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

**Part 3:
Service access points
AMENDMENT 1**

*isteh STANDARD PREVIEW
(standards.iteh.ai)*

ISO 24102-3:2013/Amd.1:2017

https://standards.iteh.ai/catalog/standards/sist/12411462-da50-4d2e-b7bf-6b1a09777777/iso-24102-3-2013-amd-1-2017

Partie 3: Points d'accès au service

AMENDEMENT 1



iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 24102-3:2013/Amd 1:2017](https://standards.iteh.ai/catalog/standards/sist/124ff462-da30-4d2e-b7bf-6b1a097c67d3/iso-24102-3-2013-amd-1-2017)
<https://standards.iteh.ai/catalog/standards/sist/124ff462-da30-4d2e-b7bf-6b1a097c67d3/iso-24102-3-2013-amd-1-2017>



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 24102-3:2013 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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 24102-3:2013/Amd 1:2017](https://standards.iteh.ai/catalog/standards/sist/124ff462-da30-4d2e-b7bf-6b1a097c67d3/iso-24102-3-2013-amd-1-2017)

<https://standards.iteh.ai/catalog/standards/sist/124ff462-da30-4d2e-b7bf-6b1a097c67d3/iso-24102-3-2013-amd-1-2017>

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

Part 3: Service access points

AMENDMENT 1

Page 1, Scope

Add the following new list item with two sub-items after the last list item:

- the interfaces between the ITS-S application entity and
 - the ITS-S management entity (MA-SAP), and
 - the ITS-S security entity (SA-SAP).

Page 2, Abbreviated terms

Add the following abbreviated terms before MF-COMMAND:

- iTech STANDARD PREVIEW
(standards.iteh.ai)
- ISO 24102-3:2013/Amd.1:2017
<https://standards.iteh.ai/catalog/standards/sist/124ff462-da30-4d2e-b7bf-6b1a097c67d3/iso-24102-3-2013-amd-1-2017>
- MA-COMMAND command issued by the ITS-S management entity and sent to the ITS-S application entity via the MA-SAP
- MA-REQUEST command issued by the ITS-S management entity and sent to the ITS-S security entity via the MA-SAP

Add the following abbreviated terms before SF-COMMAND:

- SA-COMMAND command issued by the ITS-S security entity and sent to the ITS-S application entity via the SA-SAP
- SA-REQUEST command issued by the ITS-S application entity and sent to the ITS-S security entity via the SA-SAP

Page 3, Requirements

In the second paragraph, add the following as the first item on the list:

- MA-SAP, SA-SAP,

At the end of the paragraph, before NOTE 1, add the following sentence:

The presentation of the specified services, service primitives and functions in ASN.1 shall be as specified in Annex A.

Replace NOTE 2 by the following:

NOTE 2 All interfaces towards the ITS-S applications are considered to be implemented in an API.

In the third paragraph, replace the first sentence with the following:

Means to secure the access to management functionality need to be specified within the global context of the BSMD security.

In the last paragraph, insert the following before the last item on the list:

- Clause 13 specifies the MA-SAP and SA-SAP.

Page 23

Insert as a new Clause 13 the following clause and subclauses:

13 Interfaces MA and SA towards the ITS-S application entity

13.1 SAPs and API

The API illustrated in Figure 1 contains the functionality of the interfaces MA, FA, and SA specified in ISO 21217. The MA-SAP and the SA-SAP are specified in this document.

Basically, there shall be different types of services that facilitate

- a) sending a command from the ITS-S management entity or the ITS-S security entity to the ITS applications entity, and
- b) receiving a request (command) from the ITS-S application entity by the ITS-S management entity or the ITS-S security entity.

Issuing of commands by the ITS-S management entity to the ITS applications entity shall be built on the service MA-COMMAND.

Receiving of requests from the ITS-S application entity by the ITS-S management entity shall be built on the service MA-REQUEST.

