



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Q.2971 D

(12/1999)

SERIES Q: SWITCHING AND SIGNALLING

Broadband ISDN – B-ISDN application protocols for
access signalling

**Digital subscriber signalling system No. 2 –
User-network interface layer 3 specification for
point-to-multipoint call/connection control:
Abstract Test Suite (ATS) and partial Protocol
Implementation eXtra Information for Testing
(PIXIT) proforma for the user**

ITU-T Recommendation Q.2971 D

(Formerly CCITT Recommendation)

ITU-T Q-SERIES RECOMMENDATIONS
SWITCHING AND SIGNALLING

| | |
|--|----------------------|
| SIGNALLING IN THE INTERNATIONAL MANUAL SERVICE | Q.1–Q.3 |
| INTERNATIONAL AUTOMATIC AND SEMI-AUTOMATIC WORKING | Q.4–Q.59 |
| FUNCTIONS AND INFORMATION FLOWS FOR SERVICES IN THE ISDN | Q.60–Q.99 |
| CLAUSES APPLICABLE TO ITU-T STANDARD SYSTEMS | Q.100–Q.119 |
| SPECIFICATIONS OF SIGNALLING SYSTEMS No. 4 AND No. 5 | Q.120–Q.249 |
| SPECIFICATIONS OF SIGNALLING SYSTEM No. 6 | Q.250–Q.309 |
| SPECIFICATIONS OF SIGNALLING SYSTEM R1 | Q.310–Q.399 |
| SPECIFICATIONS OF SIGNALLING SYSTEM R2 | Q.400–Q.499 |
| DIGITAL EXCHANGES | Q.500–Q.599 |
| INTERWORKING OF SIGNALLING SYSTEMS | Q.600–Q.699 |
| SPECIFICATIONS OF SIGNALLING SYSTEM No. 7 | Q.700–Q.849 |
| DIGITAL SUBSCRIBER SIGNALLING SYSTEM No. 1 | Q.850–Q.999 |
| PUBLIC LAND MOBILE NETWORK | Q.1000–Q.1099 |
| INTERWORKING WITH SATELLITE MOBILE SYSTEMS | Q.1100–Q.1199 |
| INTELLIGENT NETWORK | Q.1200–Q.1699 |
| SIGNALLING REQUIREMENTS AND PROTOCOLS FOR IMT-2000 | Q.1700–Q.1799 |
| BROADBAND ISDN | Q.2000–Q.2999 |
| General aspects | Q.2000–Q.2099 |
| Signalling ATM adaptation layer (SAAL) | Q.2100–Q.2199 |
| Signalling network protocols | Q.2200–Q.2299 |
| Common aspects of B-ISDN application protocols for access signalling and network signalling and interworking | Q.2600–Q.2699 |
| B-ISDN application protocols for the network signalling | Q.2700–Q.2899 |
| B-ISDN application protocols for access signalling | Q.2900–Q.2999 |

For further details, please refer to the list of ITU-T Recommendations.

ITU-T Recommendation Q.2971 D

Digital subscriber signalling system No. 2 – User-network interface layer 3 specification for point-to-multipoint call/connection control: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the user

Summary

This ITU-T Recommendation specifies Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the user attached to the T_B reference point or coincident S_B and T_B reference point (as defined in ITU-T Recommendation I.413 [3]) of implementations conforming to the procedures for the support of point-to-multipoint switched virtual channel connections, between a root and multiple leaves of the Digital Subscriber Signalling System No. 2 (DSS2) protocol for the Broadband Integrated Services Digital Network (B-ISDN), ITU-T Recommendation Q.2971 [1].

Further parts of this ITU-T Recommendation specify the Protocol Implementation Conformance Statement (PICS) proforma and Test Suite Structure and Test Purposes (TSS & TP) proforma based on this ITU-T Recommendation.

