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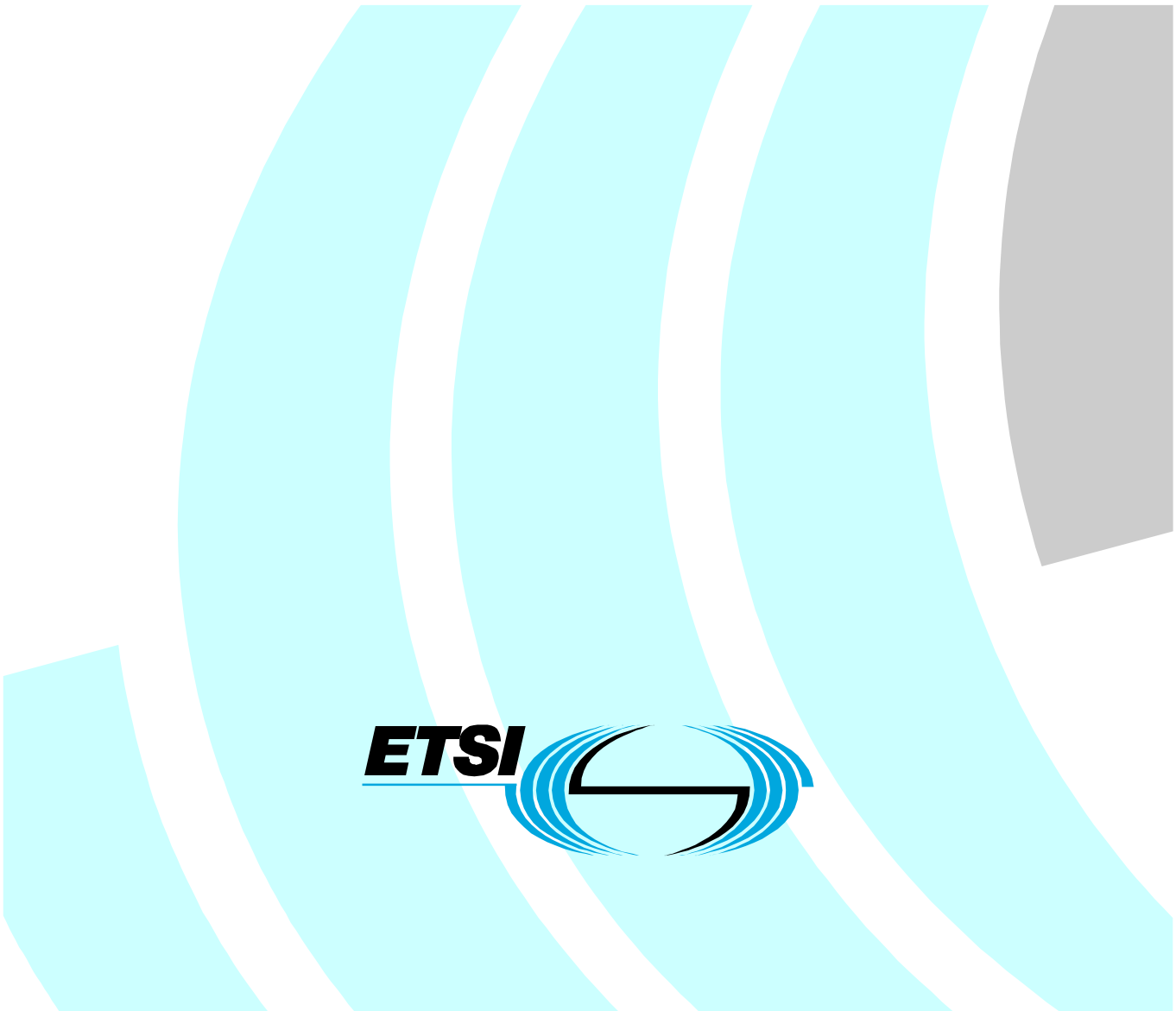
European Standard (Telecommunications series)

Intelligent Network (IN); Intelligent Network Capability Set 3 (CS-3); Abstract Test Suite (ATS) and Partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification; Part 1: Basic capability set of CS3



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Contents

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Foreword

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

The present document is part 1 of a multi-part deliverable covering the Intelligent Network Capability Set 3 (CS-3); Abstract Test Suite (ATS) and Partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification, as identified below:

Part 1: "Basic capability set of CS3";

Part 2: "Call Party Handling (CPH)".

National transposition dates	
Date of adoption of this EN:	27 December 2002
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Date of withdrawal of any conflicting National Standard (dow):	30 September 2003

1 Scope

The present document contains the Abstract Test Suite (ATS) and Partial PIXIT for the basic capability set of CoreINAP CS-3.

The present document provides the Abstract Test Suite (ATS) and Partial PIXIT for the testing of the basic capability set of the Service Switching Function (SSF), defined for the Intelligent Network Application Protocol (INAP) of Intelligent Network (IN) Capability Set 3 (CS3) according to ETSI EN 301 931-1 [1] and ETSI EN 301 931-2 [2].

Annex A provides the Tree and Tabular Combined Notation (TTCN).

Annex B provides the Partial Protocol Implementation eXtra Information for Testing (PIXIT) Proforma.

Annex C provides the Protocol Conformance Test Report (PCTR) Proforma.

The present document is completed by other parts constituting the testing of the CS3 Core INAP specifications: ETSI EN 301 934-2 [3] (Call Party Handling of CS-3).

ISO/IEC 9646-1 [4] and ISO/IEC 9646-2 [5] are used as the basis for the testing methodology.

2 References

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

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

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1] ETSI EN 301 931-1: "Intelligent Network (IN); Intelligent Network Capability Set 3 (CS3); Intelligent Network Application Protocol (INAP); Protocol specification; Part 1: Common aspects".

[2] ETSI EN 301 931-2: "Intelligent Network (IN); Intelligent Network Capability Set 3 (CS3); Intelligent Network Application Protocol (INAP); Protocol specification; Part 2: SCF-SSF interface".

[3] ETSI EN 301 934-2: "Intelligent Network (IN); Intelligent Network Capability Set 3 (CS3); Abstract Test Suite (ATS) and Partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification; Part 2: Call Party Handling (CPH)".

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

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

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

[7] ETSI ETS 300 374-1: "Intelligent Network (IN); Intelligent Network Capability Set 1 (CS1); Core Intelligent Network Application Protocol (INAP); Part 1: Protocol specification".

[8] ITU-T Recommendation Q.771: "Functional description of transaction capabilities".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 301 931-1 [1], ISO/IEC 9646-1 [4] and ISO/IEC 9646-2 [5] apply.

