



SLOVENSKI STANDARD
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ü]fc_cdUgcj bc`X][]HJbc`ca fYÿ`Y`n]bhY[f]fUb]a]`g]cf]hj Ua]`f6 !-G8 BŁ]b
 ý]fc_cdUgcj bc`nUgYVbc`ca fYÿ`Y`n]bhY[f]fUb]a]`g]cf]hj Ua]`f6 !D-GBŁĚ`Dfclc_c`U
 X][]HJbY`bUfc b]ý_Y`g][bU]nUWY`Y`ýH`&fB GG&Ł]b`ý]fc_cdUgcj bY`g][bU]nUWY`Y`a YX
 WwbHfUua]`f6 !E G; ŁĚ`GdYVWZ_ UWY`U_fa]`Yb`U`_]WUj`c` YbYa`c`c`4`_fa]`Yb`U
 _]WU]b`bcg]`WUĚ` ("XY. 5 VgHfU`Hb]`dfYg_i`ýU]b]b]n`f5 HGL]b`XY`bU`Xc`XU`bU
]bZ`fa UWY`U`nU`dfYg_i`ýU`b`Y]nj YXVY`dfclc_c`U`fD`L`+ŁĚ`Dfclc`Z`fa UgdYVWZ_ UWY`U

Broadband Integrated Services Digital Network (B-ISDN) and Broadband Private Integrated Services Network (B-PISN); Digital Subscriber Signalling System No. two (DSS2) and Broadband QSIG (B-QSIG) protocols; Call control specification in separated call and bearer control environment; Part 4: Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification

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**Broadband Integrated Services Digital Network (B-ISDN) and
Broadband Private Integrated Services Network (B-PISN);
Digital Subscriber Signalling System No. two (DSS2)
and Broadband QSIG (B-QSIG) protocols;
Call control specification in separated call
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Implementation eXtra Information for Testing (PIXIT)
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Foreword

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

The present document is part 4 of a multi-part standard covering the Digital Subscriber Signalling System No. 2 (DSS2), Broadband Inter-Exchange Signalling (B-QSIG), and Signalling System No. 7 (SS7) TSS&TP for the Broadband Integrated Services Digital Network (B-ISDN) and Broadband Private Integrated Services Network (B-PISN) Call Control, as described below:

- Part 1: "Protocol specification";
- 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".**

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1 Scope

The present document provides the Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma for the Call Control protocol as specified in EN 302 092-1 [1].

This fourth part of EN 302 092 series is applicable to the Call Control protocol at the Q_B , S_B , T_B and co-incident S_B/T_B reference points within, between and at the access to Broadband Private Integrated Services Networks and within, between and at the access to public Broadband Integrated Services Digital Networks.

A further part of the present document specifies the Test Suite Structure and Test Purposes (TSS&TP) related to this ATS and partial PIXIT proforma.

2 References

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

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

- [1] ETSI EN 302 092-1 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN) and Broadband Private Integrated Services Network (B-PISN); Digital Subscriber Signalling System No. two (DSS2), Broadband Inter-Exchange Signalling (B-QSIG), and Signalling System No. 7 (SS7); Call control in a separated call and bearer control environment; Part 1: Protocol specification". [SIST EN 302 092-4 V1.1.1:2005](https://standards.iteh.ai/catalog/standards/sist/a3279bc6-d4cc-42d7-bd80-a13e26073470/sist-en-302-092-4-v1.1.1-2005)
- [2] ETSI EN 302 092-2 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN) and Broadband Private Integrated Services Network (B-PISN); Digital Subscriber Signalling System No. two (DSS2), Broadband Inter-Exchange Signalling (B-QSIG), and Signalling System No. 7 (SS7); Call control in a separated call and bearer control environment; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification". <https://standards.iteh.ai/catalog/standards/sist/a3279bc6-d4cc-42d7-bd80-a13e26073470/sist-en-302-092-4-v1.1.1-2005>
- [3] ETSI EN 302 092-3 (V1.1): "Broadband Integrated Services Digital Network (B-ISDN) and Broadband Private Integrated Services Network (B-PISN); Digital Subscriber Signalling System No. two (DSS2), Broadband Inter-Exchange Signalling (B-QSIG), and Signalling System No. 7 (SS7); Call control in a separated call and bearer control environment; Part 3: Test Suite Structure and Test Purposes (TSS&TP) specification".
- [4] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework, Part 1: General concepts".
- [5] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework, Part 2: Abstract Test Suite Specification".
- [6] ISO/IEC 9646-3: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework, Part 3: The Tree and Tabular Combined Notation".
- [7] ISO/IEC 9646-4: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework, Part 4: Test realization".
- [8] 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 the present document, the following terms and definitions apply in addition to the definitions in EN 302 092-1 [1]:

Abstract test case: refer to ISO/IEC 9646-1 [4]

Abstract Test Method (ATM): refer to ISO/IEC 9646-1 [4]

Abstract Test Suite (ATS): refer to ISO/IEC 9646-1 [4]

Implementation Under Test (IUT): refer to ISO/IEC 9646-1 [4]

Lower tester (LT): refer to ISO/IEC 9646-1 [4]

Protocol Implementation Conformance Statement (PICS): refer to ISO/IEC 9646-1 [4]

PICS proforma: refer to ISO/IEC 9646-1 [4]

Protocol Implementation eXtra Information for Testing (PIXIT): refer to ISO/IEC 9646-1 [4]

PIXIT proforma: refer to ISO/IEC 9646-1 [4]

Point of Control and Observation (PCO): refer to ISO/IEC 9646-1 [4]

System Under Test (SUT): refer to ISO/IEC 9646-1 [4]

Test Purpose (TP): refer to ISO/IEC 9646-1 [4]

Upper Tester (UT): refer to ISO/IEC 9646-1 [4]

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3.2 Abbreviations

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

APDU	Application Protocol Data Unit
ATM	Abstract Test Method
ATS	Abstract Test Suite
DSS2	Digital Subscriber Signalling System No. two
B-ISDN	Broadband Integrated Services Digital Network
B-PISN	Broadband Private Integrated Services Network
B-QSIG	Broadband Inter-Exchange Signalling System
CC	Call Control
CC0	Call Idle state
CC1	Call Initiated state
CC2	Outgoing Call Proceeding state
CC3	Call Ready state
CC4	Call Present state
CC5	Incoming Call Proceeding state
CC6	Await Call Completion state
CC7	Call Active state
CC8	Call Release Request state
CC9	Call Release Indication state
CM	Co-ordination Message
CP	Co-ordination Point
ExTS	Executable Test Suite
IUT	Implementation Under Test
LT	Lower Tester
MOT	Means Of Testing
MTC	Main Test Component
PCO	Point of Control and Observation
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation Conformance Statement - Extra Information for Testing
PTC	Parallel Test Component
SUT	System Under Test
TCP	Test Co-ordination Procedures
TP	Test Purpose
TTCN	Tree and Tabular Combined Notation
UT	Upper Tester

4 Abstract Test Method

4.1 Description of ATM used

For CC, the protocol defines different roles that a CC entity can play: it can be an end or transit CC entity. In the first case, only one interface is used and in the second case, two interfaces are used for testing purposes.

The requirement for testing the IUT is to focus on the behaviour of the IUT at the Q_B , S_B , T_B and co-incident S_B/T_B reference points within, between and at the access to Broadband Private Integrated Services Networks and within, between and at the access to public Broadband Integrated Services Digital Networks. Thus the IUT is a call control protocol entity at a particular interface and is not the other entities and functions existing in the SUT.

It is possible to specify an ATS based on a Single party (remote) test method for such an IUT. However, it is considered that an ATS based on such an approach is of limited use as the only way to specify IUT generated PDUs is to use the "implicit send" statement. Many users of such an ATS would replace the "implicit send" statements with descriptions of the behaviour at other interfaces.

An ATS based on a multi-party test method is considered to be more useful in that it is closer to how a real test suite would be constructed. Such a test method specifies behaviour at multiple network interfaces. One very important limitation here is that tests are focussed on one particular interface. Thus the test system is made up one Main Test Component (MTC) and one or more Parallel Test Components (PTC), see figure 1.

4.2 Conventions for test components and PCOs