Source

ITU-T Recommendation Q.2971 D was prepared by ITU-T Study Group 11 (1997-2000) and approved under the WTSC Resolution 1 procedure on 3 December 1999.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSC Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

© ITU 2001

All rights reserved. No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the ITU.

CONTENTS

| | Page |
|--|-------------|
| 1 Scope..... | 1 |
| 2 References..... | 1 |
| 3 Endorsement | 2 |
| 4 Coverage | 2 |
| 5 Modifications | 2 |
| 5.1 Other modifications in the document part | 2 |
| 5.2 Modifications in the TTCN part | 3 |
| Appendix I – Bibliography..... | 10 |

ITU-T Recommendation Q.2971 D¹

Digital subscriber signalling system No. 2 – User-network interface layer 3 specification for point-to-multipoint call/connection control: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the user

1 Scope

This ITU-T Recommendation specifies Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proformas for the user attached to the T_B reference point or coincident S_B and T_B reference point (as defined in ITU-T Recommendation I.413 [3]) of implementations conforming to the procedures for the support of point-to-multipoint switched virtual channel connections, between a root and multiple leaves of the Digital Subscriber Signalling System No. 2 (DSS2) protocol for the Broadband Integrated Services Digital Network (B-ISDN), ITU-T Recommendation Q.2971 [1].

Further parts of this ITU-T recommendation specify the Protocol Implementation Conformance Statement (PICS) proforma and Test Suite Structure and Test Purposes (TSS & TP) proforma based on this ITU-T Recommendation.

This Recommendation is applicable to equipment, supporting point-to-multipoint calls/connections, to be attached at either side of a T_B reference point or coincident S_B and T_B reference point when used as an access to the public B-ISDN.

The ATS realizes test purposes identified in the TSS & TP part of the Recommendation and groups them according to the test suite structure given in the TSS & TP. Test purposes defined in the TSS & TP part but not testable are identified in this part of the Recommendation.

The supplier of a protocol implementation that is claimed to conform to Recommendation Q.2971 [1] is required to complete a copy of the PIXIT proforma provided by the test laboratory. The PIXIT proforma shall contain the tables identified in the partial PIXIT proforma part of this Recommendation and may contain additional information required by the test laboratory to be able to appropriately execute the test campaign.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

- [1] ITU-T Recommendation Q.2971 (1995), *Digital Subscriber Signalling System No. 2 (DSS2) – User-network interface layer 3 specification for point-to-multipoint call/connection control*.

¹ ITU-T Recommendation Q.2971 D was previously numbered as Q.2971 *quater* during the approval process.

- [2] ITU-T Recommendation Q.2931 (1995), *Digital Subscriber Signalling System No. 2 (DSS2) – User-network interface (UNI) layer 3 specification for basic call/connection control.*
- [3] ITU-T Recommendation I.413 (1993), *B-ISDN user-network interface.*
- [4] ETSI ETS 300 771-4 (1998), *Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for point-to-multipoint call/bearer control; Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the user.*

3 Endorsement

The text of ETS 300 771-4 [4] was approved by ITU-T as Recommendation Q.2971 D with agreed modifications as given below.

NOTE – New or modified text is indicated using sidebars. In addition, underlining and/or strike-out are used to highlight detailed modifications where necessary.

4 Coverage

This ITU-T Recommendation covers protocol specification of Recommendation Q.2971 [1] as modified by Q.2971 Corrigendum 1 (12/99).

Recommendation Q.2971 specifies extensions of coding and procedures given in Recommendation Q.2931 [2] needed to handle point-to-multipoint calls/connections. The purpose of test cases in this Recommendation is to check compliance to procedures of Recommendation Q.2971 but the TTCN part also built upon coding and procedures of Recommendation Q.2931 as amended by Q.2931 Amendment 1 (06/97), Amendment 2 (03/99) and Amendment 3 (03/99).