3.2 Abbreviations

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

ASP	Abstract Service Primitive
ATM	Abstract Test Method
ATS	Abstract Test Suite
BI	Invalid Behaviour tests
BO	inOpportune Behaviour tests
BV	Valid Behaviour tests
CS	Call Segment
CS	Capability Set
IN	Intelligent Network
INAP	Intelligent Network Application Protocol
IP	Intelligent Peripheral
IUT	Implementation Under Test
IXIT	Implementation eXtra Information for Testing
LT	Lower Tester
MPyT	Multy Party Testing
MSC	Message Sequence Chart
NWK	NetWork Layer
PCO	Point of Control and Observation
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
SAP	Service Access Point
SCF	Service Control Function
SCP	Service Control Point
SDF	Service Data Function
SDL	Specification and Description Language
SRF	Specialized Resource Function
SSF	Service Switching Function
SSP	Service Switching Point
SUT	System Under Test
TC	Test Case
TCAP	Transaction Capabilities Application Part
TP	Test Purpose
TSS	Test Suite Structure
TTCN	Tree and Tabular Combined Notation

4 Test architecture

4.1 Abstract Test Method (ATM)

This clause describes the ATM used for testing the INAP protocol. It is the embedded variant of the remote test method used in Multy Party Testing (MPyT) context, as defined in ISO/IEC 9646-2 [5].

This test method has been selected, because:

- this test method implies no specific requirements from the Implementation Under Test (IUT);
- the upper Service Access Point (SAP) of the IUT cannot be directly observed;
- this test method places minimum limitations in the realization of conformance testing.

4.2 Overall configuration

Figure 1 describes the test architecture which will be used for the definition of the ATS.

A single test architecture covers all testing configuration requirements.

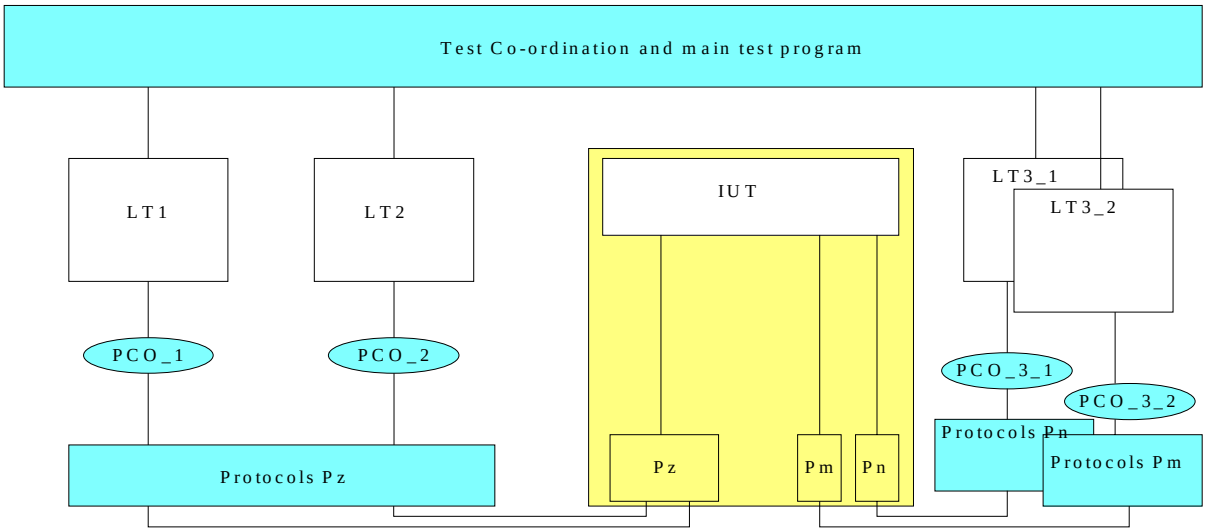

Figure 1: Multi-party, single-layer testing context: one IUT and 4 types of LTs

Figure 1 shows the multi-party, single layer testing context. The same architecture can be used for testing several interfaces. The roles of IUT and LTs change according to the protocol to be tested in the IUT.

Table 1 gives the nature of the IUT and LTs according to the protocol under test.

Table 1: Possible testing configurations

Test Config	Tested Interface	IUT	LT1	LT2	LT3_1	LT3_2	Functional Configuration
1	SSF-SCF	SSF	SCF	SRF	Sig con A	Sig con B	A
2	SSF-SCF	SSF	SCF	-	Sig con A	Sig con B	B

4.3 Test of SSF-SCF interface using INAP

The test program contains the program of the main LT1 main tester as well as the co-ordination points to co-ordinate the tasks with the other testers LT2 and LT3.

IUT: Is the SSF-INAP.

LT1: Test program is the SCF.

LT2: Test program is the SRF-INAP when required.

LT3: Informal test program for actions and observation at the signalling control points, to play the role of end users A, B and C for instance.

There are as many LT3 as required by the test configuration (LT3_1, LT3_2, ...) according to the number of end users A, B and C involved in a service scenario for instance, using different types of protocols).

Pz: Contains the protocols used below the INAP between SCP and SSP, also between SSP and SRF. They could be e.g. TCAP, SCCP and MTP of SS7 etc.

Pm: Contains the protocols used below the LT3_1 between the IUT and the Signalling control point. It could be the DSS1 protocols or ISUP SS7 protocol (in the case of having a transit exchange).

Pn: Contains the used protocols below the LT3_2 between the IUT and the Signalling control point. It could be the DSS1 protocols or ISUP SS7 protocol (in the case of having a transit exchange).

4.4 Points of control and observation (PCOs)

PCO-Declarations.

1) **PCO_1:** This PCO is at the core INAP interface between SSP and SCP. The lower layer protocol is Pz. It could be e.g. TCAP.

2) **PCO_2:** This PCO is at the core INAP interface between SSP and SRF. The lower layer protocol is Pz. It could be e.g. TCAP, ISUP, B-ISUP, TUP or the NWK of DSS1.

3) **PCO_3_1:** This PCO is at the interface between SSP and Signalling Control A. The lower layer protocol is Pm. It could be e.g. ISUP, B-ISUP, TUP or the NWK of DSS1.

4) **PCO_3_2:** This PCO is at the interface between SSP and Signalling Control B. The lower layer protocol is Pn. It could be e.g. ISUP, B-ISUP, TUP or the NWK of DSS1.

4.5 Test system

It is expected that the test system supports the protocols Pz, Pz-1, Pz-2 and the protocols for Pm and Pn.

It is expected that the test system supports the PCO Requirements of PCO_1, PCO_2, PCO_3_1 to PCO_3_n.

4.6 Functional configurations

4.6.1 SSF-SCF interface

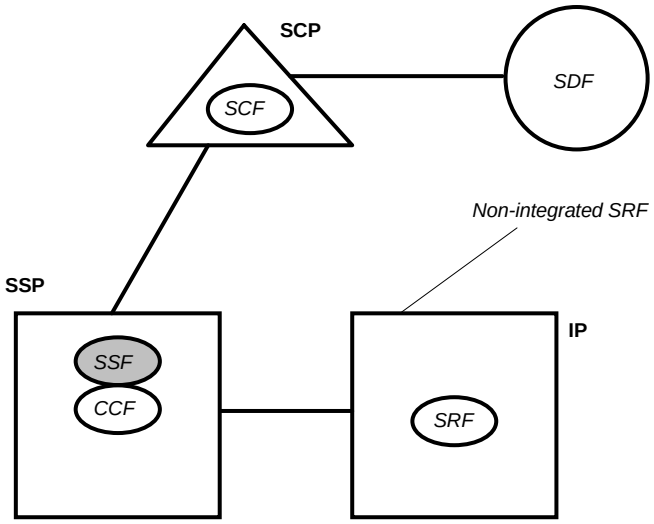

Figure 2: SCP with single SSP
Configuration A: IUT = SSF (non integrated with SRF)

