

ü]fc_cdUgcj bc`X][]HJbc`ca fYy`Y`n`]bH[f]fUbja]`gkcf]hj Ua]`f6 !=G8 BŁĖ
G][bU]nUW`g_U5 HA!df]U[cX]`bUd`UghfG55 @ŁĖ Gkcf]hj Ybc`gdYWZ Yb`dcj YnUj b]
dfchc_c``fGG7 CDŁĖ`%`XY` GdYWZ_UW`Udfchc_c`UQf]dcfc]c`H! H'E`&%\$ž
gdfYa Yb`YbcQ

Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Connection Oriented Protocol (SSCOP); Part 1: Protocol specification [ITU-T Recommendation Q.2110, modified]

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 436-1 V1.2.1:2005](https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005)

<https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005>

Ta slovenski standard je istoveten z: EN 300 436-1 Version 1.2.1

ICS:

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
--------	---	--

SIST EN 300 436-1 V1.2.1:2005 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 436-1 V1.2.1:2005

<https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005>

ETSI EN 300 436-1 V1.2.1 (2000-09)

European Standard (Telecommunications series)

Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Connection Oriented Protocol (SSCOP); Part 1: Protocol specification

[ITU-T Recommendation Q.2110, modified]

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 436-1 V1.2.1:2005](https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005)

<https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005>



Reference

REN/SPAN-01058-1

Keywords

ATM, ISDN, SSCOP

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

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

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 436-1 V1.2.1:2005

<https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005>

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at <http://www.etsi.org/tb/status/>

If you find errors in the present document, send your comment to:
editor@etsi.fr

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2000.
All rights reserved.

Contents

Intellectual Property Rights	4
Foreword.....	4
Endorsement notice	4
1 Scope	5
2 References	5
3 Abbreviations	5
4 Endorsement notice	6
History	11

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN 300 436-1 V1.2.1:2005](https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005)

[https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-
ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005](https://standards.iteh.ai/catalog/standards/sist/03ca2c38-c8e2-48e6-a4c7-ed0544af2f0d/sist-en-300-436-1-v1-2-1-2005)

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://www.etsi.org/ipr>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

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

The present document is part 1 of a multi-part EN covering the Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Connection Oriented Protocol (SSCOP), as identified below:

Part 1: "Protocol specification [ITU-T Recommendation Q.2110, modified]";

Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 4: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification for the user"

NOTE: Edition 1 of part 4, the abstract test suite, can only be used without an upper tester or with ETS 300 437-1 as an upper tester.

National transposition dates

Date of adoption of this EN:	21 July 2000
Date of latest announcement of this EN (doa):	31 October 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 April 2001
Date of withdrawal of any conflicting National Standard (dow):	30 April 2001

Endorsement notice

The elements of ITU-T Recommendations Q.2110 [15] apply, with the following modifications:

1 Scope

The present document specifies the Service Specific Connection Oriented Protocol (SSCOP) for the pan-European Broadband Integrated Services Digital Network (B-ISDN) as provided by European public telecommunications operators.

The present document specifies the peer-to-peer protocol for the transfer of information between any pair of SSCOP entities, the interactions between the SSCOP and the ATM Adaptation Layer (AAL) common part, and the interactions between the SSCOP and the AAL management plane.

Further parts of the present document specify the method of testing required to identify conformance to this EN.

The present document is applicable as defined in the appropriate Service Specific Co-ordination Function (SSCF).

2 References

Insert the following references at the end of clause 2 of ITU-T Recommendation Q.2110 [15]:

The references of ITU-T Recommendation Q.2110 [15] apply, modified as shown below.

Reference in ITU-T Recommendation Q.2110	Modified reference
ITU-T Recommendation Q.2130 [9]	ITU-T Recommendation Q.2130 as modified by ETS 300 437-1 [11]
ITU-T Recommendation Q.2140 [10]	ITU-T Recommendation Q.2140 as modified by ETS 300 438-1 [12]
ITU-T Recommendation Q.2931 [5]	ITU-T Recommendation Q.2931 as modified by ETS 300 443-1 [13]

- (standards.iteh.ai)
- [11] ETSI ETS 300 437-1: "Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Co-ordination Function (SSCF) for support of signalling at the User-Network Interface (UNI); Part 1: Specification of SSCF at UNI [ITU-T Recommendation Q.2130 (1995), modified]"
- [12] ETSI ETS 300 438-1: "Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Co-ordination Function (SSCF) for support of signalling at the Network Node Interface (NNI); Part 1: Specification of SSCF at NNI [ITU-T Recommendation Q.2140 (1995), modified]"
- [13] ETSI EN 300 443-1: "Broadband Integrated Services Digital Network (B-ISDN); Digital Subscriber Signalling System No. two (DSS2) protocol; B-ISDN user-network interface layer 3 specification for basic call/bearer control; Part 1: Protocol specification [ITU-T Recommendation Q.2931 (1995), modified]"
- [14] ITU-T COM 11-R 67-E: "Report of the meeting held in Geneva from 1-19 September 1997 - Part 1 - Implementors' guide (Version 9/97) for Q.2110 (7/94)", October 1997.
- [15] ITU-T Recommendation Q.2110 (1994): "B-ISDN ATM adaptation layer – Service specific connection oriented protocol (SSCOP)".
- [16] ETSI ETS 300 436-2: "Broadband Integrated Services Digital Network (B-ISDN); Signalling ATM Adaptation Layer (SAAL); Service Specific Connection Oriented Protocol (SSCOP); Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

3 Abbreviations

The terms and abbreviations defined in ITU-T Recommendation Q.2110 [15] apply.

