



BSI Standards Publication

Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management

Part 5: Fast service advertisement protocol (FSAP)

National foreword

This British Standard is the UK implementation of ISO 24102-5:2013+A1:2017. It supersedes BS ISO 24102-5:2013, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the amendment. For example, text altered by ISO amendment 1 is indicated in the text by A1 A1.

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Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management —

Part 5: Fast service advertisement protocol (FSAP)

*Systèmes intelligents de transport — Accès aux communications des
services mobiles terrestres (CALM) — Gestion des stations ITS -- —*

Partie 5: Protocole d'avertissement de service rapide (FSAP)



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

Amendment 1 to ISO 24102-5:2013 was prepared by Technical Committee ISO/TC 204, *Intelligent transport systems*.

A list of all parts in the ISO 24102 series can be found on the ISO website.

Introduction

This International Standard is part of a family of International Standards for communications access for land mobiles (CALM). An introduction to the whole set of International Standards is provided in ISO 21217.

This part of ISO 24102 is part 5 of a multipart International Standard which determines the intelligent transport systems (ITS) station management - fast service advertisement protocol.

The ITS station management entity provides functionality related to the management of communication protocol layers and the security entity presented in the ITS station reference architecture specified in ISO 21217 and presented in [Figure 1](#), and in line with the general ITS architecture specified in ISO 21217.

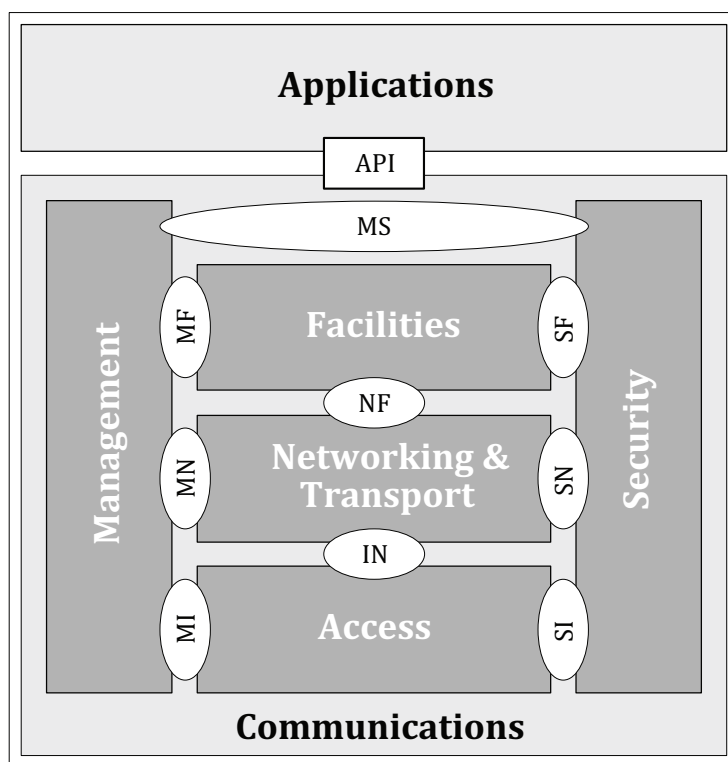


Figure 1 — ITS station reference architecture with named interfaces

ITS station management is specified as a distributed process, where no supervisory entity is employed.

Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management —

Part 5: Fast service advertisement protocol (FSAP)

1 Scope

This part of ISO 24102 specifies procedures and data elements in the ITS station management entity and the ITS station facilities layer of the ITS station reference architecture for advertisement of locally available ITS services. These procedures and data elements constitute the “Fast Service Advertisement Protocol” (FSAP).

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 8825-2, *Information technology — ASN.1 encoding rules: Specification of Packed Encoding Rules (PER) — Part 2*

ISO 21217, *Intelligent transport systems — Communications access for land mobiles (CALM) — Architecture*

ISO 21218, *Intelligent transport systems — Communications access for land mobiles (CALM) — Access technology support*

ISO 24102-1, *Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management — Part 1: Local management*

ISO 24102-3, *Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management — Part 3: Service access points*

ISO 24102-4, *Intelligent transport systems — Communications access for land mobiles (CALM) — ITS station management — Part 4: Station-internal management communications*

ETSI TS 102 797-1, *Intelligent Transport Systems (ITS); Communications Access for Land Mobiles (CALM); Test specifications for ITS station management (ISO 24102); Part 1: Protocol Implementation Conformance Statement (PICS) proforma*

ETSI TS 102 797-2, *Intelligent Transport Systems (ITS); Communications Access for Land Mobiles (CALM); Test specifications for ITS station management (ISO 24102); Part 2: Test Suite Structure & Test Purposes (TSS&TP)*

ETSI TS 102 797-3, *Intelligent Transport Systems (ITS); Communications Access for Land Mobiles (CALM); Test specifications for ITS station management (ISO 24102); Part 3: Abstract Test Suite (ATS) and partial PIXIT proforma*

3 Terms and definitions

For the purposes of this document, the terms and definitions in ISO 21217 apply.

4 Abbreviated terms

ctx	FSAP message type for service context messages (CTX)
CTX	service context message PDU
FMT-ID	FSAP Message Type Identifier
FSA	fast service advertisement
FSAP	FSAP protocol
REQN	request message PDU, no response message PDU expected
REQRES	request or response message PDU out of the set REQW, REQN, RES
REQW	request message PDU, response message PDU expected
RES	response message PDU, acknowledging a REQW
sam	fast message type for service advertisement message (SAM)
SAM	service advertisement message PDU
SIP	service initialization phase
SOP	service operation phase

5 Requirements

The ITS station management includes functionality specified in the various parts of this multipart International Standard:

- 1) The functionality of local ITS station management specified in ISO 24102-1.
- 2) The functionality of remote ITS station management specified in ISO 24102-2.
- 3) The functionality of management service access points specified in ISO 24102-3.
- 4) The functionality of ITS station-internal management communications specified in ISO 24102-4.
- 5) The functionality of the “Fast Service Advertisement Protocol” (FSAP) specified in this part of ISO 24102.

The means to secure the access to management functionality need to be specified within the global context of ITS security. Details are outside the scope of this part of ISO 24102.

Detailed mandatory requirements are specified in the following clauses of this part of ISO 24102.

- [Clause 6](#) specifies architectural issues related to FSAP.
- [Clause 7](#) specifies protocol elements of FSAP.
- [Clause 8](#) specifies protocol procedures of FSAP.
- [Clause 9](#) specifies conformance declaration.
- [Clause 10](#) specifies test methods.
- [Annex A](#) specifies the ASN.1 module for FSAP.

6 Architecture

6.1 ITS communications architecture

The “Fast Service Advertisement Protocol” (FSAP) is designed in line with the general ITS architecture specified in ISO 21217.

6.2 Implementation architecture

The “Fast Service Advertisement Protocol” (FSAP) specified in this part of ISO 24102 may support the implementation architectures introduced in ISO 21217 and illustrated in [Figures 2, 3, and 4](#) with the peer ITS stations A and B.

NOTE [Figures 2, 3, and 4](#) show the “Fast Network & Transport Protocol” (FNTP) as an example of a suitable protocol in the networking and transport layer.

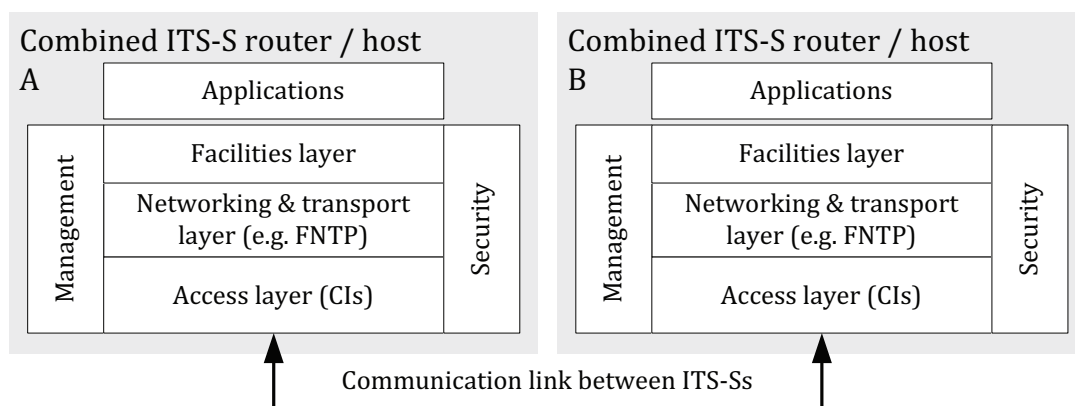


Figure 2 — Implementation architecture I