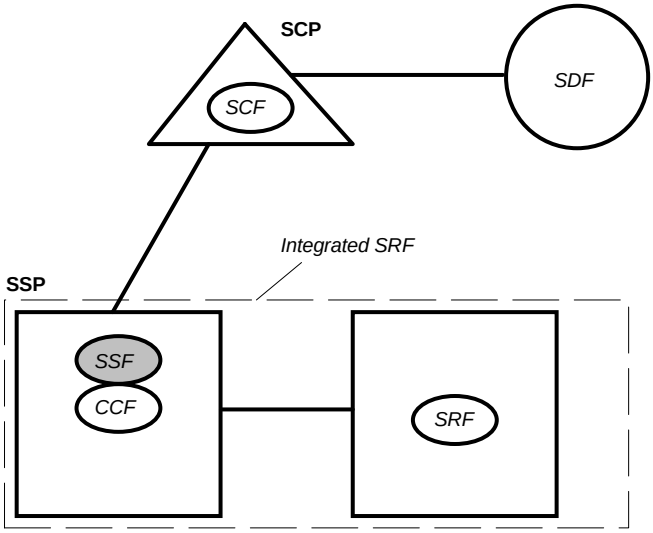

Figure 3: SCP with single SSP
Configuration B: IUT = SSF (integrated with SRF)

4.6.2 Reference to product implementation

The SUT can either be a Local Exchange (LE) or a Transit Exchange (TE). The exact number of testers (LT3 alone or LT3_1 and LT3_2) will depend upon the type of exchange and the configuration of the exchange, as explained by the following examples of implementation.

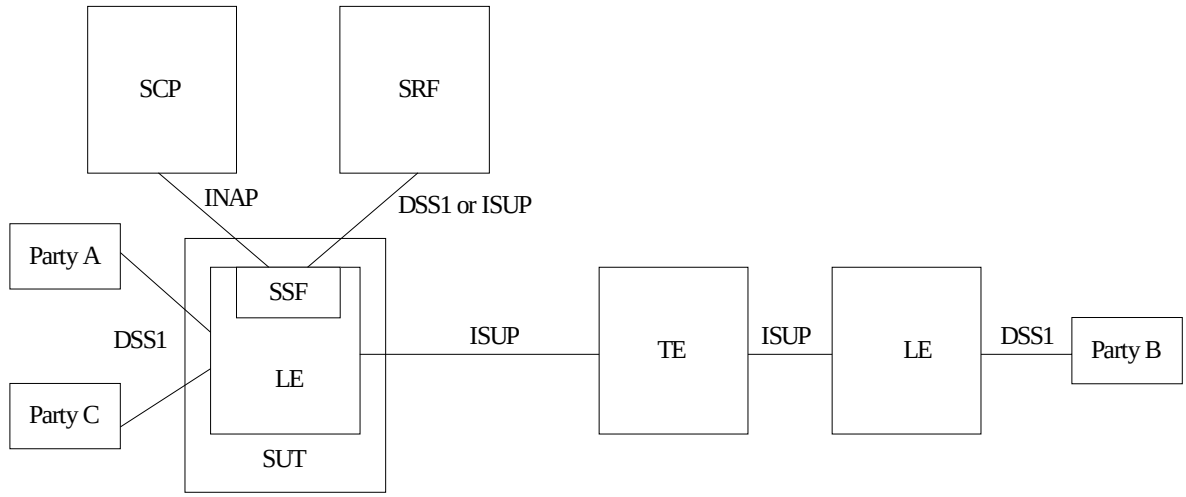

Figure 4: Configuration with Local Exchange as SUT

Figure 4 shows a configuration where the SUT is a Local Exchange. In this case, signalling of a call may be done either with DSS1 and ISUP (A and B involved) or only with DSS1 (A and C involved).

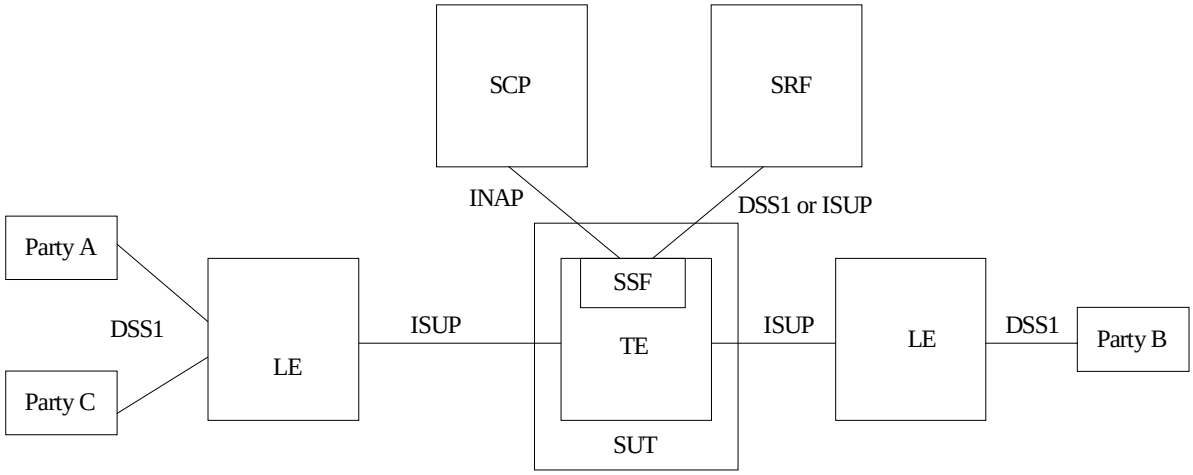

Figure 5: Configuration with Transit Exchange as SUT

Figure 5 shows a configuration where the SUT is a Transit Exchange. In this case, signalling uses ISUP protocol only.

4.7 Protocol primitives

4.7.1 Protocol primitives at PCO_1 and PCO_2

The transmission of INAP messages at the interface between SCF and SSF or SSF and SRF uses TCAP primitives. The LT1, LT2 communicate with the lower protocols via the SAPs with the TCAP-primitives shown in tables 2 and 3 according to clause 10 of ETS 300 374-1 [7] and ITU-T Recommendation Q.771 [8].

Table 2

Primitives for dialogue handling	
Abstract Service Primitive	**Type**
TC_BEGIN	Request or Indication
TC_CONTINUE	Request or Indication
TC_END	Request or Indication
TC_U_ABORTa	Request or Indication
TC_U_ABORTb	Request or Indication
TC_P_ABORTa	Indication
TC_P_ABORTb	Indication
TC-NOTICE	Indication

Table 3

Primitives for components handling	
Abstract Service Primitive	**Type**
TC_INVOKE	Request or Indication
TC_U_ERROR	Request or Indication
TC_U_REJECT	Request or Indication
TC_L_REJECT	Indication
TC_R_REJECT	Indication
TC_U_CANCEL	Request or Indication

4.7.2 Protocol primitives at PCO_3_1 and PCO_3_2

In order to be protocol independent, a set of primitives is defined at this interface, and the next table is an example of the mapping between this generic interface and the possible signalling protocols like ISUP and DSS1.

Here follows the list of these primitives for the generic interface and a table giving the mapping of the generic primitives into real protocols.