5 Modifications

Throughout the text of ETSI ETS 300 771-4 [4], replace references and expressions as shown in the following table:

| Reference in ETS 300 771-4 | Modified reference |
|----------------------------|-------------------------------------|
| ETS 300 771 | Recommendation of the Q.2971 series |
| ETS 300 771-1 | ITU-T Recommendation Q.2971 (10/95) |
| ETS 300 771-4 | ITU-T Recommendation Q.2971 D |
| ETS | Recommendation |
| standard | Recommendation |

5.1 Other modifications in the document part

Page 5, Foreword

Delete the whole Foreword.

NOTE – It is replaced by the Foreword of this Recommendation.

Page 7, clause 1, Scope

Replace the whole clause with the following:

"1 Scope

See clause 1, Scope, of this Recommendation above."

Page 30, subclause B.6.1, Note

Delete the Note.

Page 34, Annex D (informative): Bibliography

Delete the Annex.

Page 35, History

Delete the whole clause "History".

5.2 Modifications in the TTCN part

NOTE – Modifications in the TTCN part of this Recommendation are described in terms of changes in the TTCN.GR representation.

Length of the Called Party Number IE

In the Declarations Part, Test Suite Type Definitions, ASN.1 Type Definitions, alter the definition for the type "CalledPartyNumber" as below:

```
"SEQUENCE {
    iEHeader      IEHeader,
    iELength      IELength,
    extension_o5  BIT STRING(SIZE(1)), -- Extension bit, set to '1'B
    cpn_type      BIT STRING(SIZE(3)), -- Type of number
    numbering_plan_id BIT STRING(SIZE(4)), -- Addressing/numbering plan identification
    address_digits IA5String(SIZE(0..20)) OPTIONAL -- Address/number digits
}"
```

Length of the Calling Party Number IE

In the Declarations Part, Test Suite Type Definitions, ASN.1 Type Definitions, alter the definition for the type "CallingPartyNumber" as below:

```
"SEQUENCE {
    iEHeader      IEHeader,
    iELength      IELength,
    extension_o5  BIT STRING(SIZE(1)), -- Extension bit, set to '1'B
    cpn_type      BIT STRING(SIZE(3)), -- Type of number
    numbering_plan_id BIT STRING(SIZE(4)), -- Addressing/numbering plan identification
    octet5a      Octet5a OPTIONAL, -- Optional octet 5a
    address_digits IA5String(SIZE(0..20)) OPTIONAL -- Address/number digits
}"
```

```
Octet5a ::= SEQUENCE {
    extension_o5a      BIT STRING('1'B), -- Extension bit, set to '1'B
    presentation_indicator BIT STRING(SIZE(2)),
    spare_345         BIT STRING(SIZE(3)), -- Spare bits, normally set to '000'B
    screening_indicator BIT STRING(SIZE(2)) }"
```

Length of the AAL parameters IE

In the Declarations Part, Test Suite Type Definitions, ASN.1 Type Definitions, alter the definition for the type "AAL_contents" as follows:

```
"OCTET STRING(SIZE(1..2047))".
```

Second Cause IE on T398 expiry in the DROP PARTY ACKNOWLEDGE message

In the Declarations Part, Test Suite Type Definitions, ASN.1 Type Definitions, modify the definition for the type "IEs_DROP_PARTY_ACKNOWLEDGE" as below:

```
"SET {  
    causes Causes OPTIONAL,  
    endPointReference EndPointReference  
}"
```

In the Constraints Part, Test Suite Type Constraint Declarations, ASN.1 Type Constraint Declarations, modify the declaration of the constraint DPA_R1 as below:

```
"iEs_DROP_PARTY_ACKNOWLEDGE  
{  
    causes {  
        cause CAU_R IF_PRESENT  
    }  
    endPointReference ER_R1(FLAG,END_REF)  
}"
```

In the Constraints Part, Test Suite Type Constraint Declarations, ASN.1 Type Constraint Declarations, modify the declaration of the constraint DPA_R2 as below:

```
"iEs_DROP_PARTY_ACKNOWLEDGE  
{  
    causes {  
        cause CAU_R1(CAU)  
    }  
    endPointReference ER_R1(FLAG,END_REF)  
}"
```