4 Endorsement notice

The elements of clauses 3 onwards of ITU-T Recommendation Q.2110 [15] revisions to Q.2110 are indicated by underlining (additions) and strikeout (deletions) apply, with the following modifications:

Subclause 7.1, item 1):

After the last sentence of item 1) describing the STAT PDU add the following.

Optionally a STAT PDU may also be transmitted any time the receiver needs to update the credit information. In this case N (PS) transmitted in the STAT PDU is set to VR (PS), the N (PS) of the last POLL PDU received. Detailed reception status information may or may not be included.

Subclause 7.4:

On page 17 of SSCOP, in the second paragraph of subclause 7.4, delete the two sentences.

~~When performing arithmetic comparisons of transmitter variables, VT (A) is assumed to be the base. When performing arithmetic comparisons of receiver variables, VR (R) is assumed to be the base.~~

Details of how to perform modulo comparisons can be found in note 4, figure 20 (sheet 2 of 51).

Subclause 7.4:

At the end of subclause 7.4, item d), add the following sentence.

As an implementation option a BGN PDU in state 10 (IDLE) may always be accepted irrespective of the values of N (SQ) in the BGN PDU.

Thereafter add two additional receiver state variables as follows:

- e) VR (PS) - Receiver Poll Sequence Number (optional):
 - the poll sequence number of the last POLL PDU received. If a STAT PDU is to be transmitted which is not in response to a POLL PDU its N (PS) is set to VR (PS).
- f) poll_received - Receiver Poll Received Indication (optional):
 - indication, whether or not at least one POLL PDU has been received since connection establishment. It is set to NO on initialization. It is set to YES when a POLL is received.

Subclause 7.8.1

Insert after the third paragraph:

In order to prevent potential deadlock situations, the size of the operating window of the protocols at the transmitter should be upper bounded by the value

$10 \times \text{Timer_POLL} \times \mu_{\text{##}}$.

where $\mu_{\text{##}}$ is the maximum allowed mean signalling cellrate.

At the end of clause 7.8.1, add the following:

There are two options which can be applied to improve peer-to-peer flow control and performance:

i) After emptying the retransmission buffer the transmitter may optionally send a POLL PDU independently of Timer_POLL and the value of MaxPD. In such a situation it is likely that one or more gaps will be closed at the receiver and immediately soliciting a credit update can be advised.

ii) As credit is used to control resources at the receiver (e.g. the reception buffer) the times of granting (and withdrawing) of credit should be under the control of the receiver. Therefore the receiver may optionally transmit a STAT PDU when an immediate credit update seems opportune. This could, e.g., be the case after the recovery from local receiver congestion or after the closure of a gap in the reception buffer.

Figure 20 (sheet 2 of 51)

1. In the Notes delete "(on the use of queues)" in the first line.
2. In Note 4 insert the following after the third sentence:

Modulo comparisons involving two terms (e.g. $x < y$) have to use a defined base value b to be well defined, i.e., so that the comparison can be made into one involving three terms (e.g. $b \leq x < y$).

3. At the end of Note 4 add the following:

Modulo comparisons involving three terms (e.g. $x \leq y < z$) are already well defined and do not involve any extra base value.

Figure 20 (sheet 5 of 51)

In state 10 (IDLE) modify the actions after receipt of a "BGN PDU" as follows:

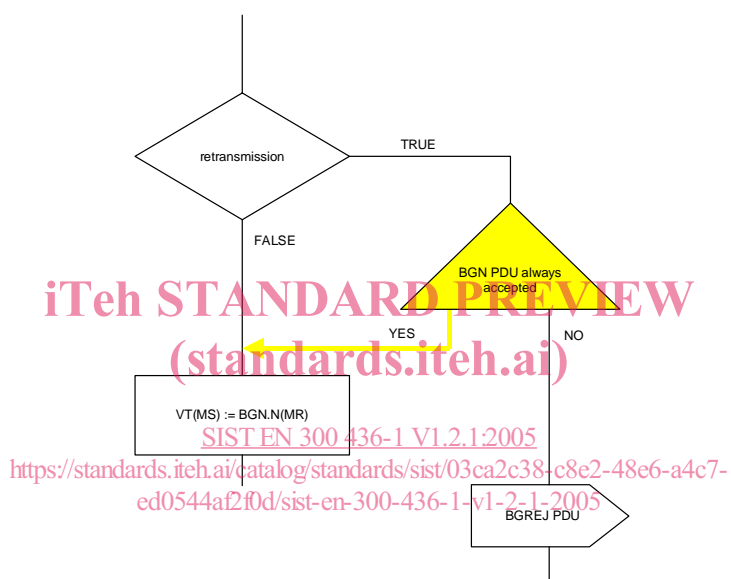


Figure 20 (sheet 38 of 51)

Of the three connectors labelled A, the middle one at the bottom of the page should be labelled B as follows:

