733.5		
10	[DLE] release the call with the diagnostics "CCNR possible"	5/Q.733.5	m	
	when the service is available?			
11	[DLE] set the ACM/CPG with the indicator "CCNR not	5/Q.733.5	m	
	possible" if the service is not available?			
12	[OLE] support the retention timer CCNR-T1?	9.1/Q.733.5	m	
	If yes, specify the timer value (greater than 15 s).			
13		9.1/Q.733.5	m	
	The value of the timer shall be a few seconds.	0.4/0.700.5		
14	[OLE] support the CCNR service duration timer CCNR-T3?	9.1/Q.733.5	m	
4.5	If yes, specify the timer value (60-180 min).	0.4/0.700.5		
15	[OLE] support the CCNR recall timer CCNR-T4?	9.1/Q.733.5	m	
16	If yes, specify the timer value (10-20 s). [DLE] support the CCNR service supervision timer CCNR-	9.2/Q.733.5	m	
16	[DLE] support the CCNR service supervision timer CCNR- T7?	9.2/Q.733.5	m	
17	The value of the timer shall be 190 min. [DLE] support the destination B idle guard timer CCNR-T8?	9.2/Q.733.5	m	
' '	If yes, specify the timer value (less than 15 s).	a.2/Q.133.3	'''	
18	[DLE] support the recall timer CCNR-T9?	9.2/Q.733.5	m	1
10	The value of the timer shall be 20 s + some seconds for	J.Z/Q.133.3	'''	
	CCNR call set-up.			
19	[Local] support the interworking supervision timer T _{SUP} ?	9.3/Q.733.5	0	
19	The value of the timer shall be 190 min.	J.J/Q.1 JJ.J	۲	
NOTE:	o.6: It is mandatory to support exactly one of these options.	<u> </u>	1 1	
NOTE.	o.7: It is mandatory to support exactly one of these options.			
	o.r. it is manuatory to support exactly one of these options.			

Annex B (normative): PIXIT proforma for ISDN User Part (ISUP) '97 supplementary services

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PIXIT proforma in this annex so that it can be used for its intended purposes and may further publish the completed PIXIT.

(This annex forms an integral part of this recommendation).

The pixit proforma enlists all the parameters and data that are needed to configure the ATS (and/or the IUT) before executing the testing campaign. It is to be filled out as part of the preparation for testing by e.g. The test client. The testing laboratory then inputs this data into the implementation of the ATS. More information about the purpose and intent of the PIXIT can be found in ISO/IEC 9646-5 [31].

B.1 Identification summary

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

B.2 Abstract test suite summary

Protocol Specification:	ITU-T Recommendation Q.730 [1]
ATS Specification:	ISUP_97_Suppl_Services
Abstract Test Method:	Distributed multiparty test method

B.3 Test laboratory

Test Laboratory Identification:	
Test Laboratory Manager:	
Test Laboratory contact:	
Means of Testing:	
Instructions for completion:	

B.4 Client identification

Client Identification:	
Client Test manager:	
Test Facilities required:	

B.5 System under test

Name:	
Version:	
SCS Number:	
Machine configuration:	
Operating system identification:	
IUT Identification:	
PICS Reference for IUT:	
Limitations of the SUT:	
Environmental conditions:	

B.6 Ancillary protocols

Protocol name	Version No.	PICS Ref.	PIXIT Ref.	PCTR Ref.
MTP				
Access				
protocol				

B.7 Protocol information for ISUP

B.7.1 Protocol identification

Name:	ISDN User Part (ISUP) '97 supplementary services
Version:	
PICS references:	

B.7.2 IUT information - PIXIT proforma tables

The pixit information requested in the following tables is needed to provide the necessary information for the execution of the testing campaign. It is assumed that one exchange role is tested at one time. The answers to some pixit questions are related to an individual role. A typical example is the nature of address indicator of the called party number value, which is different in the case of international gateways and national exchanges. That is why if several roles are to be tested, one completed copy of the pixit proforma for each role is needed.

B.7.2.1 General configuration

Signalling point codes

Two signalling point codes - one incoming and one outgoing have to be defined for the IUT. For an international intermediate exchange the incoming and outgoing point codes are the same, whereas for an international gateway exchange there are two different signalling point codes because they belong to two separate networks (international and national).

Circuit identification codes

From a formal point of view, in most test cases it is sufficient to use only one CIC per signalling link in order to execute the testing. From a practical point of view the tester could select any CIC within a range of CIC's belonging to a route, when initiating a call setup. The tester can, however, use the first CIC in the circuit group, without reducing the generality. The ATS requires the first CIC in the group as an answer to the PIXIT questions B.1/9 and B.1/10 in table B.1.