In the Constraints Part, Test Suite Type Constraint Declarations, ASN.1 Type Constraint Declarations, modify the declaration of the constraint DPA_S1 as below:

```
"iEs_DROP_PARTY_ACKNOWLEDGE  
{  
    causes {  
        cause CAU_S1(CAU_VAL)  
    }  
    endPointReference ER_S1(FLAG,END_REF)  
}"
```

In the Constraints Part, Test Suite Type Constraint Declarations, ASN.1 Type Constraint Declarations, add a new constraint as below:

| ASN.1 Type Constraint Declaration | |
|---|--|
| Constraint name: | DPA_R3(FLAG: Flag; END_REF: Er_value; CAU_VAL: Cause_value) |
| ASN.1 Type: | InformationElements |
| Derivation Path: | |
| Encoding Variation: | |
| Comments: | Receive constraint; used for DROP PARTY ACKNOWLEDGE messages containing second Cause#102 |
| Constraint Value | |
| <pre>iEs_DROP_PARTY_ACKNOWLEDGE { causes { cause CAU_R1(CAU_VAL), cause_repeated CAU_R1(102) IF_PRESENT, }, endPointReference ER_R1(FLAG,END_REF) }</pre> | |
| Detailed Comments: | |

In the Dynamic Part, Test Step Library, modify Behaviour Description of L3MU_PR_P3_P5 line 4, L3MU_PR_P70_P5 line 6, L3MU_PR_P4_P5 line 5 and L3MU_PR_P71_P5 line 6 as below:

```
"0?DSS2_PDU      (CAUV:=DSS2_PDU.informationElements.iEs_DROP_PARTY_cause.cause_value)
CANCEL TWAIT"
```

In the Dynamic Part, Test Cases, modify Constraint Reference in line 5 of test cases L3MU_08_11, L3MU_08_12, L3MU_31_06 and L3MU_31_07 as:

```
"Mr(DPA,F0,CREF,DPA_R3+(F0,EREF2,CAUV))"
```

Check optional diagnostic in the STATUS message sent on error handling

In the Declarations Part, Test Suite Type Definitions, ASN.1 Type Definitions, add the following new type:

| ASN.1 Type Definition | |
|------------------------------|---|
| Type name: | Diagnostics |
| Encoding Variation: | |
| Comments: | Diagnostics field of the Cause IE |
| Type Definition | |
| BIT STRING(SIZE(8..32)) | |
| Detailed Comments: | Ref: 3.3/Q.2610; 1 octet when identifies IE or IE subfield, 4 octets when identifies a VC |

In the Declarations Part, Test Suite Type Definitions, ASN.1 Type Definitions, alter the definition of the type "Cause" as follows:

```
"SEQUENCE {
  iEHeader IEHeader,
  iELength IELength,
  extension_o5 BIT STRING(SIZE(1)), -- Extension bit, set to '1'B
  spare_567 BIT STRING(SIZE(3)), -- Spare bits, normally set to '000'B
  location BIT STRING(SIZE(4)),
  extension_o6 BIT STRING('1'B), -- Extension bit, set to '1'B
  cause_value Cause_value,
  diagnostics Diagnostics OCTET STRING OPTIONAL
}"
```

In the Constraints Part, Test Suite Type Constraint Declarations, ASN.1 Type Constraint Declarations, add a new constraint as below:

| ASN.1 Type Constraint Declaration |
|--|
| Constraint name: CAU_R2(CAU_VAL: Cause_value; DIAG: Diagnostics) ASN.1 Type: Cause Derivation Path: Encoding Variation: Comments: Receive constraint with parametrized cause & diagnostics value |
| Constraint Value |
| <pre> { iEHeader IE_HDR_receive(Cause_ID), iELength ?, -- any value extension_05 '1'B, spare_567 '000'B, location ?, -- any value extension_06 '1'B, cause_value CAU_VAL, -- parametrized cause value diagnostics DIAG IF_PRESENT -- parametrized diagnostics } </pre> |
| Detailed Comments: |

In the Constraints Part, Test Suite Type Constraint Declarations, ASN.1 Type Constraint Declarations, add a new constraint as below:

| ASN.1 Type Constraint Declaration |
|--|
| Constraint name: ST_R5(CAU_VAL: Cause_value; DIAG: Diagnostics; CST_VAL: State_value; FLAG: Flag; END_REF: Er_value; PST_VAL: State_value) ASN.1 Type: InformationElements Derivation Path: Encoding Variation: Comments: Receive constraint; used for STATUS messages, allows to pass diagnostics in the Cause IE |
| Constraint Value |
| <pre> iEs_STATUS { cause CAU_R2(CAU_VAL,DIAG), callState CST_R2(CST_VAL), endPointReference ER_R1(FLAG,END_REF), endPointState EPST_R2(PST_VAL) } </pre> |
| Detailed Comments: |

In the Dynamic Part, Test Cases, modify the "Constraint Ref" column as below.

L3MU_21_05 line 4: "Mr(ST,F0,CREF,ST_R5+(C99,PX_UNRECOGNISED_ID,U4,F0,EREF2,P1))"
 L3MU_21_06 line 4: "Mr(ST,F0,CREF,ST_R5+(C99,PX_UNRECOGNISED_ID,U10,F0,EREF2,P1))"
 L3MU_21_11 line 4: "Mr(ST,F0,CREF,ST_R5+(C100,Notification_indicator_ID,U4,F0,EREF2,P1))"
 L3MU_21_12 line 4: "Mr(ST,F0,CREF,ST_R5+(C100,Notification_indicator_ID,U10,F0,EREF2,P1))"
 L3MU_21_17 line 4: "Mr(ST,F0,CREF,ST_R5+(C99,PX_UNRECOGNISED_ID,U4,F0,EREF2,P1))"
 L3MU_21_18 line 4: "Mr(ST,F0,CREF,ST_R5+(C99,PX_UNRECOGNISED_ID,U10,F0,EREF2,P4))"
 L3MU_21_23 line 4:
 "Mr(ST,F0,CREF,ST_R5+(C100,Broadband_low_layer_info_ID,U4,F0,EREF2,P1))"

L3MU_21_24 line 4:

"Mr(ST,F0,CREF,ST_R5+(C100,Broadband_low_layer_info_ID,U10,F0,EREF2,P4))"

L3MU_21_37 line 8: "Mr(ST,F0,CREF,ST_R5+(C100,Notification_indicator_ID,U4,F0,EREF2,P6))"

L3MU_21_38 line 8: "Mr(ST,F0,CREF,ST_R5+(C100,Notification_indicator_ID,U10,F0,EREF2,P6))"

L3MU_21_39 line 8: "Mr(ST,F0,CREF,ST_R5+(C100,Notification_indicator_ID,U10,F0,EREF2,P6))"

L3MU_21_48 line 4: "Mr(ST,F0,CREF,ST_R5+(C100,Cause_ID,U4,F0,EREF2,P0))"

L3MU_21_49 line 4: "Mr(ST,F0,CREF,ST_R5+(C100,Cause_ID,U10,F0,EREF2,P0))"

L3MU_43_05 line 11: "Mr(ST,F1,CREF,ST_R5+(C99,PX_UNRECOGNISED_ID,U7,F1,EREF2,P2))"

L3MU_43_06 line 11: "Mr(ST,F1,CREF,ST_R5+(C99,PX_UNRECOGNISED_ID,U10,F1,EREF2,P2))"

L3MU_43_11 line 11:

"Mr(ST,F1,CREF,ST_R5+(C100,Broadband_low_layer_info_ID,U7,F1,EREF2,P2))"

L3MU_43_12 line 11:

"Mr(ST,F1,CREF,ST_R5+(C100,Broadband_low_layer_info_ID,U10,F1,EREF2,P2))"

