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**Integrated Services Digital Network (ISDN);
Signalling System No.7;
ISDN User Part (ISUP) version 2 for the International interface;
Part 36: Abstract Test Suite (ATS) and partial Protocol
Implementation eXtra Information for Testing (PIXIT) proforma
specification for supplementary services**

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

Internet: secretariat@etsi.fr - <http://www.etsi.fr> - <http://www.etsi.org>

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS is part 36 of a multi-part standard covering the ISDN User Part (ISUP) version 2 for the international interface, as described below:

- Part 1: "Basic services";
- Part 2: "ISDN supplementary services";
- Part 3: "Calling Line Identification Presentation (CLIP) supplementary service";
- 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 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 has been withdrawn.

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| Date of adoption of this ETS: | 6 March 1998 |
| Date of latest announcement of this ETS (doa): | 30 June 1998 |
| Date of latest publication of new National Standard or endorsement of this ETS (dop/e): | 31 December 1998 |
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1 Scope

This thirty-sixth part of ETS 300 356 provides the conformance test specification for the ISDN User Part (ISUP) version 2 supplementary services defined in ETS 300 356-2 [2] to ETS 300 356-19 [18] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-1 [23].

This ETS contains the Abstract Test Suite (ATS) for ISUP version 2 supplementary services, written in Tree and Tabular Combined Notation (TTCN) as specified in ISO/IEC 9646-3 [25]. It is based on ETS 300 356-35 [20] which specifies the Test Suite Structure and Test Purposes (TSS&TP).

This ETS applies only to exchanges having implemented the ISUP version 2 protocol specifications [2-18]. It is applicable for conformance testing of all types of exchanges as specified in the ISUP version 2 protocol specifications [2-18]. This ETS does not deal with compatibility testing.

The main text part of this ETS presents the requirements regarding the chosen test method and the conventions used within the ATS.

The annexes contain the ATS for ISUP version 2 supplementary services (available on electronic media), the partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma and the Protocol Conformance Test Report (PCTR) proforma.

2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

An ETS is referenced where it (partly) overrides the corresponding ITU-T Recommendation or where a corresponding ITU-T Recommendation does not exist (yet). For convenience, the respective section of an ITU-T Recommendation is referenced when it is not overridden by a corresponding ETS.

- [1] ETS 300 356-1 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1993), modified]".
- [2] ETS 300 356-2 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 2: ISDN supplementary services [ITU-T Recommendation Q.730 (1993), modified]".
- [3] ETS 300 356-3 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 3: Calling Line Identification Presentation (CLIP) supplementary service [ITU-T Recommendation Q.731, clause 3 (1993), modified]".
- [4] ETS 300 356-4 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 4: Calling Line Identification Restriction (CLIR) supplementary service [ITU-T Recommendation Q.731, clause 4 (1993), modified]".
- [5] ETS 300 356-5 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 5: Connected Line Identification Presentation (COLP) supplementary service [ITU-T Recommendation Q.731, clause 5 (1993), modified]".

- [6] ETS 300 356-6 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 6: Connected Line Identification Restriction (COLR) supplementary service [ITU-T Recommendation Q.731, clause 6 (1993), modified]".
- [7] ETS 300 356-7 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 7: Terminal Portability (TP) supplementary service [ITU-T Recommendation Q.733, clause 4 (1993), modified]".
- [8] ETS 300 356-8 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 8: User-to-User Signalling (UUS) supplementary service [ITU-T Recommendation Q.737, clause 1 (1993), modified]".
- [9] ETS 300 356-9 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 9: Closed User Group (CUG) supplementary service [ITU-T Recommendation Q.735, clause 1 (1993), modified]".
- [10] ETS 300 356-10 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 10: Subaddressing (SUB) supplementary service [CCITT Recommendation Q.731, section 8 (1992), modified]".
- [11] ETS 300 356-11 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 11: Malicious Call Identification (MCID) supplementary service".
- [12] ETS 300 356-12 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 12: Conference call, add-on (CONF) supplementary service [ITU-T Recommendation Q.734, clause 1 (1993), modified]".
- [13] ETS 300 356-14 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 14: Explicit Call Transfer (ECT) supplementary service".
- [14] ETS 300 356-15 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 15: Diversion supplementary services [ITU-T Recommendation Q.732, clauses 2 to 5 (1993), modified]".
- [15] ETS 300 356-16 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 16: Call Hold (HOLD) supplementary service [ITU-T Recommendation Q.733, clause 2 (1993), modified]".
- [16] ETS 300 356-17 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 17: Call Waiting (CW) supplementary service [CCITT Recommendation Q.733, section 1 (1992), modified]".
- [17] ETS 300 356-18 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 18: Completion of Calls to Busy Subscriber (CCBS) supplementary service".
- [18] ETS 300 356-19 (1995): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 19: Three party (3PTY) supplementary service [ITU-T Recommendation Q.734, clause 2 (1993), modified]".

- [19] ETS 300 356-34: "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 34: Protocol Implementation Conformance Statement (PICS) proforma specification for supplementary services".
- [20] ETS 300 356-35: "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 35: Test Suite Structure and Test Purposes (TSS&TP) specification for supplementary services".
- [21] ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [22] ETR 141: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; The Tree and Tabular Combined Notation (TTCN) style guide".
- [23] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [24] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification".
- [25] ISO/IEC 9646-3: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The Tree and Tabular Combined Notation (TTCN)".
- [26] ISO/IEC 9646-5: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 5: Requirements on test laboratories and clients for the conformance assessment process".

3 Definitions and abbreviations

3.1 Definitions

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

- terms defined in the ISUP version 2 reference specifications [1-18];
- terms defined in ISO/IEC 9646-1 [23] and in ISO/IEC 9646-3 [25].

In particular, the following terms apply:

Abstract Test Case (ATC): A 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 9646-1 [23], subclause 3.3.3).

Abstract Test Method (ATM): The 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 9646-1 [23], subclause 3.3.5).

Abstract Test Suite (ATS): A test suite composed of abstract test cases (see ISO/IEC 9646-1 [23], subclause 3.3.6).

Implementation Under Test (IUT): An 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 9646-1 [23], subclause 3.3.43).

Means Of Testing (MOT): The combination of equipment and procedures that can perform the derivation, selection, parametrization and execution of test cases, in conformance with a reference standardized ATS, and can produce a conformance log (see ISO/IEC 9646-1 [23], subclause 3.3.54).

Point of Control and Observation (PCO): A 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 9646-1 [23], subclause 3.3.64).

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

Protocol Implementation Conformance Statement (PICS): A statement made by the supplier of a protocol claimed to conform to a given specification, stating which capabilities have been implemented (see ISO/IEC 9646-1 [23], subclauses 3.3.39 and 3.3.80).

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

Protocol Implementation eXtra Information for Testing (PIXIT): A 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 9646-1 [23], subclauses 3.3.41 and 3.3.81).

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

System Under Test (SUT): The real open system in which the IUT resides (see ISO/IEC 9646-1 [23], subclause 3.3.103).

user: The 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.

3.2 Abbreviations

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

| | |
|---------|--|
| 3PTY | Three-Party |
| ASE | Application Service Entity |
| ASP | Abstract Service Primitive |
| ATC | Abstract Test Case |
| ATM | Abstract Test Method |
| ATS | Abstract Test Suite |
| CCBS | Completion of Calls to Busy Subscriber |
| CDIV | Call Diversion |
| CFB | Call Forwarding Busy |
| CFNR | Call Forwarding No Reply |
| CFU | Call Forwarding Unconditional |
| CIC | Circuit Identification Code |
| CLIP | Calling Line Identification Presentation |
| CLIR | Calling Line Identification Restriction |
| CntrlE | Controlling Exchange |
| COLP | Connected Line Identification Presentation |
| COLR | Connected Line Identification Restriction |
| CONF | Conference call, add-on |
| CUG | Closed User Group |
| CW | Call Waiting |
| DLE | Destination Local Exchange |
| DSS1 | Digital Subscriber Signalling System No. one |
| ECT | Explicit Call Transfer |
| HOLD | Call Hold |
| InclE | Incoming International Exchange |
| InterME | Intermediate Exchange |
| ISC | International Switching Centre |
| ISDN | Integrated Services Digital Network |
| ISUP | ISDN User Part |
| ITE | International Transit Exchange |
| IUT | Implementation Under Test |

| | |
|--------|---|
| IWorkE | Interworking Exchange |
| LAPD | Link 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 |
| NNI | Network-Network Interface |
| NTE | National Transit Exchange |
| OLE | Originating Local Exchange |
| OutIE | Outgoing International Exchange |
| PCO | Point of Control and Observation |
| PCTR | Protocol Conformance Test Report |
| PDU | Protocol Data Unit |
| PICS | Protocol Implementation Conformance Statement |
| PIXIT | Protocol Implementation eXtra Information for Testing |
| PTC | Parallel Test Component |
| SCS | System Conformance Statement |
| SP | Signalling Point |
| SPC | Signalling Point Code |
| SS7 | Signalling System No.7 |
| SUB | Subaddressing |
| SUT | System Under Test |
| TCP | Test Co-ordination Procedures |
| TSS&TP | Test Suite Structure and Test Purposes |
| TTCN | Tree and Tabular Combined Notation |
| UNI | User-Network Interface |
| UUS | User-to-User Signalling |
| UUSn | UUS service n (n = 1..3) |

4 Implementation under test and test methods

4.1 Identification of the system and implementation under test

The System Under Test (SUT) is an exchange. The Implementation Under Test (IUT) is the ISUP version 2 implementation in this exchange, mainly the part responsible for the supplementary services functionality, as shown in figure 1.

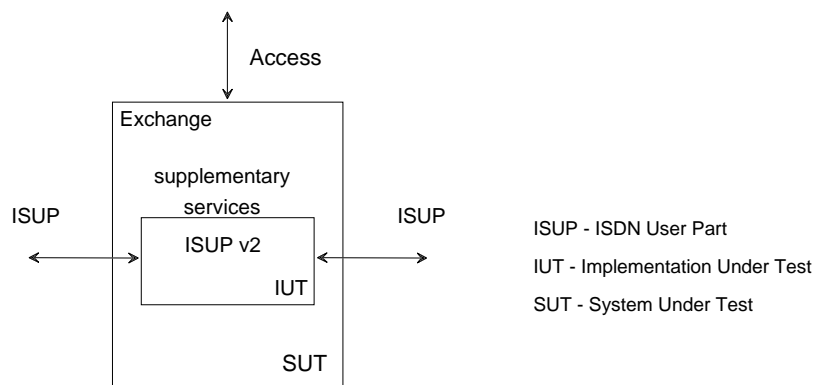
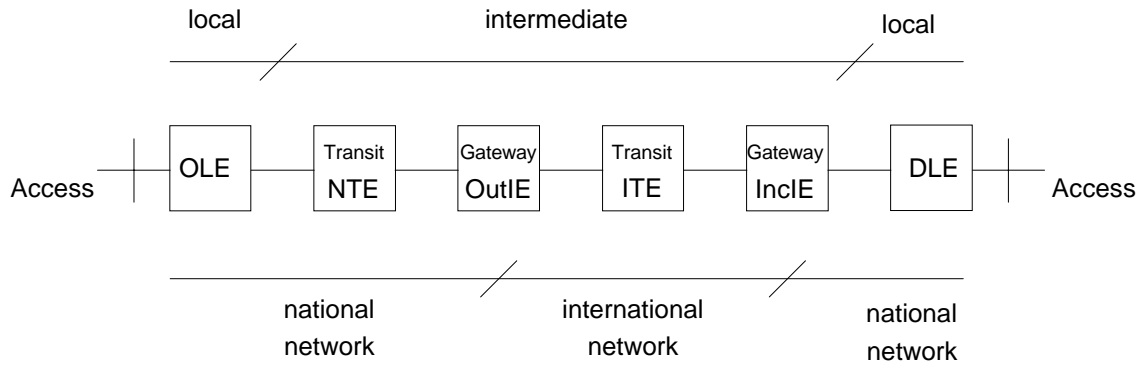


Figure 1: Exchange as SUT

The ISUP signalling protocol can be observed on the SS7 link on the Network-Network Interface (NNI). The effects of signalling procedures of ISUP 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 ETS 300 356-1 [1], several types of exchanges (or roles) can be identified (see figure 2).