Table 4

Mapping table for the interface between SSP and signalling control point			
PCO_3-1 or 3-2 interface primitives	Type	if ISUP used	if DSS1 used
Setup	Indication Request Response Confirm	IAM ANM	Setup Answer
Release	Request Indication	REL/RLC	Disconnect
SubsequentAddress	Request Indication	SAM	Information
AddressEnd	Request Indication	SAM	Information
CallProgress	Request Indication	ACM, CPG	Progress, Alerting
ServiceFeature	Request Indication	?	Facility
NetworkSuspend	Request Indication	SUSPEND	--
NetworkResume	Request Indication	RESUME	--

5 ATS naming conventions

This clause describes the conventions applied to define the ATS and gives the naming conventions chosen for the different elements of the ATS.

The ATS conventions are intended to give a better understanding of the ATS but they describe also the conventions made for the development of the ATS, thus for any later maintenance purposes or further development of the ATS, the conventions described in this clause shall be considered.

5.1 Declarations part

This clause describes the naming conventions chosen for the elements of the ATS declarations part.

5.1.1 Test suite type and structured type definitions by reference

In order to avoid misalignment problems with the base IN CS-3 standard, all the ASN.1 types used in this ATS which are defined as types in the base standard have been imported by reference to the ASN.1 types in the base standard.

Where an imported type originally contained the dash ("-") character, it is replaced by an underscore ("_") in the type as imported.

5.1.2 Test suite operations definitions

The test suite operation identifiers are composed of strings in uppercase letters starting with the uppercase string "TSO_". The different strings in the definition are separated with underscores.

5.1.3 Test suite parameter declarations

The test suite parameter identifiers are composed of strings starting by the uppercase string "PX_" and separated by underscores.

EXAMPLE: PX_CalledPartyNumber_1

Complete names as defined in the specifications are used.

5.1.4 Test case selection expression definitions

The naming conventions for the test case selection expression definitions use free text starting with an uppercase letter. The name of the expression is intended to explain clearly the selection rule. The test case selection expressions are generally logical combinations of the test suite parameter definitions.

5.1.5 Test suite constant declarations by reference

In order to avoid misalignment problems with the base IN CS-3 standard, all the ASN.1 constants used in this ATS which are defined as constants in the base standard have been imported by reference to the ASN.1 constants in the base standard.

Where an imported constant originally contained the dash ("-") character, it is replaced by an underscore ("_") in the type as imported.

5.1.6 Test suite variable declarations

The test suite variable identifiers are composed of strings starting with the uppercase string "TSV_".

EXAMPLE: TSV_DialogID1

If the test suite variable represents a system parameter or value, the name defined in the specifications is used.

5.1.7 Test case variable declarations

The test case variable identifiers are composed of strings starting with the uppercase string "TCV_".

EXAMPLE: TCV_InvokeID1

5.1.8 Timer declarations

Two kinds of timers are distinguished:

1) standardized:

   Those defined in the standard, e.g. T_ssf, use the same name as in the standard, beginning with a capital "T".

As there is a tolerance margin accepted for these timers, two values are needed:

- the maximum value allowed, which uses the suffix "_Max";
- the minimum value allowed, which uses the suffix "_Min".

EXAMPLE 1: T_ssf_Min, T_ssf_Max

2) non-standardized:

   Those not defined in the standard, i.e. for execution use, e.g. a timer waiting for a response. These timers begin with the prefix "T_".

EXAMPLE 2: T_Response

T_NoResponse

5.1.9 ASP type definitions

ASP definitions follow the specification when a corresponding definition exists. If not, a free text name is used.

EXAMPLE: TC_BeginInd

5.1.10 Alias definitions

No alias definitions are used in the test suite.

5.2 Constraints part

This clause describes the naming conventions chosen for the elements of the ATS constraints part.

Constraint identifiers commence with uppercase "C_".

Table 5

Type Definition	Constraint Definition Example
TC_InvokeInd(IDP)	C_InvI_InitialDP
TC_InvokeReq(RRBE)	C_InvR_RequestReportBCSMEvent
TC_ErrorInd	C_TC_ErrorInd
TC_ErrorReq	C_TC_ErrorReq
TC_BeginInd(/Req)	C_TC_BeginInd(/Req)
TC_ContinueInd(/Req)	C_TC_ContinueInd(/Req)
TC_EndInd(/Req)	C_TC _EndInd(/Req)
TC-AbortInd	C_TC_AbortInd

5.3 Dynamic part

This clause describes the naming conventions chosen for the elements of the ATS dynamic part.

5.3.1 Test case identifier

The identifier of a Test Case (TC) is identical to the corresponding Test Purpose, as described in table 6.

Table 6: TC naming convention

Identifier:		**IN3_<i>_<sss>_<pp>_<cc>_<nn>**		
IN3		indicates IN Capability Set 3		
<i>	=	interface:	A	SSF-SCF interface
			B	SSF-SRF interface
			C	SCF-SCF interface
<sss>	=	common set	BASIC	Basic set for CS3
			CPH	Call Party Handling from Capability Set 3
			SRF	SRF-related functions from Capability Set 3
<pp>	=	procedure name such as		
			SF	ServiceFiltering
<cc>	=	test category:	BV	Valid Behaviour tests
			BI	Invalid Behaviour tests
			BO	Inopportune Behaviour tests
<nn>	=	sequential number:		
			(01-99)	

Example of test case name: **IN3_A_BASIC_SF_BV_02**

5.3.2 Preambles and their naming conventions

Preambles are used to bring the IUT from the initial state to the state where the test takes place. In the CS3 scheme, the set of the preambles forms a tree, which means that in order to reach the state created by preamble P3, it is necessary to execute preamble P1 followed by preambles P2 then P3.

The naming convention used reflects the description of the connection view set by executing the preamble, in terms of nature of the legs per Call Segment (CS), starting from the stable legs then the ones on hold then the ones in transfer, with the indication of the number of legs, while the first letter indicates how this configuration was initiated.

The general form is:

a_[stableLegsParty or onHold (legs) or transfer(legs) for CallSegment 1]_[idem for CallSegment2]_[idem for CallSegment 3]

where:

a is letter:

- O for Originating (outgoing call for a user);
- T for Terminating (incoming call for a user);
- I for Initiate Call Attempt (initiated from the network).

The state names and their abbreviations used are:

Null	
1_Party	1P
Originating_Set-up	OS
Terminating_Set-up	TS
Originating_ 1_Party_Setup	O1PS
Stable_1_Party	S1P
Stable_2_Party	S2P
Forward	FW
Stable_Multi_Passive_Party (no. of passive legs n)	SnPP
Stable_Multi_Party (no. of passive legs n)	SnP

The term "null" stands for "none" as in preamble O_NULL_S2P_OH3.

There can be two set of CSs with the same nature of legs present at the same time, as in the preamble name O_S2P_S1P_S1P.

5.3.3 Postamble identifier

Postambles are used to bring the IUT from the state where the test takes place back to the initial state. CPH is using a ReleaseAll postamble, applying to the number of legs/call references still being active in the call, from 1 up to 8. The SCF sends a ReleaseCall operation and the IUT sends ReleaseReq on the legs that are active.