L3MU_43_25 line 8: "Mr(ST,F1,CREF,ST_R5+(C100,Notification_indicator_ID,U7,F1,EREF2,P6))"

L3MU_43_26 line 8: "Mr(ST,F1,CREF,ST_R5+(C100,Notification_indicator_ID,U10,F1,EREF2,P6))"

L3MU_43_27 line 8: "Mr(ST,F1,CREF,ST_R5+(C100,Notification_indicator_ID,U10,F1,EREF2,P6))"

L3MU_43_36 line 4: "Mr(ST,F1,CREF,ST_R5+(C100,Notification_indicator_ID,U7,F1,EREF2,P0))"

L3MU_43_37 line 4: "Mr(ST,F1,CREF,ST_R5+(C100,Notification_indicator_ID,U10,F1,EREF2,P0))"

In the Dynamic Part, Test Step Library, modify test step L3MU_CS1 as below:

| Test Step Dynamic Behaviour | | | | | |
|---|---|--|---|-----|----------|
| Test Step Name: L3MU_CS1(ES: State_value; FL, ER_FL: Flag; ER: Er_value; PS: State_value) | | | | | |
| Group: | | | | | |
| Objective: To check the link state and one party state of the IUT. | | | | | |
| Default: L3MU_DEF(FL) | | | | | |
| Comments: | | | | | |
| Nr | L | Behaviour Description | Constraint Ref | V | Comments |
| 1 | | L0!DSS2_PDU (END_FLAG := FALSE, INV_FL := INVERSE(FL), INV_EFL := INVERSE(ER_FL)) START T322 | Ms(SQ,FL,CREF, SQ_S1(ER_FL,ER)) | | (1) |
| 2 | | REPEAT SUBTREE_CS1 UNTIL [END_FLAG] | | | (2) |
| | | SUBTREE_CS1 | | | |
| 3 | | L0?AAL_REL_IN [(ES= U0) AND PX_L2_RELEASE_U00] CANCEL T322 | | (P) | (3) |
| 4 | | (END_FLAG := TRUE) | | | |
| 5 | | L0?DSS2_PDU [CALL_STATE = U9] | Mr(AL,INV_FL,CREF, AL_R1(INV_EFL,ER)) | | |
| 6 | | (CALL_STATE := U7, PARTY_STATE := P3) | | | |
| 7 | | L0?DSS2_PDU [(CALL_STATE = U9) OR (CALL_STATE = U7)] | Mr(CN,INV_FL,CREF, CN_R1(INV_EFL,ER)) | | |
| 8 | | (CALL_STATE := U8) | | | |
| 9 | | L0?DSS2_PDU CANCEL T322 | Mr(ST,INV_FL,CREF, ST_R1(C30,CALL_STATE,INV_EFL,ER, PARTY_STATE)) | (P) | (4) |
| 10 | | (END_FLAG := TRUE) | | | |

| | | | | |
|-----------|--|------------------------------------|-----|-------------|
| 11 | L0?DSS2_PDU [STATUS_EXPECTED] | Mr(ST,INV_FL,CREF, ST_R3(CAUV)) | | (5) |
| 12 | —(STATUS_EXPECTED := FALSE) | | | |
| <u>11</u> | ?TIMEOUT T322 | | (F) | no response |
| <u>13</u> | | | | |
| <u>12</u> | (END_FLAG := TRUE) | | | |
| 14 | | | | |

Detailed Comments:

- (1) A STATUS ENQUIRY message containing anEndpoint reference information element is sent.
- (2) The subtree SUBTREE_CS is repeated until a STATUS message indicating the current link and party state and a valid cause value is received.
- (3) A AAL-RELEASE-INDICATION is received. The IUT has released layer 2 after entering N0.
- (4) A STATUS message is received indicating the expected link and party state values and the appropriate cause value 30.
- ~~(5) A STATUS message is received indicating the cause value as stored in the test case variable CAUV. This variable is set in test cases which allow optionally the receipt of a STATUS message (e.g. reaction to a message with a non-mandatory information element contents error).~~