OLE - Originating 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 International Switching Centres (ISCs). 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 exchange | Intermediate exchange | |
|----------------------------|----------------|-----------------------|---------------|
| | | National | International |
| Originating Local Exchange | OLE | | |
| Transit Exchange | | NTE | ITE |
| Incoming/Gateway Exchange | | | IncIE |
| Outgoing/Gateway Exchange | | | OutIE |
| Destination Local Exchange | DLE | | |

4.2 ATM and testing configuration for ISUP version 2

The Abstract Test Method (ATM) chosen for the ISUP version 2 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 IUT. The testing architectures are described in the following subclauses.

The ATS is written in concurrent TTCN.

4.2.1 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.

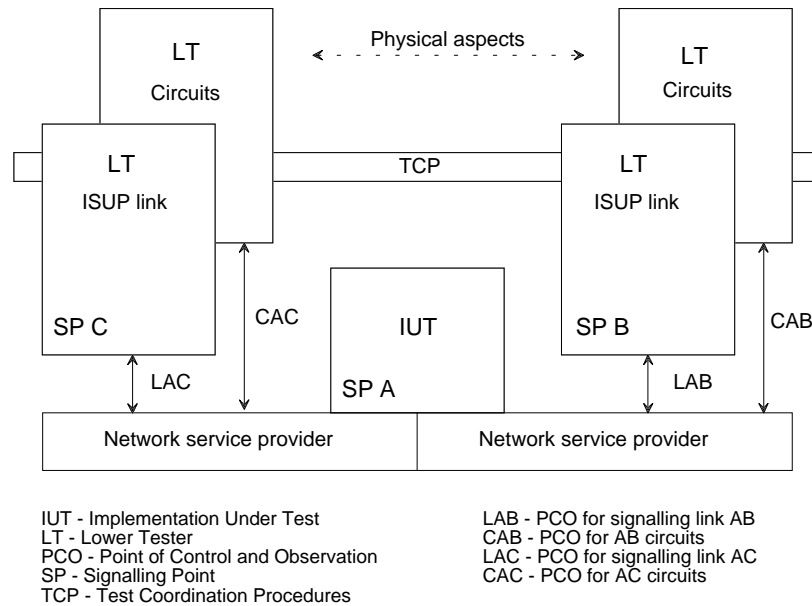


Figure 3: ISUP test method for intermediate exchanges

The IUT is observed and controlled from two ISUP links with 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.

NOTE: The underlying network service provider is the Message Transfer Part (MTP) protocol as specified in ITU-T Recommendations Q.701-Q.707/ETS 300 008.

Figure 4 shows the actual used configuration for intermediate exchanges, with a Main Test Component (MTC), responsible for the A-B interface and a slave Parallel Testing Component (PTC), responsible for the C-A interface.

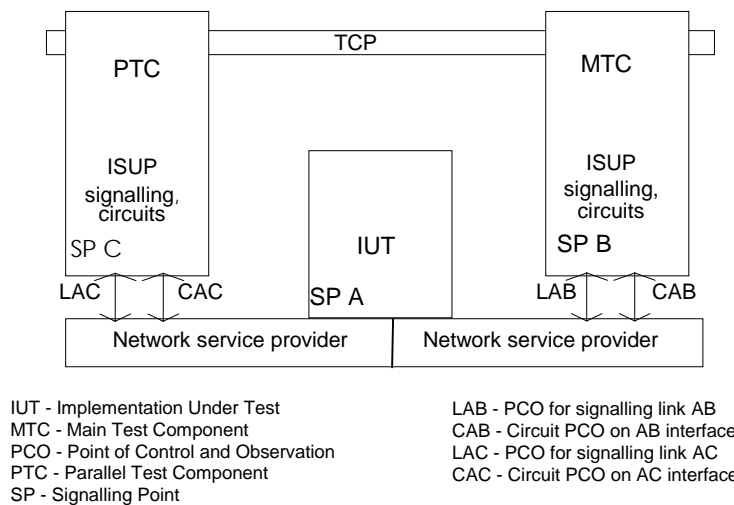


Figure 4: ISUP test configuration for intermediate exchanges

The Test Co-ordination Procedures (TCP) allow for communication between the testers. The test components are mostly implicitly co-ordinated (asynchronously); the TCPs are only used when it is necessary to obtain the verdict from the parallel test component.

4.2.2 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 (the 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).

