

# ETSI TS 102 760-1 V1.1.1 (2009-11)

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*Technical Specification*

**Intelligent Transport Systems (ITS);  
Test specifications for Intelligent Transport Systems;  
Communications Access for Land Mobiles (CALM);  
Medium Service Access Points (ISO 21218);  
Part 1: Implementation Conformance  
Statement (ICS) proforma**

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# Contents

Intellectual Property Rights .....	5
Foreword.....	5
Introduction .....	5
1 Scope .....	8
2 References .....	8
2.1 Normative references .....	8
2.2 Informative references.....	9
3 Definitions and abbreviations.....	9
3.1 Definitions.....	9
3.2 Abbreviations .....	9
4 Conformance requirement concerning ICS .....	9
<b>Annex A (normative): Guidance for completing the ICS proforma.....</b>	<b>10</b>
A.1 Purposes and structure.....	10
A.2 Abbreviations and conventions .....	10
A.2.1 General .....	10
A.2.2 Item column.....	10
A.2.3 Item description column .....	10
A.2.4 Status column .....	11
A.2.5 Reference column.....	11
A.2.6 Support column .....	11
A.2.7 Values allowed column .....	11
A.2.8 Values supported column.....	12
A.2.9 References to items .....	12
A.2.10 Prerequisite line.....	12
A.3 Instructions for completing the ICS proforma.....	12
<b>Annex B (normative): Identification of the implementation.....</b>	<b>13</b>
B.1 General .....	13
B.2 Date of the statement.....	13
B.3 Implementation Under Test (IUT) identification .....	13
B.4 System Under Test (SUT) identification.....	13
B.5 Product supplier.....	14
B.6 Client (if different from product supplier).....	14
B.7 ICS contact person .....	15
B.8 Identification of protocol.....	15
B.9 Global statement of conformance.....	15
B.10 Detailed conformance declarations proforma .....	16
<b>Annex C (normative): ICS proforma for ISO 21218 CALM CI service access points .....</b>	<b>17</b>
C.1 Service Access Points.....	17
C.2 CI classes.....	17
C.3 CI access classes.....	17

C.4	Network protocol exclusion .....	18
C.5	CI identifier .....	18
C.6	Virtual communication interface.....	18
C.7	Type of medium .....	19
C.8	Procedures .....	20
C.9	NF-SAP services .....	20
C.10	MI-SAP services .....	21
C.11	COMMANDs .....	21
C.12	REQUESTs .....	21
C.13	Events .....	22
C.14	Error/return codes.....	22
C.15	Read/write VCI MIB parameters .....	22
C.16	Read/write CI MIB parameters .....	23
C.17	Read-only VCI MIB parameters .....	23
C.18	Read-only CI MIB parameters .....	24
C.19	Write-only CI MIB parameters .....	24
	History .....	25

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## Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Intelligent Transport System (ITS).

The present document is part 1 of a multi-part deliverable covering the test specifications for access layer service access points and related procedures as identified below:

- Part 1: "Implementation Conformance Statement (ICS) proforma";**
- Part 2: "Test Suite Structure and Test Purposes (TSS&TP)";
- Part 3: "Abstract Test Suite (ATS) and partial PIXIT proforma".

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## Introduction

Communications for Intelligent Transport Systems (ITS) is standardized at ISO TC204 WG16 under the name CALM (Communications Access for Land Mobiles). The communications architecture of ITS is specified in ISO 21217 [2]. An implementation view of CALM-compliant ITS stations is the concept of a "CALM Communications Kernel" (CCK) presented in figure 1, which is based on the ITS station reference architecture specified in [2].

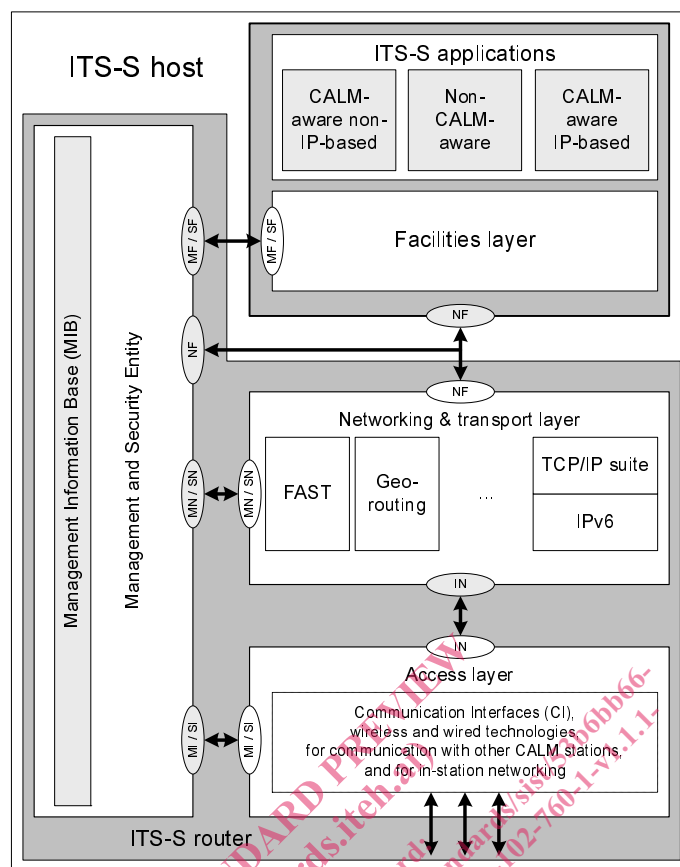


Figure 1: CCK specified in ISO 21217 [2]

The OSI protocol layers are grouped as shown in figure 1:

- The access layer contains OSI layers 1 and 2, providing the MI-interface towards the management entity, the SI-interface towards the security entity and the IN-interface towards the networking & transport layer.
- The networking & transport layer contains OSI layers 3 and 4, providing the MN-interface towards the management entity, the SN-interface towards the security entity, and the NF-interface towards the facilities layer.
- The facilities layer contains OSI layers 5, 6 and 7, providing the MF-interface towards the management entity, the SF-interface towards the security entity and the FA-interface towards the ITS-S applications.

Normally the MI-interface, the MN-interface, the MF-interface, the SI-interface, the SN-interface, the SF-interface, the IN-interface and the NF-interface are described as non-observable and non-testable service access points (SAP).

CALM is designed for a distributed implementation in a station where router boxes and host boxes are interconnected with a local area network (LAN). Each of these boxes (CCK) contains the functionality of the ITS-S router, as a minimum. Management commands are exchanged between these CCKs by means of "Inter-CCK Communications" as specified in ISO 24102 [3]. Such management commands directly may carry service primitives of SAPs to which they are addressed. By this, elements of the service primitives become observable as PDUs and thus testable. Consequently the present document provides also the foundations for testing elements of service primitives, but not the service primitives themselves.

Further on the functionality of "Inter-CCK Communications" is used to enable access of the Tester to the "hidden" SAPs in the SUT as specified in [4].

NOTE: At time of writing the present document, ISO TC204 WG16 was in the process to harmonize terminology in the set of CALM standards. The following list shows the mapping of some new terms to previously used terms:

<u>New term</u>	<u>Previous term</u>
IM-SAP	M-SAP
IN-SAP	C-SAP
NF-SAP	T-SAP
FM-SAP	A-SAP
Facilities layer	service layer
networking & transport layer	CALM Network layer
management entity	IME

This note will be removed in a next version of the present document after ISO revised ISO 21218.

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# 1 Scope

The present document specifies "Implementation Conformance Statement" (ICS) proformas for the access layer service access points MI-SAP and IN-SAP and related procedures as defined in ISO 21218 [1] in accordance with the relevant guidance given in ISO/IEC 9646-1 [5], ISO/IEC 9646-7 [6] and ETS 300 406 [7].

This proforma is intended for use by suppliers of equipment which is claimed to conform to the access layer service access points and procedures as specified in ISO 21218 [1] in combination with a defined CALM-compliant CI. Without a specific CALM-compliant CI, ISO 21218 cannot be tested.

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a specific CALM-compliant CI. Such a statement is called an Implementation Conformance Statement (ICS). The present document provides proforma ICS templates, to be filled in by equipment suppliers.

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# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
  - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
  - for informative references.

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

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

## 2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ISO 21218-2008: "Intelligent Transport Systems - Communications access for land mobiles (CALM) - Medium Service Access Points".
- [2] ISO/DIS 21217-2009: "Intelligent Transport Systems - Communications access for land mobiles (CALM) - Architecture".
- [3] ISO/DIS 24102-2009: "Intelligent Transport Systems - Communications access for land mobiles (CALM) - CALM management".
- [4] ETSI TS 102 760-2: "Intelligent Transport Systems (ITS); Test specifications for Intelligent Transport Systems; Communications Access for Land Mobiles (CALM);. Medium Service Access Points (ISO 21218); Part 2: Test Suite Structure and Test Purposes (TSS&TP)".
- [5] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concept".
- [6] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".



- [7] ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

## 2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Not applicable.

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## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO 21218 [1], ISO 21217 [2], ISO 24102 [3], ISO/IEC 9646-1 [5] and ISO/IEC 9646-7 [6] apply.

### 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ISO 21218 [1], ISO 21217 [2], ISO 24102 [3], ISO/IEC 9646-1 [5] and ISO/IEC 9646-7 [6] apply.

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## 4 Conformance requirement concerning ICS

The actual ICS proforma to be filled in by a supplier shall be technically equivalent to the text of the ICS proforma given in the normative annexes of the present document, and shall preserve the numbering/naming and ordering of the proforma items.

An ICS which conforms to the present document shall be a conforming ICS proforma completed in accordance with the instructions for completion given in annex A.

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## Annex A (normative): Guidance for completing the ICS proforma

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

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### A.1 Purposes and structure

The purpose of this ICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ISO 21218 [1] may provide information about the implementation in a standardized manner.

The ICS proforma is subdivided into clauses for the following categories of information:

- guidance for completing the ICS proforma;
- identification of the implementation;
- identification of the protocol;
- global statement of conformance;
- ICS proforma tables.

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### A.2 Abbreviations and conventions

#### A.2.1 General

The ICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [6].

#### A.2.2 Item column

The item column contains a number which identifies the item in the table.

#### A.2.3 Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".