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_SPA_R	BIT_14	SS No.7 Signalling point code of the SUT on the AB interface (right side)	
2	TSP_SPA_L	BIT_14	SS No.7 Signalling point code of the SUT on the AC interface (left side)	
3	TSP_SPB	BIT_14	SS No.7 Signalling point code of the tester on the AB interface	
4	TSP_SPC	BIT_14	SS No.7 Signalling point code of the tester on the AC interface	
5	TSP_NI_R	BIT_2	SS No.7 Network indicator on the AB interface	
6	TSP_NI_L	BIT_2	SS No.7 Network indicator on the AC interface	
7	TSP_SLS_R	BIT_4	SS No.7 Signalling link selection on the AB interface	
8	TSP_SLS_L	BIT_4	SS No.7 Signalling link selection on the AC interface	
9	TSP_CIC_R	BIT_12	SS No.7 Circuit identification code on the AB interface	
10	TSP_CIC_L	BIT_12	SS No.7 Circuit identification code on the AC interface	
11	TSP_NB_CICS	INTEGER	Number of SS No.7 circuit identification codes on the AB and AC interfaces	

Table B.1: General configuration

B.7.2.2 Parameter values

Subscriber numbers

The subscriber numbers have to be specified for each role which is to be tested. All numbers are by default national (significant) numbers, having the nature of address indicator set accordingly. International numbers are built depending on the specific test situation by either using the own network's country code (answer to the pixit question b.2/9) or a foreign country code (answer to the pixit question b.2/10). The nature of address indicator for these numbers is set to "international".

Table B.2: Subscriber number parameter values

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_Nb_A	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP A	
2	TSP_Nb_B	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP B	
3	TSP_Nb_C	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP C	
4	TSP_Nb_D	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP D, BEYOND SP B.	
5	TSP_Nb_D2	HEX_N	ANOTHER SUBSCRIBER NUMBER LOCATED AT SP D, BEYOND SP B.	
6	TSP_Nb_D3	HEX_N	ANOTHER SUBSCRIBER NUMBER LOCATED AT SP D, BEYOND SP B.	
7	TSP_Nb_D4	HEX_N	ANOTHER SUBSCRIBER NUMBER LOCATED AT SP D, BEYOND SP B.	
8	TSP_Nb_E	HEX_N	SUBSCRIBER NUMBER LOCATED AT SP E, BEYOND SP C.	
9	TSP_ownCC	HEX_N	COUNTRY CODE OF THE OWN NETWORK	
10	TSP_foreignCC	HEX_N	COUNTRY CODE OF A FOREIGN NETWORK	
11	TSP_prefix	HEX_N	@ PREFIX ADDED TO AN INTERNATIONAL NUMBER	

Table B.3: Additional number parameter values

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_Nb_A_default	HEX_N	Subscriber number which will be provided as default number by the network for UNI at SP A (IUT)	
2	TSP_Nb_B_default	HEX_N	Subscriber number which will be provided as default number by the network for UNI at SP B	
3	TSP_GenNb_B	HEX_N	Additional subscriber number located at SP B	
4	TSP_Nb_C_avail	HEX_N	Information made available by the network in case of MCID for the UNI at SP C (the only information the gateway has, e.g. trunk number)	
5	TSP_Nb_C_default	HEX_N	Subscriber number which will be provided as default number by the network for UNI at SP C	
6	TSP_Nb_C_ incomplete	HEX_N	Subscriber number which will be provided as incomplete number by the network for UNI at SP C	
7	TSP_GenNb_C	HEX_N	Additional subscriber number located at SP C	
8	TSP_Nb_A_MSN	HEX_N	Multiple subscriber number for the subscriber located at SP A	
9	TSP_Nb_B_DDI	HEX_N	Subscriber number located at SP B, with DDI	
10	TSP_Nb_B_MSN	HEX_N	Multiple subscriber number for the subscriber located at SP B	
11	TSP_Nb_C_Non_ ISUP	HEX_N	Subscriber number for which the call will be routed to SP C, on a non-ISUP route	
12	TSP_Nb_A_ sameCUG_noIA	HEX_N	Subscriber number located at SP A belonging to the same CUG as the calling party at SP B without incoming access	
13	TSP_Nb_A_ sameCUG_IA	HEX_N	Subscriber number located at SP A belonging to the same CUG as the calling party at SP B with incoming access	
14	TSP_Nb_A_ otherCUG_noIA	HEX_N	Subscriber number located at SP A belonging to a different CUG as the calling party at SP B without incoming access	
15	TSP_Nb_A_ otherCUG_IA	HEX_N	Subscriber number located at SP A belonging to a different CUG as the calling party at SP B with incoming access	

Table B.4: Other supplementary services parameter values

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_sub_address_	OCT_1	Length of the sub-address	
	length			
2	TSP_Sub_A	OCT_N	Sub-address of UNI at SP A (IUT)	
3	TSP_Sub_B	OCT_N	Sub-address of UNI at SP B (right side)	
4	TSP_Sub_C	OCT_N	Sub-address of UNI at SP C (left side)	
5	TSP_Sub_D	OCT_N	Sub-address of UNI at SP D (beyond right side SP B)	
6	TSP_Sub_E	OCT_N	Sub-address of UNI at SP E (beyond left side SP C)	
7	TSP_CUGIC_Ntwld	HEX_4	Network identity of the Closed user group interlock code	
8	TSP_CUGIC_Ntwld_int	HEX_4	International Network identity of the Closed user group interlock code	
9	TSP_CUGIC_ BinCode	HEX_4	Binary code of the Closed user group interlock code	
10	TSP_CUGIC_ BinCode_int	HEX_4	International Binary code of the Closed user group interlock code	
11	TSP_CTRef	OCT_1	Call transfer reference	