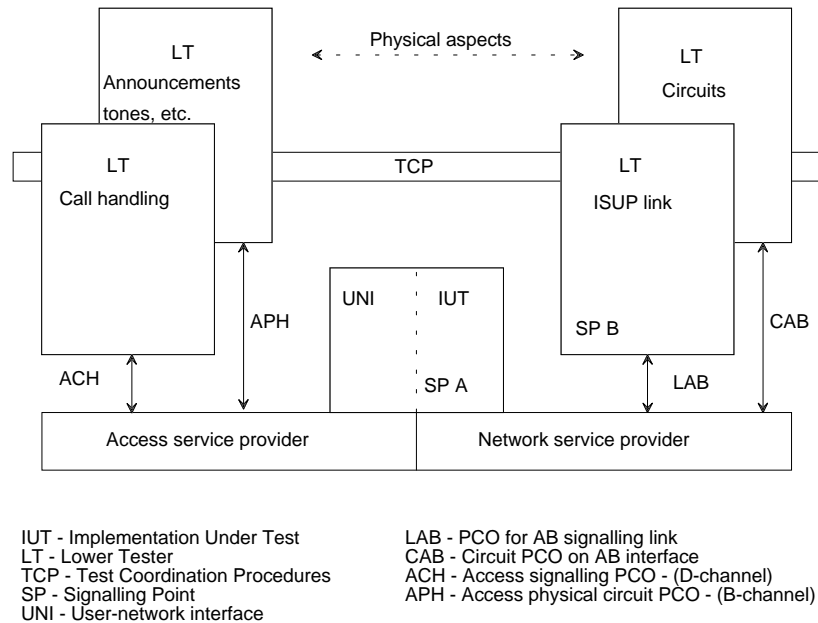


Figure 5: ISUP test method for originating / destination exchanges

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.

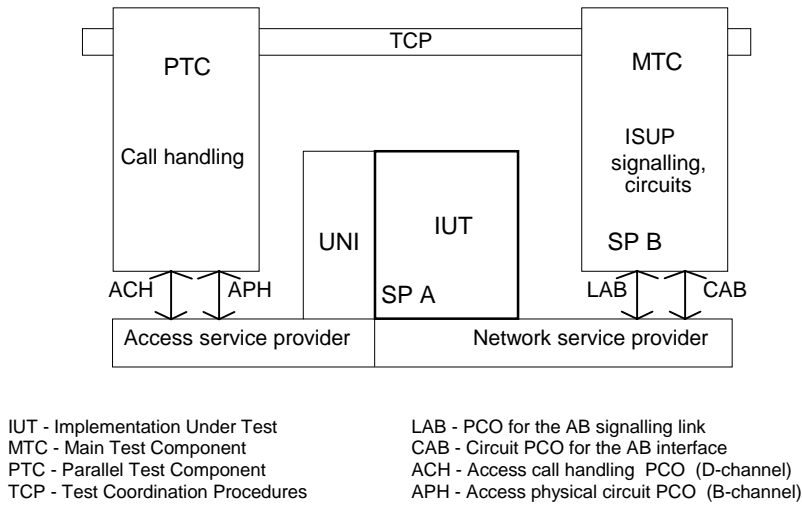


Figure 6: ISUP test configuration for local exchanges

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

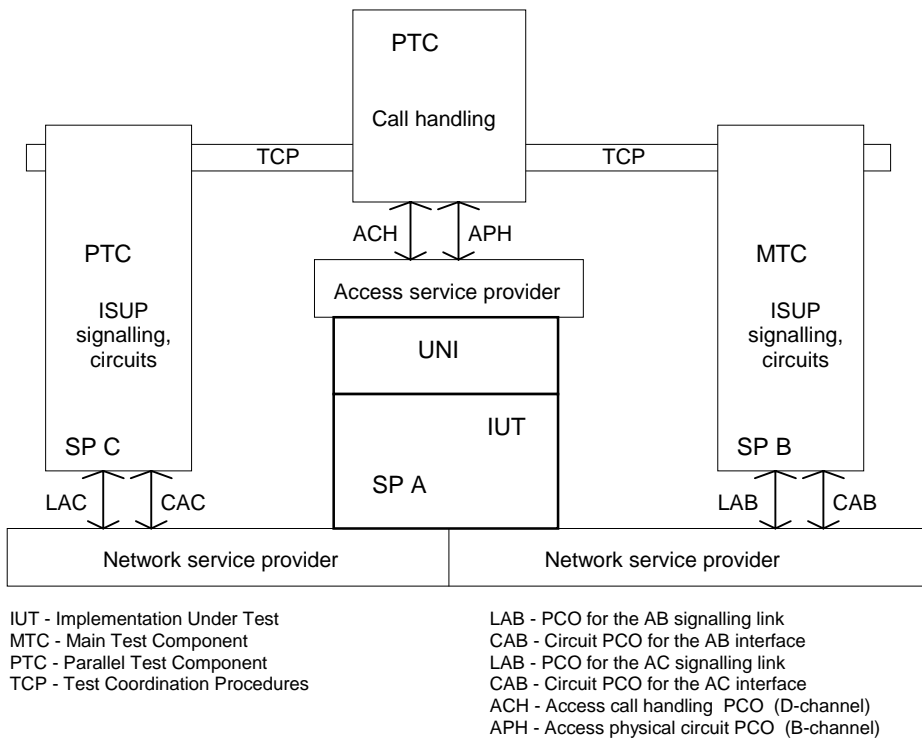


Figure 7: ISUP mixed test configuration for local exchanges

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.

4.2.3 Master-slave aspects in the test configuration

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.

5 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.

5.1 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

5.2 Test case variables

Most test case variables are named using the pattern: TCV_Xxx

5.3 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 (IAM sent from SP B to SP A, with a calling party number included).

5.4 Timers

All timers are named using the pattern: Tname[_min or _max]

EXAMPLE: T7_min (waiting for ACM timer);
TCFNR_max (call forwarding on no reply timer).

5.5 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.

5.6 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.

5.7 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;
1st n is a sequence number used within the supplementary service;
2nd 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 N and n are the same as the test case to which they relate.

Some generic steps with appropriate names, e.g. to complete the call-set-up (+S_ACM_etc_BA, +R_ACM_etc_AC) are also used.

5.8 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.

5.9 Dynamic behaviour

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, and so on.

The main (right) and the parallel (left) test components will then co-operate, 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.

5.10 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.

Annex A (normative): ATS for ISUP version 2 supplementary services

This ATS has been produced using the Tree and Tabular Combined Notation (TTCN) according to ISO/IEC 9646-3 [25].

The ATS was developed on a separate TTCN software tool and therefore the TTCN tables are not completely referenced in the contents table. 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 a PDF file (rsl.PDF contained in archive 356{_e1.LZH) which accompanies this ETS.

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

The TTCN.MP representation corresponding to this ATS is contained in an ASCII file (rsl.MP contained in archive 356{_e1.LZH) which accompanies this ETS.

NOTE: According to ISO/IEC 9646-3 [25], in case of a conflict in interpretation of the operational semantics of TTCN.GR and TTCN.MP, the operational semantics of the TTCN.GR representation takes precedence.

Annex B (normative): Partial PIXIT proforma for ISUP version 2 supplementary services

Notwithstanding the provisions of the copyright clause related to the text of this ETS, ETSI grants that users of this ETS may freely reproduce the partial PIXIT proforma in this annex so that it can be used for its intended purposes and may further publish the completed PIXIT.

B.1 Identification summary

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

B.2 Abstract test suite summary

| | |
|-------------------------|-------------------------------------|
| Protocol specification: | ETS 300 356 |
| ATS specification: | ISUP_v2_suppl_services |
| Abstract test method: | Distributed multi-party 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 (SUT)

| | |
|----------------------------------|--|
| 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 number | PICS reference | PIXIT reference | PCTR reference |
|-----------------|----------------|----------------|-----------------|----------------|
| MTP | | | | |
| Access protocol | | | | |

B.7 Protocol information for ISUP

B.7.1 Protocol identification

| | |
|------------------|---------------------------------|
| Name: | ISDN User Part (ISUP) version 2 |
| Version: | |
| PICS references: | |

NOTE: The PICS reference should reference a completed PICS which is conformant with the PICS proforma contained in ETS 300 356-34.

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 (SPCs)

Two signalling point codes (one incoming and one outgoing) need 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 (CICs)

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 CICs 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 9 and 10 in table B.1.

Table B.1: General configuration

| Item | Parameter | Parameter Type | Explanation | Value |
|------|-------------|----------------|--|-------|
| 1 | TSP_SPA_R | BIT_14 | SS7 Signalling point code of the SUT on the AB interface (right side) | |
| 2 | TSP_SPA_L | BIT_14 | SS7 Signalling point code of the SUT on the AC interface (left side) | |
| 3 | TSP_SPB | BIT_14 | SS7 Signalling point code of the tester on the AB interface | |
| 4 | TSP_SPC | BIT_14 | SS7 Signalling point code of the tester on the AC interface | |
| 5 | TSP_NI_R | BIT_2 | SS7 Network indicator on the AB interface | |
| 6 | TSP_NI_L | BIT_2 | SS7 Network indicator on the AC interface | |
| 7 | TSP_SLS_R | BIT_4 | SS7 Signalling link selection on the AB interface | |
| 8 | TSP_SLS_L | BIT_4 | SS7 Signalling link selection on the AC interface | |
| 9 | TSP_CIC_R | BIT_12 | SS7 Circuit identification code on the AB interface | |
| 10 | TSP_CIC_L | BIT_12 | SS7 Circuit identification code on the AC interface | |
| 11 | TSP_NB_CICS | INTEGER | Number of SS7 circuit identification codes on the AB and AC interfaces | |

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_nolA | 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_nolA | 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_length | OCT_1 | Length of the sub-address | |
| 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_international_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_international_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 ISUP version 2 supplementary services

Notwithstanding the provisions of the copyright clause related to the text of this ETS, ETSI grants that users of this ETS 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.

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: | ETS 300 356 |
| PICS: | |
| Previous PCTR (if any) | |

C.1.3 Testing environment

| | |
|--------------------------------------|-------------------------------------|
| PIXIT number: | |
| ATS specification: | ETS 300 356-36 |
| Abstract test method: | Distributed multi-party 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 to 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.

.....
.....
.....
.....

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.

.....
.....
.....
.....

C.2 IUT conformance status

This IUT has / has not been shown by conformance assessment to be 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) and there are no "FAIL" verdicts to be recorded (in clause C.6) strike the word "has not", otherwise strike the words "has".

C.3 Static conformance summary

The PICS for this IUT is / 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 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 review report

If clause A.3 indicates non-conformance, this clause 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 | | | | |
| TP/ISS_V_5_11 | | | | |
| 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_15_c | | | | |
| MCID/ISS_V_9_15_d | | | | |
| MCID/ISS_V_9_15_e | | | | |
| MCID/ISS_V_9_15_f | | | | |
| MCID/ISS_V_9_16 | | | | |
| MCID/ISS_V_9_17 | | | | |
| MCID/ISS_V_9_18 | | | | |
| 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 | | | | |
| 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 | | | | |
| ECT/ISS_V_11_31_a | | | | |
| ECT/ISS_V_11_31_b | | | | |
| ECT/ISS_V_11_32 | | | | |
| ECT/ISS_V_11_33_a | | | | |
| ECT/ISS_V_11_33_b | | | | |
| ECT/ISS_V_11_34 | | | | |
| ECT/ISS_V_11_35 | | | | |
| ECT/ISS_V_11_36 | | | | |
| ECT/ISS_V_11_37 | | | | |

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_8 | | | | |
| CDIV/ISS_V_12_9_a | | | | |
| CDIV/ISS_V_12_9_b | | | | |
| CDIV/ISS_V_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 | | | | |
| CDIV/ISS_V_12_24 | | | | |
| CDIV/ISS_V_12_25 | | | | |
| CDIV/ISS_V_12_26_a | | | | |
| CDIV/ISS_V_12_26_b | | | | |
| CDIV/ISS_V_12_26_c | | | | |
| 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 | | | | |

(continued)

Table C.12 (concluded): 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_34 | | | | |
| CDIV/ISS_V_12_35 | | | | |
| CDIV/ISS_V_12_36 | | | | |
| CDIV/ISS_V_12_37 | | | | |
| 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 | | | | |
| CCBS/ISUP/ISS_V_15_16 | | | | |

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 | | | | |
| THREE_PTY/ISS_V_16_10 | | | | |

History

| Document history | |
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| March 1997 | Public Enquiry PE 9729: 1997-03-21 to 1997-07-18 |
| December 1997 | Vote V 9809: 1997-12-30 to 1998-02-27 |
| March 1998 | First Edition |
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