The names of the Release postambles indicate the numbers of the legs where the release of the associated signalling connection applies (in any stage of the connection). E.g. **ReleaseAll_3** means that the signalling connections associated with legs 1, 2 and 3 (SigCon A, B and C) have to be released. **Release_234** means that the signalling connections associated with legs 2, 3 and 4 (SigCon B, C and D) have to be released.

6 Implementation conventions

Fully functional underlying TCAP protocol is assumed from the test system.

Fully Functional underlying MTP-3/ISDN protocol is assumed from the test system.

6.1 TC and TP mapping

There is a one-to-one mapping between the TC identifiers and the TP identifiers.

7 ATS generalities

7.1 ATS design

This ATS has been produced according to methodology based on the use of formal languages (SDL, ASN.1, TTCN). Starting from the protocol description and using a powerful software environment, the TTCN test cases were generated automatically according to the test purpose description.

7.1.1 Methodology

The methodology that has been used to produce the ATS tries to integrate the specification of a protocol and the definition of the conformance testing related to that protocol. Several stages integrating the whole process of testing and specification can be identified. In each stage a different formal language applies. Figure 6 shows the different steps followed to achieve the ATS generation.

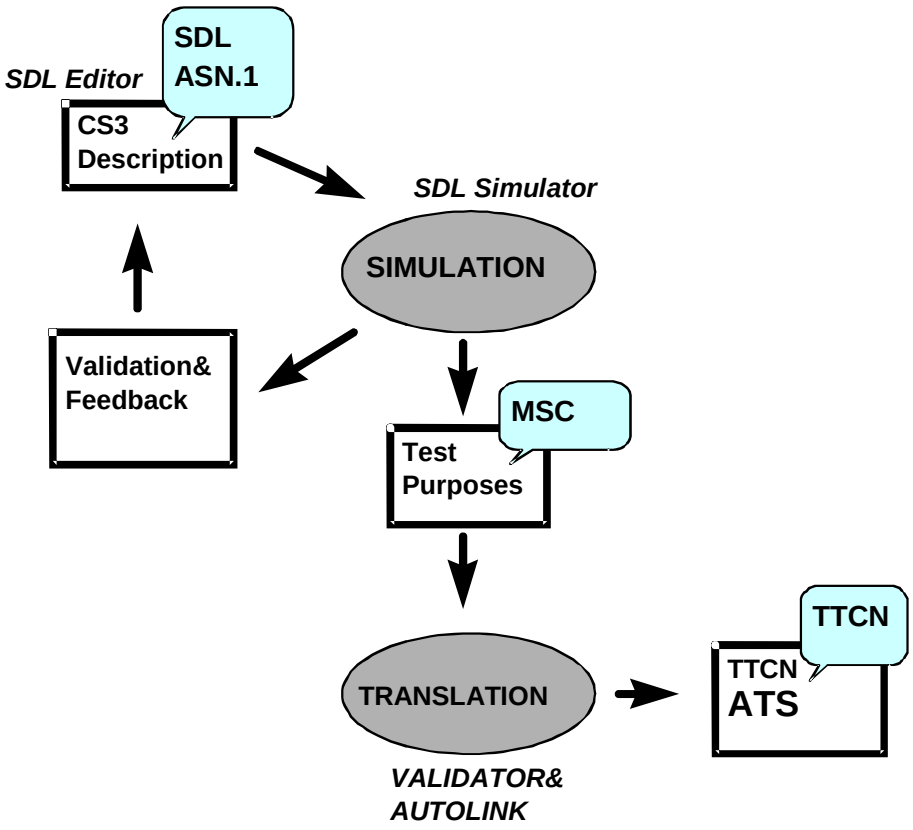

Figure 6: Steps in the generation of the ATS

- SIMULATION

The SDL formal description of INAP CS3 is taken as an input for this stage. The formal description of the protocol includes not only the SDL model but ASN.1 type definitions. Simulation of the model allows improvement of the SDL system description (Validation & Feedback). Once the model is validated, it is possible to simulate the test purposes against the model; for each simulated test purpose an MSC is obtained. These MSCs show the message exchange between the different interfaces involved in the description of the test purpose.

- TRANSLATION

The MSCs obtained from the model simulation are used in this stage to generate the TTCN test cases. Using the SDL INAP CS3 model and the MSCs (obtained from simulation) as inputs, the complete ATS is generated.

As the SDL model does not include the whole protocol specification, some MSCs shall be defined manually to complement those obtained from the model simulation. The error handling and some operator specific procedures description are not included in the model. The MSCs designed by hand were translated to TTCN test cases using the same tool as for the MSCs obtained from simulation.

7.2 Test Configuration

When the IUT is considered to be an SSP the signalling protocol interaction should be taken into account. Some of the INAP CS3 operations have influence on the signalling scheme. The coordination of the message sequences on the different signalling interfaces is performed using a TTCN concurrent test configuration. Figure 7 shows the test configuration; test components, LTs, PCOs, etc. adopted for the CS3 test suites.

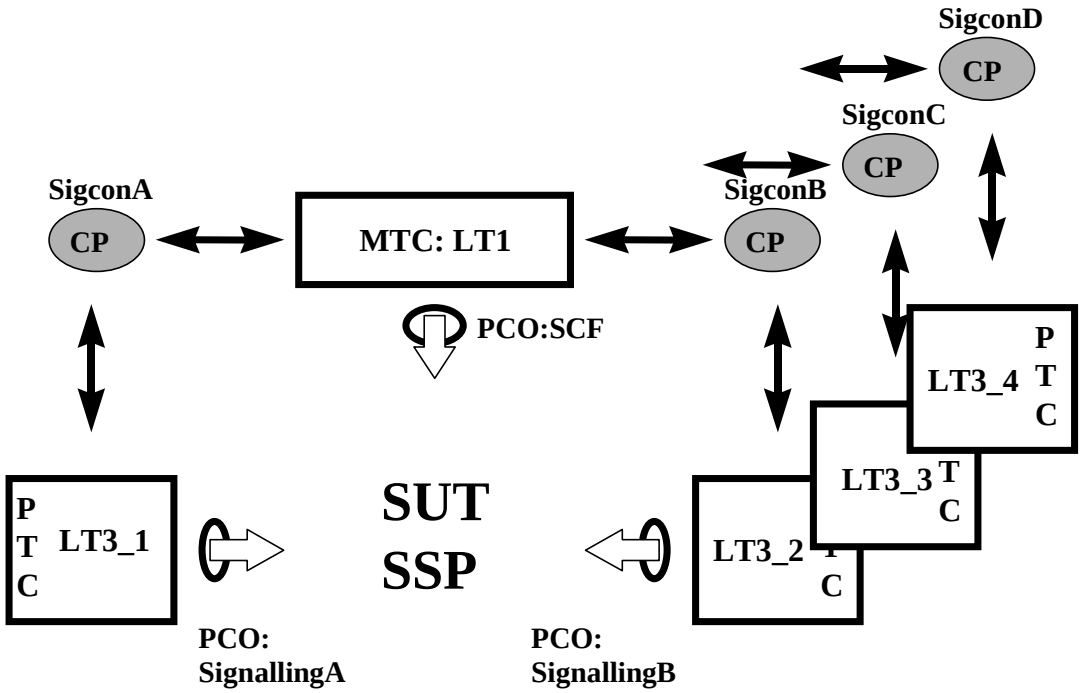

Figure 7

Each time a test case starts from the Master Test Component (MTC) some different behaviour trees are started at the corresponding PTCs (Parallel Test Component). The trees running at the PTC's control the signalling interfaces between the test device and the SUT (System Under Test). In order to co-ordinate the behaviour between the INAP interface and the signalling interfaces (SignallingA, SignallingB, etc.) the MTC uses some co-ordination messages through CPs (Co-ordination Point).