Editorial and Syntactical changes

In the Declarations Part, Test Suite Type Definitions, ASN.1 Type Definitions, modify definitions of types "CalledPartySubaddress" and "CallingPartySubaddress" as follows:

```
"SEQUENCE {
    iEHeader          IEHeader,
    iELength          IELength,
    extension_o5      BIT STRING('1'B),           -- Extension bit, set to '1'B
    cps_type          BIT STRING(SIZE(3)),         -- Type of subaddress
    odd_even_indicator BIT STRING(SIZE(14)),
    spare_123         BIT STRING(SIZE(3)),         -- Spare bits, normally set to '000'B
    subaddress_info   IA5String(SIZE(0..20)) OPTIONAL -- Subaddress information
}"
```

In the Constraints Part, Test Suite Type Constraint Declarations, ASN.1 Type Constraint Declarations, modify declarations of constraints SU_R1, SU_R2 and SU_R3, as below:

```
"iEs_SETUP
{
    aTMAdaptionLayerParameters    AALP_R IF_PRESENT,
    aTMTrafficDescriptor          ATMTD_R1,
    broadbandBearerCapability      BBC_R,
    broadbandHighLayerInformation BHLC_R IF_PRESENT,
    broadbandLowLayerInformations (single_LLI BLLC_R) IF_PRESENT,
    calledPartyNumber             CDPN_R IF_PRESENT,
    calledPartySubaddress         CDPS_R IF_PRESENT,
    callingPartyNumber            CGPN_R IF_PRESENT,
    callingPartySubaddress        CGPS_R IF_PRESENT,
}
```

<rest of the declaration shall remain unchanged>

In the Dynamic Part, Test Cases, modify the "Purpose" in the header of table "Test Case Dynamic behaviour" of the following test cases as below:

L3MU_21_37

"Ensure that the IUT in U4 and P4 for party 1 and P4 for party 2, on receipt of a DROP PARTY message (Optional information element with content error present, IE instruction field flag = IE instruction field not significant, Endpoint reference value = party 2),

optionally sends a STATUS message (Cause = value 100 and optional diagnostics field carrying correct IE identifier, Call state value = 4, Endpoint reference value = party 2, Endpoint reference party state = 6) followed by a DROP PARTY ACKNOWLEDGE message and optionally sends a STATUS message (Cause value = 100, Call state value = 4, Endpoint reference value = party 2, Endpoint reference party state = 6 or 0 dependant on the order of transmission), remains in P4 for party 1, enters P0 for party 2 and remains in U4."

L3MU_21_38

"Ensure that the IUT in U10 and P7 for party 1 and P4 for party 2, on receipt of a DROP PARTY message (Optional information element with content error present, IE instruction field flag = IE instruction field not significant, Endpoint reference value = party 2),

optionally sends a STATUS message (Cause = value 100 and optional diagnostics field carrying correct IE identifier, Call state value = 10, Endpoint reference value = party 2, Endpoint reference party state = 6) followed by a DROP PARTY ACKNOWLEDGE message and optionally sends a STATUS message (Cause value = 100 Call state value = 10, Endpoint reference value = party 2, Endpoint reference party state = 6 or 0 dependant on the order of transmission), remains in P7 for party 1, enters P0 for party 2 and remains in U10."

L3MU_21_39

"Ensure that the IUT in U10 and P7 for party 1 and P7 for party 2, on receipt of a DROP PARTY message (Optional information element with content error present, IE instruction field flag = IE instruction field not significant, Endpoint reference value = party 2),

optionally sends a STATUS message (Cause = value 100 and optional diagnostics field carrying correct IE identifier, Call state value = 10, Endpoint reference value = party 2, Endpoint reference party state = 6) followed by a DROP PARTY ACKNOWLEDGE message and optionally sends a STATUS message (Cause value = 100, Call state value = 10, Endpoint reference value = party 2, Endpoint reference party state = 6 or 0 dependant on the order of transmission), remains in P7 for party 1, enters P0 for party 2 and remains in U10."