B.7.2.3 Timer values

Table B.5: Timer values

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_T_WAIT	INTEGER	Wait for some event timer (max 30 s)	
2	TSP_T_GUARD	INTEGER	Guard timer for the test case (min 30 s)	
3	TSP_tol	INTEGER	Tolerance for ISUP timers (in percent)	
4	TSP_T_LOCAL	INTEGER	Internal timer for testing CCBS-T8 timer (1 s)	

B.7.2.4 Other information

Table B.6: Other information

Item	Parameter	Parameter Type	Explanation	Value
1	TSP_maxB_ channel	INTEGER	Maximum number of B channels at the access side (needed for call waiting)	
2	TSP_Orig_ISDN_ access	BIT_1	Use of ISDN access at origination ("1"B) or non-ISDN access ("0"B) in the Forward call indicators	
3	TSP_Dest_ISDN_ access	BIT_1	Use of ISDN access at termination ("1"B) or non-ISDN access ("0"B) in the Backward call indicators	
4	TSP_inter national_call	BOOLEAN	Set up an international call (TRUE) or a national call (FALSE) - used in the International/national call indicator in the Forward call indicators	
5	TSP_inter national_CdPN	BOOLEAN	Use an international (TRUE) or a national significant number (FALSE) Called party number	
6	TSP_PDC	INTEGER	Propagation delay for incoming and outgoing routes	
7	TSP_PDC_X	INTEGER	Propagation delay on the incoming route (in ms)	
8	TSP_PDC_D	INTEGER	Propagation delay on the outgoing route (in ms)	

Annex C (normative): Protocol Conformance Test Report (PCTR) Proforma for ISDN User Part (ISUP) '97 supplementary services

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PCTR proforma in this annex so that it can be used for its intended purposes and may further publish the completed PCTR.

(This annex forms an integral part of this Recommendation).

The PCTR proforma is based on ISO/IEC 9646-5 [31]. Any additional information needed can be found in the present document.

C.1 Identification summary

C.1.1 Protocol conformance test report

PCTR Number:	
PCTR Date:	
Test Laboratory Identification:	
Test Laboratory Manager:	
Signature:	

C.1.2 IUT identification

Name:		
Version:		
Protocol specification:		
PICS:		
Previous PCTR if any:		

C.1.3 Testing environment

PIXIT Number:	
ATS Specification:	
Abstract Test Method:	Distributed multiparty test method
Means of Testing identification:	
Date of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

C.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obliga of the test laboratory and the client, may be given here. Such information may include restriction on the publican the report.	tion of
C.1.5 Comments	
Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, example, to note disagreement between the two parties.	

C.2 IUT Conformance status

This IUT has/has not been shown by conformance assessment to be non-conforming to the referenced protocol specification.

Strike the appropriate words in this sentence. If the PICS for this IUT is consistent with the static conformance requirements (as specified in clause c.3 in this report) and there are no "fail" verdicts to be recorded (in clause c.6) strike the word "has/". Otherwise strike the words "/has not".

C.3 Static conformance summary

The PICS for this IUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

C.4 Dynamic conformance summary

The test campaign did/did not reveal errors in the IUT.

Strike the appropriate words in this sentence. If there are no "fail" verdicts to be recorded (in clause c.6 of this report) strike the word "did/". Otherwise strike the words "/did not".

Summary of the results	of groups of test:		
		 	 •••••

C.5 Static conformance re	eview	report
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If clause C.3 indicates non-conformance, this subclause itemizes the mismatches between the PICS and the static conformance requirements of the specified protocol specification.				

C.6 Test campaign report

Table C.1: Test campaign report - CLIP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CLIP/ISS_V_1_1				
CLIP/ISS_V_1_2				
CLIP/ISS_V_1_3				
CLIP/ISS_V_1_4				
CLIP/ISS_V_1_5				
CLIP/ISS_V_1_6				
CLIP/ISS_V_1_7_a				
CLIP/ISS_V_1_7_b				
CLIP/ISS_V_1_8				
CLIP/ISS_V_1_9				
CLIP/ISS_V_1_10				
CLIP/ISS_V_1_11				
CLIP/ISS_V_1_12				
CLIP/ISS_V_1_13				
CLIP/ISS_I_1_14				
CLIP/ISS_V_1_15				
CLIP/ISS_V_1_16				
CLIP/ISS_I_1_17				
CLIP/ISS_I_1_18				
CLIP/ISS_V_1_19				

Table C.2: Test campaign report - CLIR

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CLIR/ISS_V_2_1				,
CLIR/ISS_V_2_2				
CLIR/ISS_V_2_3				
CLIR/ISS_V_2_4				
CLIR/ISS_V_2_5				
CLIR/ISS_V_2_6				
CLIR/ISS_V_2_7_a				
CLIR/ISS_V_2_7_b				
CLIR/ISS_V_2_8				
CLIR/ISS_V_2_9				
CLIR/ISS_V_2_10				
CLIR/ISS_V_2_11				

Table C.3: Test campaign report - COLP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
COLP/ISS_V_3_1				
COLP/ISS_V_3_2_a				
COLP/ISS_V_3_2_b				
COLP/ISS_V_3_2_c				
COLP/ISS_V_3_3_a				
COLP/ISS_V_3_3_b				
COLP/ISS_V_3_4_a				
COLP/ISS_V_3_4_b				
COLP/ISS_I_3_5_a				
COLP/ISS_I_3_5_b				
COLP/ISS_V_3_6_a				
COLP/ISS_V_3_6_b				
COLP/ISS_V_3_7_a				
COLP/ISS_V_3_7_b				
COLP/ISS_V_3_8_a				
COLP/ISS_V_3_8_b				
COLP/ISS_V_3_9_a				
COLP/ISS_V_3_9_b				
COLP/ISS_I_3_10_a				
COLP/ISS_I_3_10_b				
COLP/ISS_I_3_10_c				
COLP/ISS_I_3_10_d				
COLP/ISS_V_3_11_a				
COLP/ISS_V_3_11_b				
COLP/ISS_V_3_12_a				
COLP/ISS_V_3_12_b				
COLP/ISS_V_3_13_a				
COLP/ISS_V_3_13_b				
COLP/ISS_V_3_14_a				
COLP/ISS_V_3_14_b				
COLP/ISS_V_3_15_a				
COLP/ISS_V_3_15_b				
COLP/ISS_V_3_16_a				
COLP/ISS_V_3_16_b				
COLP/ISS_V_3_17_a				
COLP/ISS_V_3_17_b				
COLP/ISS_V_3_18_a				
COLP/ISS_V_3_18_b				

Table C.4: Test campaign report - COLR

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
COLR/ISS_V_4_1_a				
COLR/ISS_V_4_1_b				
COLR/ISS_I_4_2_a				
COLR/ISS_I_4_2_b				
COLR/ISS_V_4_3_a				
COLR/ISS_V_4_3_b				
COLR/ISS_V_4_4_a				
COLR/ISS_V_4_4_b				
COLR/ISS_V_4_5_a				
COLR/ISS_V_4_5_b				
COLR/ISS_I_4_6_a				
COLR/ISS_I_4_6_b				
COLR/ISS_V_4_7_a				
COLR/ISS_V_4_7_b				
COLR/ISS_V_4_8_a				
COLR/ISS_V_4_8_b				
COLR/ISS_V_4_9_a				
COLR/ISS_V_4_9_b				
COLR/ISS_V_4_10_a				
COLR/ISS_V_4_10_b				
COLR/ISS_V_4_11_a				
COLR/ISS_V_4_11_b				
COLR/ISS_V_4_12_a				
COLR/ISS_V_4_12_b				

Table C.5: Test campaign report - TP

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
TP/ISS_V_5_1				
TP/ISS_V_5_2				
TP/ISS_I_5_3				
TP/ISS_V_5_4_a				
TP/ISS_V_5_4_b				
TP/ISS_V_5_5				
TP/ISS_V_5_6				
TP/ISS_V_5_7				
TP/ISS_V_5_8				
TP/ISS_V_5_10				
NO TP/ISS I 5 9				

Table C.6-1-1: Test campaign report - UUS1 implicit

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
UUS/UUS1_I/ISS_V_6_1_1				
UUS/UUS1_I/ISS_V_6_1_2_a				
UUS/UUS1_I/ISS_V_6_1_2_b				
UUS/UUS1_I/ISS_I_6_1_3_a				
UUS/UUS1_I/ISS_I_6_1_3_b				
UUS/UUS1_I/ISS_I_6_1_4_a				
UUS/UUS1_I/ISS_I_6_1_4_b				
UUS/UUS1_I/ISS_V_6_1_5_a				
UUS/UUS1_I/ISS_V_6_1_5_b				
UUS/NO_UUS1_I/ISS_I_6_1_6_a				
UUS/NO_UUS1_I/ISS_I_6_1_6_b				

Table C.6-1-2: Test campaign report - UUS1 explicit

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
UUS/UUS1_E/ISS_V_6_1_7_a				
UUS/UUS1_E/ISS_V_6_1_7_b				
UUS/UUS1_E/ISS_I_6_1_8_a				
UUS/UUS1_E/ISS_I_6_1_8_b				
UUS/UUS1_E/ISS_I_6_1_9_a				
UUS/UUS1_E/ISS_I_6_1_9_b				
UUS/UUS1_E/ISS_I_6_1_10				
UUS/UUS1_E/ISS_V_6_1_11_a				
UUS/UUS1_E/ISS_V_6_1_11_b				
UUS/UUS1_E/ISS_V_6_1_13_a				
UUS/UUS1_E/ISS_V_6_1_13_b				
UUS/UUS1_E/ISS_I_6_1_14_a				
UUS/UUS1_E/ISS_I_6_1_14_b				
UUS/UUS1_E/ISS_V_6_1_15_a				
UUS/UUS1_E/ISS_V_6_1_15_b				
UUS/UUS1_E/ISS_V_6_1_17_a				
UUS/UUS1_E/ISS_V_6_1_17_b				
UUS/UUS1_E/ISS_V_6_1_18				
UUS/UUS1_E/ISS_V_6_1_19_a				
UUS/UUS1_E/ISS_V_6_1_19_b				
UUS/UUS1_E/ISS_V_6_1_20_a				
UUS/UUS1_E/ISS_V_6_1_20_b				
UUS/UUS1_E/ISS_V_6_1_21				
UUS/UUS1_E/ISS_V_6_1_22				
UUS/UUS1_E/ISS_V_6_1_23				
UUS/UUS1_E/ISS_V_6_1_24				
UUS/NO_UUS1_E/ISS_I_6_1_12_a				
UUS/NO_UUS1_E/ISS_I_6_1_12_b				
UUS/NO_UUS1_E/ISS_I_6_1_16_a				
UUS/NO_UUS1_E/ISS_I_6_1_16_b				
UUS/NO_UUS1_E/ISS_I_6_1_16_c				

Table C.6-2: Test campaign report - UUS2

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
UUS/UUS2/ISS_V_6_2_1				
UUS/UUS2/ISS_V_6_2_2_a				
UUS/UUS2/ISS_V_6_2_2_b				
UUS/UUS2/ISS_V_6_2_3				
UUS/UUS2/ISS_V_6_2_6_a				
UUS/UUS2/ISS_V_6_2_6_b				
UUS/UUS2/ISS_V_6_2_7				
UUS/UUS2/ISS_I_6_2_9_a				
UUS/UUS2/ISS_I_6_2_9_b				
UUS/UUS2/ISS_V_6_2_10				
UUS/UUS2/ISS_I_6_2_11				
UUS/UUS2/ISS_I_6_2_13				
UUS/UUS2/ISS_V_6_2_14_a				
UUS/UUS2/ISS_V_6_2_14_b				
UUS/UUS2/ISS_V_6_2_15_a				
UUS/UUS2/ISS_V_6_2_15_b				
UUS/UUS2/ISS_V_6_2_16_a				
UUS/UUS2/ISS_V_6_2_16_b				
UUS/NO_UUS2/ISS_I_6_2_4		_		
UUS/ NO_UUS2/ISS_I_6_2_5				
UUS/ NO_UUS2/ISS_I_6_2_8_a				
UUS/ NO_UUS2/ISS_I_6_2_8_b				
UUS/ NO_UUS2/ISS_I_6_2_12				

Table C.6-3: Test campaign report - UUS3

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
UUS/UUS3/ISS_V_6_3_1				,
UUS/UUS3/ISS_V_6_3_2				
UUS/UUS3/ISS_V_6_3_3_a				
UUS/UUS3/ISS_V_6_3_3_b				
UUS/UUS3/ISS_V_6_3_4				
UUS/UUS3/ISS_V_6_3_7_a				
UUS/UUS3/ISS_V_6_3_7_b				
UUS/UUS3/ISS_V_6_3_8				
UUS/UUS3/ISS_V_6_3_10_a				
UUS/UUS3/ISS_V_6_3_10_b				
UUS/UUS3/ISS_V_6_3_11				
UUS/UUS3/ISS_I_6_3_12				
UUS/UUS3/ISS_I_6_3_13				
UUS/UUS3/ISS_V_6_3_14				
UUS/UUS3/ISS_V_6_3_15				
UUS/UUS3/ISS_V_6_3_16				
UUS/UUS3/ISS_V_6_3_17				
UUS/NO_UUS3/ISS_I_6_3_5_a				
UUS/NO_UUS3/ISS_I_6_3_5_b				
UUS/NO_UUS3/ISS_I_6_3_6_a				
UUS/NO_UUS3/ISS_I_6_3_6_b				
UUS/NO_UUS3/ISS_I_6_3_9_a				
UUS/NO_UUS3/ISS_I_6_3_9_b				

Table C.7: Test campaign report - CUG

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CUG/ISS_V_7_1				
CUG/ISS_V_7_2				
CUG/ISS_V_7_3				
CUG/ISS_V_7_6				
CUG/ISS_V_7_7				
CUG/ISS_V_7_8				
CUG/ISS_V_7_9				
CUG/ISS_V_7_10				
CUG/ISS_V_7_11				
CUG/ISS_V_7_12				
CUG/ISS_V_7_13				
CUG/ISS_V_7_14				
CUG/ISS_V_7_15				
CUG/ISS_V_7_16				
CUG/ISS_V_7_17				
CUG/ISS_V_7_18				
CUG/ISS_V_7_19				
CUG/ISS_V_7_20				
CUG/ISS_V_7_21				
CUG/ISS_I_7_22				
CUG/ISS_I_7_23				
NO_CUG/ISS_I_7_4				
NO_CUG/ISS_I_7_5				

Table C.8: Test campaign report - SUB

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
SUB/ISS_V_8_1				
SUB/ISS_V_8_2				
SUB/ISS_V_8_3				
SUB/ISS_I_8_4				
SUB/ISS_V_8_5				

Table C.9: Test campaign report - MCID

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
MCID/ISS_V_9_1				
MCID/ISS_V_9_2				
MCID/ISS_V_9_3				
MCID/ISS_V_9_5_a				
MCID/ISS_V_9_5_b				
MCID/ISS_V_9_6_a				
MCID/ISS_V_9_6_b				
MCID/ISS_V_9_8				
MCID/ISS_I_9_9				
MCID/ISS_V_9_10_a				
MCID/ISS_V_9_10_b				
MCID/ISS_V_9_11				
MCID/ISS_I_9_12_a				
MCID/ISS_I_9_12_b				
MCID/ISS_I_9_13				
MCID/ISS_V_9_14				
MCID/ISS_V_9_15_a				
MCID/ISS_V_9_15_b				
MCID/ISS_V_9_16				
NO_MCID/ISS_I_9_4				
NO_MCID/ISS_I_9_7				

Table C.10: Test campaign report - CONF

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CONF/ISS_V_10_1				,
CONF/ISS_V_10_2				
CONF/ISS_V_10_3_a				
CONF/ISS_V_10_3_b				
CONF/ISS_V_10_4				
CONF/ISS_V_10_5				
CONF/ISS_V_10_6				
CONF/ISS_V_10_7				
CONF/ISS_V_10_8				
CONF/ISS_V_10_9				
CONF/ISS_V_10_10				
CONF/ISS_I_10_11				
CONF/ISS_I_10_12				
CONF/ISS_V_10_13_a				
CONF/ISS_V_10_13_b				
CONF/ISS_V_10_14				
CONF/ISS_V_10_15				
CONF/ISS_V_10_16				

Table C.11: Test campaign report - ECT

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
ECT/ISS_V_11_1_a				Siddoo Ciry
ECT/ISS_V_11_1_b				
ECT/ISS_V_11_2_a				
ECT/ISS_V_11_2_b				
ECT/ISS_V_11_3_a				
ECT/ISS_V_11_3_b				
ECT/ISS_V_11_4_a				
ECT/ISS_V_11_4_b				
ECT/ISS_V_11_5				
ECT/ISS_V_11_6				
ECT/ISS_I_11_7				
ECT/ISS_I_11_8				
ECT/ISS_V_11_9				
ECT/ISS_V_11_10				
ECT/ISS_V_11_11				
ECT/ISS_V_11_12				
ECT/ISS_V_11_13				
ECT/ISS_V_11_14_a				
ECT/ISS_V_11_14_b				
ECT/ISS_V_11_15				
ECT/ISS_V_11_16				
ECT/ISS_V_11_17				
ECT/ISS_V_11_18				
ECT/ISS_V_11_19				
ECT/ISS_V_11_20_a				
ECT/ISS_V_11_20_b				
ECT/ISS_V_11_21_a				
ECT/ISS_V_11_21_b				
ECT/ISS_V_11_22_a				
ECT/ISS_V_11_22_b				
ECT/ISS_V_11_23_a				
ECT/ISS_V_11_23_b				
ECT/ISS_V_11_24				
ECT/ISS_V_11_25				
ECT/ISS_V_11_26_a				
ECT/ISS_V_11_26_b				
ECT/ISS_V_11_27_a				
ECT/ISS_V_11_27_b				
ECT/ISS_V_11_28				
ECT/ISS_V_11_29				
ECT/ISS_V_11_30				

Table C.12: Test campaign report - CDIV

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CDIV/ISS_V_12_1_a				,
CDIV/ISS_V_12_1_b				
CDIV/ISS_V_12_1_c				
CDIV/ISS_V_12_2_a				
CDIV/ISS_V_12_2_b				
CDIV/ISS_V_12_2_c				
CDIV/ISS_V_12_2_d				
CDIV/ISS_V_12_3				
CDIV/ISS_V_12_4_a				
CDIV/ISS_V_12_4_b				
CDIV/ISS_V_12_4_c				
CDIV/ISS_V_12_5				
CDIV/ISS_I_12_6 CDIV/ISS_I_12_7				
CDIV/ISS_I_12_/ CDIV/ISS_I_12_8				
CDIV/ISS_I_12_8 CDIV/ISS_V_12_9_a				
CDIV/ISS_V_12_9_a CDIV/ISS_V_12_9_b				
CDIV/ISS_V_12_9_0 CDIV/ISS_V_12_10				
CDIV/ISS_I_12_10 CDIV/ISS_I_12_11_a				
CDIV/ISS_I_12_11_b				
CDIV/ISS_I_12_11_c				
CDIV/ISS_V_12_12_a				
CDIV/ISS_V_12_12_b				
CDIV/ISS_V_12_12_c				
 CDIV/ISS_V_12_13_a				
CDIV/ISS_V_12_13_b				
CDIV/ISS_V_12_14_a				
CDIV/ISS_V_12_14_b				
CDIV/ISS_V_12_15_a				
CDIV/ISS_V_12_15_b				
CDIV/ISS_V_12_15_c				
CDIV/ISS_V_12_16_a				
CDIV/ISS_V_12_16_b				
CDIV/ISS_V_12_17				
CDIV/ISS_V_12_18				
CDIV/ISS_V_12_19				
CDIV/ISS_V_12_20				
CDIV/ISS_V_12_21				
CDIV/ISS_V_12_22 CDIV/ISS_V_12_23				
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CDIV/ISS_V_12_26_c				
CDIV/ISS_V_12_20_0 CDIV/ISS_V_12_27				
CDIV/ISS_V_12_28_a				
CDIV/ISS_V_12_28_b				
CDIV/ISS_V_12_29				
CDIV/ISS_V_12_30				
CDIV/ISS_V_12_31				
CDIV/ISS_V_12_32				
 CDIV/ISS_V_12_33				
 CDIV/ISS_V_12_34				
 CDIV/ISS_V_12_35				
CDIV/ISS_V_12_36				
CDIV/ISS_V_12_37				
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ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CDIV/ISS_V_12_38				
CDIV/ISS_V_12_39				
CDIV/ISS_V_12_40_a				
CDIV/ISS_V_12_40_b				
CDIV/ISS_V_12_40_c				
CDIV/ISS_V_12_40_d				
CDIV/ISS_V_12_40_e				
CDIV/ISS_V_12_41_a				
CDIV/ISS_V_12_41_b				
CDIV/ISS_V_12_42				
CDIV/ISS_V_12_43_a				
CDIV/ISS_V_12_43_b				
CDIV/ISS_V_12_44				
CDIV/ISS_V_12_45				
CDIV/ISS_V_12_46				
CDIV/ISS_V_12_47				
CDIV/ISS_V_12_48				
CDIV/ISS_V_12_49_a				
CDIV/ISS_V_12_49_b				
CDIV/ISS_V_12_49_c				

Table C.13: Test campaign report - HOLD

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
HOLD/ISS_V_13_1				
HOLD/ISS_V_13_2				
HOLD/ISS_V_13_3				
HOLD/ISS_V_13_4				
HOLD/ISS_V_13_5				
HOLD/ISS_V_13_6_a				
HOLD/ISS_V_13_6_b				
HOLD/ISS_V_13_7_a				
HOLD/ISS_V_13_7_b				
HOLD/ISS_V_13_8				
HOLD/ISS_V_13_9				
HOLD/ISS_V_13_10				
HOLD/ISS_V_13_11				
HOLD/ISS_V_13_12				

Table C.14: Test campaign report - CW

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CW/ISS_V_14_1				
CW/ISS_V_14_2				
CW/ISS_V_14_3				
CW/ISS_V_14_4				
CW/ISS_V_14_5				
CW/ISS_V_14_6				
CW/ISS_V_14_7				
CW/ISS_V_14_8				

Table C.15-1: Test campaign report - CCBS - ISUP part

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CCBS/ISUP/ISS_V_15_1				
CCBS/ISUP/ISS_V_15_2				
CCBS/ISUP/ISS_V_15_3				
CCBS/ISUP/ISS_V_15_4				
CCBS/ISUP/ISS_V_15_5				
CCBS/ISUP/ISS_V_15_6				
CCBS/ISUP/ISS_V_15_7				
CCBS/ISUP/ISS_V_15_8				
CCBS/ISUP/ISS_V_15_9				
CCBS/ISUP/ISS_V_15_10				
CCBS/ISUP/ISS_V_15_11				
CCBS/ISUP/ISS_V_15_12				
CCBS/ISUP/ISS_V_15_13				
CCBS/ISUP/ISS_V_15_14				
CCBS/ISUP/ISS_V_15_15				

Table C.15-2: Test campaign report - CCBS - ASE part

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
CCBS/ASE/ISS_TC_V_15_1				
CCBS/ASE/ISS_TC_I_15_2				
CCBS/ASE/ISS_TC_V_15_3				
CCBS/ASE/ISS_TC_V_15_4				
CCBS/ASE/ISS_TC_I_15_5				
CCBS/ASE/ISS_TC_V_15_6_a				
CCBS/ASE/ISS_TC_V_15_6_b				
CCBS/ASE/ISS_TC_V_15_7				
CCBS/ASE/ISS_TC_I_15_8				
CCBS/ASE/ISS_TC_V_15_9				
CCBS/ASE/ISS_TC_V_15_10				
CCBS/ASE/ISS_TC_V_15_11				
CCBS/ASE/ISS_TC_V_15_12				
CCBS/ASE/ISS_TC_I_15_13				
CCBS/ASE/ISS_TC_I_15_14				
CCBS/ASE/ISS_TC_I_15_15				
CCBS/ASE/ISS_TC_I_15_16				
CCBS/ASE/ISS_TC_I_15_17				
CCBS/ASE/ISS_TC_I_15_18				
CCBS/ASE/ISS_TC_I_15_19				
CCBS/ASE/ISS_TC_I_15_20				
CCBS/ASE/ISS_TC_I_15_21				

Table C.16: Test campaign report - 3PTY

ATS Reference	Selected [Y/N]	Run [Y/N]	Verdict [P/F/I]	Observations (Reference to any observations made in clause C.7)
THREE_PTY/ISS_V_16_1				
THREE_PTY/ISS_V_16_2_a				
THREE_PTY/ISS_V_16_2_b				
THREE_PTY/ISS_V_16_3_a				
THREE_PTY/ISS_V_16_3_b				
THREE_PTY/ISS_V_16_4_a				
THREE_PTY/ISS_V_16_4_b				
THREE_PTY/ISS_V_16_5_a				
THREE_PTY/ISS_V_16_5_b				
THREE_PTY/ISS_V_16_6_a				
THREE_PTY/ISS_V_16_6_b				
THREE_PTY/ISS_V_16_7				
THREE_PTY/ISS_V_16_8				
THREE_PTY/ISS_V_16_9				

C.7	Observations				
Additional	information relevant to the techn	ical content of the	e pctr is given here	·.	
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Annex D (normative): ATS ISDN User Part (ISUP) '97 Supplementary Services

(This annex forms an integral part of this Recommendation).

D.1 ATS code

The ATS is written in TTCN according to ISO/IEC 9646-3 [30].

Because the ATS was developed on a TTCN tool, the TTCN tables are not completely referenced in the table of contents of the present document. The ATS itself contains a subclause test suite overview, which provides additional information about the ATS. The ATS is not included in this annex; it is available on electronic media.

The ATS is available from ITU-T both in graphical form (TTCN GR format) in a post script file ("RSL.PS") and in machine processable form (TTCN MP format) in an ascii text file ("RSL.MP"). All files are compressed files accompanied by a "README" text file.

D.2 Conventions used within the ATS

The abbreviations are consistently used within the ATS written in TTCN and are useful for understanding and/or maintaining the coding detail level.

D.2.1 Test suite parameters, constants and variables

Most test suite parameters are named using the pattern: TSP_Xxx.

Most test suite variables are named using the pattern: TSV_XXX.

All test suite constants are named using the pattern: TSC_Xxx.

D.2.2 Test case variables

Most test case variables are named using the pattern: TCV_Xxx.

D.2.3 ASP constraints

The naming scheme for asp constraints is: PDU_XY_more_specific.

- where PDU indicates the PDU type included, XY indicates the direction and more_specific (if any) describes the constraint with abbreviated naming convention.

EXAMPLE: IAM_BA_CgPN - indicates an IAM sent from SP B to SP A, with a calling party number included.

D.2.4 Timers

All timers are named using the pattern:

- Tname[_min or _max];
- T7_min (waiting for ACM timer);
- TCFNR max (call forwarding on no reply timer).

D.2.5 Test suite operations

Most names for test suite operations follow the scheme: TSO_TestSuiteOperationName.

The TSO functions are specified using the syntax of C programming language or pseudo code.

D.2.6 Aliases

Aliases are extensively used instead of cumbersome names for ASP primitives (like MTP TRANSFER IND).

They are named using the scheme:

- S_XXX For the sending of an ISUP message XXX which resolves to the MTP TRANSFER_REQ primitive;
- R_XXX For the receipt of an ISUP message XXX which is resolved to the MTP TRANSFER_IND primitive.

D.2.7 Test case and step identifiers

The General Naming Convention For The Test Cases Is: $ISS\{TC\}X_N_N\{N\}\{A\}$.

Where:

- TC designates ase specific test cases (optional, used only for ccbs);
- X is either V valid stimulus or I inopportune stimulus;
- **N** is the sequence number of the supplementary service;
- 1^{st} **N** is a sequence number used within the supplementary service;
- 2^{nd} N is an additional used number (optional, for UUS only); and
- **A** is a lowercase letter to distinguish between tests in case of variants deriving from the same test purpose.

The general naming convention for the dispatcher test steps is: SS N N {A}:

• where the n-s are the same as the test case to which they relate.

Some generic steps with appropriate names, e.g. to complete the call setup (+S_ACM_ETC_BA, +R_ACM_ETC_AC) are also used.

D.2.8 Constraints

The constraints visible on the test case level are all ASP constraints. The ASPs are chained to PDU constraints every time an ISUP message is involved. This allows for a higher level of abstraction on the test case level and hides the information in the ASP constraint part. In order to reduce the number of constraints, a technique where a default constraint is manipulated/modified on the send line is used. This also has the advantage of increasing readability. In the case of access ASPs, no further PDU constraints are defined.

D.2.9 Dynamic behaviour part

The general scheme of running a test case can be described shortly as follows:

Firstly, the control is given to the main test component, which starts executing. This main test component controls and observes the IUT on the AB signalling link.

Secondly after possibly initializing some data the main test component creates the corresponding parallel test component. This component is the slave process and it is located in a separate test step. It is dispatched using a parameter derived from the role of the exchange to be tested. For each test case the concurrent "slave" parallel test component(s), either ISUP, or access, or both is(are) created. For example if the test configuration requires only an ISUP tester on the left side, then the ISUP parallel test component is created, a.s.o.

The main (right) and the parallel (left) test components will then cooperate, most of the time asynchronously driven by the received messages, until the test purpose is achieved and the verdict is set.

The behaviour description is kept on an abstract level, hiding whenever it is possible programming details in the underlying test steps. Test steps are used whenever this saves code without decreasing the readability of the test case. Often functionally related test steps are grouped together using local trees.

The comment fields are extensively used. The message sequence chart for the chosen testing configuration is provided at test case level to quickly give an overview of the expected behaviour.

D.2.10 Pre-test conditions

For each test it is assumed that the circuits are unblocked from both sides and idle. If a particular test case needs special pre-test conditions, these are presented in description part of that test case.

History

Document history						
Edition 1	March 1998	Publication as ETS 300 356-36				
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