7.2.1 Example

The abstract signalling primitives used in the SDL model to reflect the Call Control Functionality of the SSP become co-ordination messages between the MTC and the several PTCs. A mapping between the abstract signalling primitives and the real signalling messages is done at the PTCs. As the real signalling procedures are protocol and network dependent, no parallel behaviour trees are included in the ATS. An example of how to introduce the parallel signalling behaviour trees is shown in figure 8.

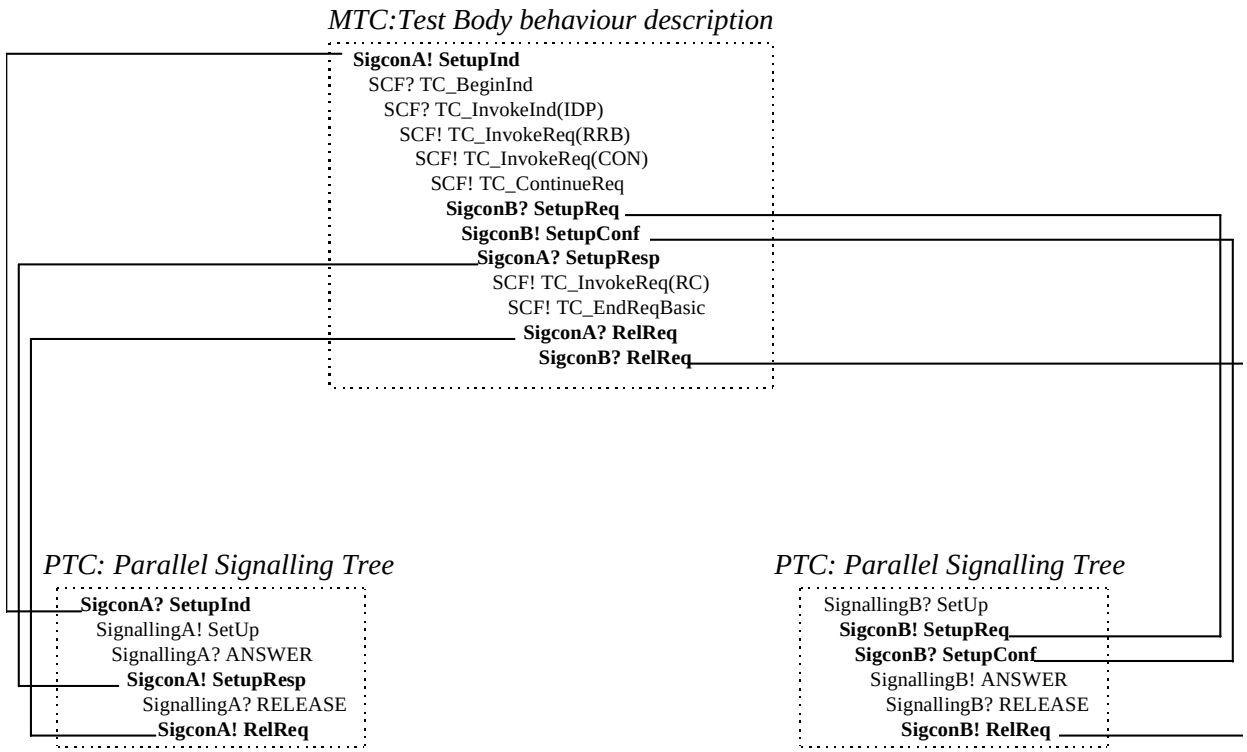

Figure 8

Figure 8 shows a full co-ordination between the INAP interface and the signalling interfaces being done from the MTC test body. The test case takes into account not only the INAP procedures but the signalling procedures.

7.3 ATS restrictions

1) The Abstract Test Suite generated automatically introduces ASN.1 type definitions by reference. All the ASN.1 type definitions are included in several ASN.1 files associated to the ATS. If the ATS user wants to compile the TTCN test cases, either he should ask for a compiling facility to compile type definitions by reference or he should try to have a flat ATS with normal ASN.1 type definitions (cut and Paste between the ATS and the files containing the ASN.1 type definitions).

2) The test cases have been generated automatically from the MSCs, and by so doing, they check for all the possible sequence orders within the test body.

3) The constraint definitions have been generated automatically.

4) For those test cases which use a T_BCSM based preamble, the following DPs need to be armed as TDPs before the start of the test case: analysedInformation on leg 1 on an O_BCSM and termAttemptAuthorized on leg 1 for a T_BCSM.

Annex A (normative): ATS for INAP CS3 Basic Capabiltiy Set

This ATS has been produced using the Tree and Tabular Combined Notation (TTCN) according to ISO/IEC 9646-3 [6].

The ATS was developed on a separate TTCN software tool and therefore the TTCN tables are not completely referenced in the table of contents. The ATS itself contains a test suite overview part which provides additional information and references.

A.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representation of this ATS is contained in an Adobe Portable Document Format™ file (in3_basic_v001.pdf contained in archive en_30193401v010101p0.ZIP) which accompanies the present document.

A.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (in3_basic_v001.mp contained in archive en_30193401v010101p0.ZIP) which accompanies the present document.

NOTE: Where an ETSI Abstract Test Suite (in TTCN) is published in both .GR and .MP format these two forms shall be considered equivalent. In the event that there appears to be syntactical or semantic differences between the two then the problem shall be resolved and the erroneous format (whichever it is) shall be corrected.

Annex B (normative): Partial PIXIT proforma for INAP CS3 Basic Capabiltiy Set

B.1 Identification summary

Table B.1

PIXIT number:	
Test laboratory name:	
Date of issue:	
Issued to:	

B.2 ATS summary

Table B.2

Protocol specification:	EN 301 931
Protocol to be tested:	
ATS specification:	EN 301 934-2
Abstract test method:	Remote test method, embedded variant

B.3 Test laboratory

Table B.3

Test laboratory identification:	
Test laboratory manager:	
Means of testing:	
SAP address:	

B.4 Client identification

Table B.4

Client identification:	
Client test manager:	
Test facilities required:	

B.5 SUT

Table B.5

Name:	
Version:	
SCS number:	
Machine configuration:	
Operating system identification:	
IUT identification:	
PICS reference for IUT:	
Limitations of the SUT:	
Environmental conditions:	

B.6 Protocol layer information

B.6.1 Protocol identification

Table B.6

Name:	EN 301 931
Version:	
PICS references:	

B.6.2 IUT information

B.6.2.1 Implicit send events

Table B.7: Implicit send events

Item	PIXIT (See note)	Related implicit send message (PDU)	Invocation description
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
NOTE: The PIXIT names for the implicit send events in this table are the same as those of the test steps in which the implicit send events are used.			

B.6.2.2 Core INAP Parameter values

Table B.8: Parameter values

Item	Parameter	Parameter type	Explanation/Format	Value
	PIX_AChBillingChargingCharacteristics	AChBillingCharging Characteristics	"xx"H	
	PIX_AlertingPattern	AlertingPattern	"xxx"H	
	PIX_AlertingPattern_ICA	AlertingPattern	"xxx"H	
	PIX_APtyAbandonCause	Cause	"xx"H	
	PIX_APtyDiscCause	Cause	"xx"H	
	PIX_AssistingSSPIRoutingAddress	AssistingSSPIRouting Address	"xxxx"H	
	PIX_BPtyBusy_UDUBCause	Cause	"xx"H	
	PIX_BPtyNoAnswerCause	Cause	"xx"H	
	PIX_CalledPartyNumber1_CON	CalledPartyNumber	LegId 2 "xxxx"H	
	PIX_CalledPartyNumber2_CON	CalledPartyNumber	LegId 3 "xxxx"H	
	PIX_CalledPartyNumber3_CON	CalledPartyNumber	LegId 4 "xxxx"H	
	PIX_CalledPartyNumber4_CON	CalledPartyNumber	LegId 5 "xxxx"H	
	PIX_CalledPartyNumber5_CON	CalledPartyNumber	LegId 6 "xxxx"H	
	PIX_CalledPartyNumber6_CON	CalledPartyNumber	LegId 7 "xxxx"H	
	PIX_CalledPartyNumber7_CON	CalledPartyNumber	LegId 8 "xxxx"H	
	PIX_CalledPartyNumber8_CON	CalledPartyNumber	LegId 9 "xxxx"H	
	PIX_CalledPartyNumberInvalid_CON	CalledPartyNumber	"xxxx"H	
	PIX_CalledPartyNumber1_ICA	CalledPartyNumber	LegId 2 "xxxx"H	
	PIX_CalledPartyNumber2_ICA	CalledPartyNumber	LegId 3 "xxxx"H	
	PIX_CalledPartyNumber3_ICA	CalledPartyNumber	LegId 4 "xxxx"H	
	PIX_CalledPartyNumber4_ICA	CalledPartyNumber	LegId 5 "xxxx"H	
	PIX_CalledPartyNumber5_ICA	CalledPartyNumber	LegId 6 "xxxx"H	
	PIX_CalledPartyNumber6_ICA	CalledPartyNumber	LegId 7 "xxxx"H	
	PIX_CalledPartyNumber7_ICA	CalledPartyNumber	LegId 8 "xxxx"H	
	PIX_CalledPartyNumber1_SetupInd	CalledPartyNumber	"xxxx"H	
	PIX_CalledPartyNumber2_SetupInd	CalledPartyNumber	"xxxx"H	
	PIX_CallingPartyNumber1	CallingPartyNumber	"xxxx"H	
	PIX_CallingPartyNumber2	CallingPartyNumber	"xxxx"H	
	PIX_CallingPartysCategory_CON	CallingPartysCategory	"xx"H	
	PIX_CallingPartysCategory_SetupInd	CallingPartysCategory	"xx"H	
	PIX_DateAndTime	DateAndTime	YYMMDDHHMMSS	
	PIX_Duration	Duration	Seconds	
	PIX_EventTypeCharging1	EventTypeCharging		
	PIX_EventTypeCharging2	EventTypeCharging		
	PIX_FCIBillingChargingCharacteristics	FCIBillingCharging Characteristics		
	PIX_InbandInfo_message	InbandInfo	InformationToSend	
	PIX_Interval	Integer	Seconds	
	PIX_IPRoutingAddress	IPRoutingAddress	"xxx"H	
	PIX_LocationNumber	LocationNumber	"xxxx"H	
	PIX_MaximumNumberOfCounters	MaximumNumberOf Counters	"xx"H	
	PIX_NumberOfCalls	Integer	xx	
	PIX_OriginalCalledPartyNumber	CalledPartyNumber	"xxxx"H	
	PIX_RedirectingPartyNumber	CalledPartyNumber	"xxxx"H	
	PIX_RedirectionInformation	RedirectionInformation	"xx"H	
	PIX_ReleaseCause	Cause	"xx"H	
	PIX_RouteSelectFailure1Cause	Cause	"xx"H	
	PIX_RouteSelectFailure2Cause	Cause	"xx"H	
	PIX_ScfID	ScfID	"xxxx"H	
	PIX_ServiceInteractionIndicators	ServiceInteractionIndicators	"xx"H	
	PIX_ServiceKey1	ServiceKey	"xx"H	
	PIX_ServiceKey2	ServiceKey	"xx"H	
	PIX_SFBillingChargingCharacteristics	SFBillingCharging Characteristics	"xxxx"H	
	PIX_StartTime	DateAndTime	YYMMDDHHMMSS	
	PIX_StopTime	DateAndTime	YYMMDDHHMMSS	

Item	Parameter	Parameter type	Explanation/Format	Value
	PIX_ElementaryMessageID	integer	xxx	
	PIX_CorrelationId	correlationID	"xxx"H	
	PIX_UiScriptID1	integer	xxx	
	PIX_UiScriptID2	integer	xxx	
	PIX_UiScriptIDInvalid	integer	xxx	
	PIX_UiScriptResult	UiScriptResult	"xxxx"H	
	PIX_UiScriptSpecificInfo	UiScriptSpecificInfo	"xxxx"H	

B.6.2.3 TCAP Parameter values

Table B.9: Parameter values

Item	Parameter	Parameter type	Explanation	Value
	PIX_InvokeId	InvokeIDType	Direction SCF ->SSF Direction SSF->SCF	
	PIX_DialogueId	DialogueIDType	Direction SCF ->SSF Direction SSF->SCF	

Annex C (normative): Protocol Conformance Test Report (PCTR) proforma for INAP INAP CS3 Basic Capability Set

C.1 Identification summary

C.1.1 Protocol conformance test report

Table C.1

PCTR number:	
PCTR date:	
Corresponding SCTR number:	
Corresponding SCTR date:	
Test laboratory identification:	
Test laboratory manager:	
Signature:	

C.1.2 IUT identification

Table C.2

Name:	
Version:	
Protocol specification:	
PICS:	
Previous PCTR if any:	

C.1.3 Testing environment

Table C.3

PIXIT number:	
ATS specification:	
Abstract 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 obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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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, for example, to note disagreement between the two parties.

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C.2 IUT conformance status

This IUT has or has not been shown by conformance assessment to be non-conforming to the specified 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 the present document and there are no "FAIL" verdicts to be recorded in clause C.6, strike the words "has or", otherwise strike the words "or 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 or 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 the present document strike the words "did or" otherwise strike the words "or did not".