L3MU_43_25

"Ensure that the IUT in U7 and P3 for party 1 and P3 for party 2, on receipt of a DROP PARTY message (Optional information element with content error present, IE instruction field flag = IE instruction field not significant, Endpoint reference value = party 2),

optionally sends a STATUS message (Cause = value 100 and optional diagnostics field carrying correct IE identifier, Call state value = 7, Endpoint reference value = party 2, Endpoint reference party state = 6) followed by a DROP PARTY ACKNOWLEDGE message and optionally sends a STATUS message (Cause value = 100, Call state value = 7, Endpoint reference value = party 2, Endpoint reference party state = 6 or 0 dependant on the order of transmission), remains in P3 for party 1, enters P0 for party 2 and remains in U7."

L3MU_43_26

"Ensure that the IUT in U10 and P7 for party 1 and P3 for party 2, on receipt of a DROP PARTY message (Optional information element with content error present, IE instruction field flag = IE instruction field not significant, Endpoint reference value = party 2),

optionally sends a STATUS message (Cause = value 100 and optional diagnostics field carrying correct IE identifier, Call state value = 10, Endpoint reference value = party 2, Endpoint reference party state = 6) followed by a DROP PARTY ACKNOWLEDGE message and optionally sends a STATUS message (Cause value = 100, Call state value = 10, Endpoint reference value = party 2, Endpoint reference party state = 6 or 0 dependant on the order of transmission), remains in P7 for party 1, enters P0 for party 2 and remains in U10."

L3MU_43_27

"Ensure that the IUT in U10 and P7 for party 1 and P7 for party 2, on receipt of a DROP PARTY message (Optional information element with content error present, IE instruction field flag = IE instruction field not significant, Endpoint reference value = party 2),

optionally sends a STATUS message (Cause = value 100 and optional diagnostics field carrying correct IE identifier, Call state value = 10, Endpoint reference value = party 2, Endpoint reference party state = 6) followed by a DROP PARTY ACKNOWLEDGE message and optionally sends a STATUS message (Cause value = 100, Call state value = 10, Endpoint reference value = party 2, Endpoint reference party state = 6 or 0 dependant on the order of transmission), remains in P7 for party 1, enters P0 for party 2 and remains in U10."

APPENDIX I

Bibliography

- [A] ETSI ETS 300 771-1 (1997), *Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for point-to-multipoint call/bearer control; Part 1: Protocol specification.*

SERIES OF ITU-T RECOMMENDATIONS

| | |
|-----------------|--|
| Series A | Organization of the work of ITU-T |
| Series B | Means of expression: definitions, symbols, classification |
| Series C | General telecommunication statistics |
| Series D | General tariff principles |
| Series E | Overall network operation, telephone service, service operation and human factors |
| Series F | Non-telephone telecommunication services |
| Series G | Transmission systems and media, digital systems and networks |
| Series H | Audiovisual and multimedia systems |
| Series I | Integrated services digital network |
| Series J | Transmission of television, sound programme and other multimedia signals |
| Series K | Protection against interference |
| Series L | Construction, installation and protection of cables and other elements of outside plant |
| Series M | TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits |
| Series N | Maintenance: international sound programme and television transmission circuits |
| Series O | Specifications of measuring equipment |
| Series P | Telephone transmission quality, telephone installations, local line networks |
| Series Q | Switching and signalling |
| Series R | Telegraph transmission |
| Series S | Telegraph services terminal equipment |
| Series T | Terminals for telematic services |
| Series U | Telegraph switching |
| Series V | Data communication over the telephone network |
| Series X | Data networks and open system communications |
| Series Y | Global information infrastructure and Internet protocol aspects |
| Series Z | Languages and general software aspects for telecommunication systems |