Summary of the results of groups of tests:

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C.5 Static conformance review report

If clause C.3 indicates non-conformance, this clause itemizes the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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C.6 Test campaign report

Table C.4

ATS Reference	Selected	Run	Verdict	Observations (see note)
IN3_A_BASIC_AT				
IN3_A_BASIC_AT_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_AT_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_AC				
IN3_A_BASIC_AC_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_AC_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_AC_BV_03	Yes/No	Yes/No		
IN3_A_BASIC_AC_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_AC_BV_05	Yes/No	Yes/No		

ATS Reference	Selected	Run	Verdict	Observations (see note)
IN3_A_BASIC_AC_BV_06	Yes/No	Yes/No		
IN3_A_BASIC_AC_BV_07	Yes/No	Yes/No		
IN3_A_BASIC_CF				
IN3_A_BASIC_CF_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_CF_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_CF_BV_03	Yes/No	Yes/No		
IN3_A_BASIC_CF_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_CF_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_CF_BV_06	Yes/No	Yes/No		
IN3_A_BASIC_CF_BI_01	Yes/No	Yes/No		
IN3_A_BASIC_CF_BO_02	Yes/No	Yes/No		
IN3_A_BASIC_CG				
IN3_A_BASIC_CG_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_03	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_06	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_07	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_15	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_26	Yes/No	Yes/No		
IN3_A_BASIC_CG_BV_32	Yes/No	Yes/No		
IN3_A_BASIC_CI				
IN3_A_BASIC_CI_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_CI_BO_01	Yes/No	Yes/No		
IN3_A_BASIC_CI_BO_03	Yes/No	Yes/No		
IN3_A_BASIC_CO				
IN3_A_BASIC_CO_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_CO_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_CO_BV_03	Yes/No	Yes/No		
IN3_A_BASIC_CO_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_CO_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_CO_BV_06	Yes/No	Yes/No		
IN3_A_BASIC_CO_BV_08	Yes/No	Yes/No		
IN3_A_BASIC_CO_BV_09	Yes/No	Yes/No		
IN3_A_BASIC_CO_BV_10	Yes/No	Yes/No		
IN3_A_BASIC_CO_BI_01	Yes/No	Yes/No		
IN3_A_BASIC_CO_BO_01	Yes/No	Yes/No		
IN3_A_BASIC_CT				
IN3_A_BASIC_CT_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_03	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_06	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_07	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_08	Yes/No	Yes/No		

ATS Reference	Selected	Run	Verdict	Observations (see note)
IN3_A_BASIC_CT_BV_09	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_10	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_11	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_12	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_15	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_16	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_17	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_18	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_19	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_20	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_21	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_22	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_23	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_24	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_25	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_26	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_27	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_28	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_29	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_30	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_31	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_32	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_33	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_34	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_35	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_36	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_37	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_38	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_39	Yes/No	Yes/No		
IN3_A_BASIC_CT_BV_40	Yes/No	Yes/No		
IN3_A_BASIC_CT_BI_01	Yes/No	Yes/No		
IN3_A_BASIC_CT_BI_02	Yes/No	Yes/No		
IN3_A_BASIC_CT_BI_03	Yes/No	Yes/No		
IN3_A_BASIC_CT_BI_04	Yes/No	Yes/No		
IN3_A_BASIC_CT_BO_01	Yes/No	Yes/No		
IN3_A_BASIC_CU				
IN3_A_BASIC_CU_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_DP				
IN3_A_BASIC_DP_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_DP_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_DP_BV_03	Yes/No	Yes/No		
IN3_A_BASIC_DP_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_DP_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_DP_BV_06	Yes/No	Yes/No		
IN3_A_BASIC_DP_BV_07	Yes/No	Yes/No		

ATS Reference	Selected	Run	Verdict	Observations (see note)
IN3_A_BASIC_IC				
IN3_A_BASIC_IC_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_IC_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_IC_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_IC_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_MT				
IN3_A_BASIC_MT_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_03	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_06	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_07	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_08	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_09	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_10	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_11	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_12	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_13	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_14	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_15	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_16	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_17	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_18	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_19	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_20	Yes/No	Yes/No		
IN3_A_BASIC_MT_BV_21	Yes/No	Yes/No		
IN3_A_BASIC_MT_BI_01	Yes/No	Yes/No		
IN3_A_BASIC_MT_BI_02	Yes/No	Yes/No		
IN3_A_BASIC_MT_BI_03	Yes/No	Yes/No		
IN3_A_BASIC_MT_BO_01	Yes/No	Yes/No		
IN3_A_BASIC_RC				
IN3_A_BASIC_RC_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_RC_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_RC_BV_03	Yes/No	Yes/No		
IN3_A_BASIC_RC_BO_01	Yes/No	Yes/No		
IN3_A_BASIC_RE				
IN3_A_BASIC_RE_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_RE_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_RE_BV_04	Yes/No	Yes/No		
IN3_A_BASIC_RE_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_RE_BI_01	Yes/No	Yes/No		
IN3_A_BASIC_RE_BI_02	Yes/No	Yes/No		
IN3_A_BASIC_RE_BI_03	Yes/No	Yes/No		

ATS Reference	Selected	Run	Verdict	Observations (see note)
IN3_A_BASIC_RR				
IN3_A_BASIC_RR_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_02	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_05	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_06	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_07	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_08	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_09	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_10	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_11	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_12	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_13	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_14	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_15	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_16	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_17	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_18	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_21	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_22	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_23	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_24	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_25	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_26	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_27	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_28	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_29	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_30	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_31	Yes/No	Yes/No		
IN3_A_BASIC_RR_BV_32	Yes/No	Yes/No		
IN3_A_BASIC_RR_BI_01	Yes/No	Yes/No		
IN3_A_BASIC_RR_BI_02	Yes/No	Yes/No		
IN3_A_BASIC_SF				
IN3_A_BASIC_SF_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_SF_BI_01	Yes/No	Yes/No		
IN3_A_BASIC_SF_BI_02	Yes/No	Yes/No		
IN3_A_BASIC_SF_BO_01	Yes/No	Yes/No		
IN3_A_BASIC_SF_BO_02	Yes/No	Yes/No		
IN3_A_BASIC_SP				
IN3_A_BASIC_SP_BV_01	Yes/No	Yes/No		
IN3_A_BASIC_SP_BI_01	Yes/No	Yes/No		
IN3_A_BASIC_SP_BI_02	Yes/No	Yes/No		
IN3_A_BASIC_SP_BI_03	Yes/No	Yes/No		
IN3_A_BASIC_SP_BO_01	Yes/No	Yes/No		
NOTE: Reference to any observations made in clause C.7 of EN 301 934-1 v1.1.1.				

C.7 Observations

Additional information relevant to the technical content of the PCTR are given here.

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Annex D (informative): Bibliography

ETSI EN 301 931-3: "Intelligent Network (IN); Intelligent Network Capability Set 3 (CS3); Intelligent Network Application Protocol (INAP); Protocol specification; Part 3: SCF-SRF interface".

ETSI EN 301 931-4: "Intelligent Network (IN); Intelligent Network Capability Set 3 (CS3); Intelligent Network Application Protocol (INAP); Protocol specification; Part 4: SDLs for SCF-SSF interface".

ETSI EN 301 933-1: "Intelligent Network (IN); Intelligent Network Capability Set 3 (CS3); Intelligent Network Application Protocol (INAP); Test Suite Structure and Test Purposes (TSS&TP) specification for Service Switching Function (SSF); Part 1: Basic capability set of CS3".

ETSI ES 201 296 (V1.2.2): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Signalling aspects of charging".

ITU-T Recommendation Q.1224: "Distributed functional plane for intelligent network Capability Set 2".

History

Document history		
V1.1.1	August 2002	One-step Approval Procedure OAP 20021227: 2002-08-28 to 2002-12-27
V1.1.1	January 2003	Publication