Issuing of commands by the ITS-S security entity to the ITS applications entity shall be built on the service SA-COMMAND.

Receiving of requests from the ITS-S application entity by the ITS-S security entity shall be built on the service SA-REQUEST.

Details of the service primitives shall be as specified in Annex A.

13.2 MA-COMMAND

13.2.1 MA-COMMANDs

Annex Q provides an overview and coding details on MA-COMMANDs that may be sent to the ITS-S application entity.

MA-COMMANDs shall be enabled by means of the service primitives MA-COMMAND.request and MA-COMMAND.confirm.

13.2.2 MA-COMMAND.request

The management service primitive MA-COMMAND.request allows the ITS-S management entity to trigger an action at the ITS-S application entity.

The parameters of the management service primitive MA-COMMAND.request are as follows:

```

MA-COMMAND.request  (
                    CommandRef,
                    MA-Command
                    )

```

Table 33 — MA-COMMAND.request Parameter description

| Name | Description |
|-----------------|--|
| CommandRef | Unique cyclic reference number of command. |
| A-Command.No | See Annex Q. |
| A-Command.Value | See Annex Q. |

An MA-COMMAND.request shall be generated by the ITS-S management entity when the ITS-S application entity shall perform an action.

On receipt of MA-COMMAND.request the requested action shall be performed.

13.2.3 MA-COMMAND.confirm

The service primitive MA-COMMAND.confirm reports the result of a previous MA-COMMAND.request.

The parameters of MA-COMMAND.confirm are as follows:

```
MA-COMMAND.confirm (
    CommandRef,
    MA-CmdConfirm,
    ErrStatus
)
```

Table 34 — MA-COMMAND.confirm Parameter description

| Name | Description |
|---------------------|---|
| CommandRef | Unique cyclic reference number of command. Same value as in related MA-COMMAND.request. |
| MA-CmdConfirm.No | Reference number of command. Same value as A-Command.No in related MA-COMMAND.request. |
| MA-CmdConfirm.Value | Carries optional confirm data. |
| ErrStatus | Error/return code, see Table P.1 |

An MA-COMMAND.confirm shall be generated by the ITS-S application entity upon performance of a previous MA-COMMAND.request in case ErrStatus indicates error or MA-CmdConfirm is present. It may be generated in case ErrStatus indicates success or A-CmdConfirm is not present.

On receipt of MA-COMMAND.confirm, ErrStatus and MA-CmdConfirm shall be evaluated and a possible action shall be performed properly.

13.3 MA-REQUEST

13.3.1 MA-REQUESTs

Annex R provides an overview and coding details on MA-REQUESTs.

MA-REQUESTs shall be enabled by means of the service primitives MA-REQUEST.request and MA-REQUEST.confirm.

13.3.2 MA-REQUEST.request

The management service primitive MA-REQUEST.request allows the ITS-S application entity to trigger an action at the ITS-S management entity.

The parameters of MA-REQUEST.request are as follows:

```
MA-REQUEST.request (
    CommandRef,
    MA-Request
)
```

Table 35 — MA-REQUEST.request Parameter description

| Name | Description |
|------------------|--|
| CommandRef | Unique cyclic reference number of command. |
| MA-Request.No | See Annex R. |
| MA-Request.Value | See Annex R. |

An MA-REQUEST.request shall be generated by the ITS-S application entity when the ITS-S management entity shall perform an action.

On receipt of MA-REQUEST.request the required action shall be performed.

13.3.3 MA-REQUEST.confirm

The service primitive MA-REQUEST.confirm reports the result of a previous MA-REQUEST.request.

The parameters of MA-REQUEST.confirm are as follows:

```
MA-REQUEST.confirm (
    CommandRef,
    MA-ReqConfirm,
    ErrStatus
)
```

iTech STANDARD PREVIEW
(standards.itech.ai)
ISO 24102-3:2013/Amd 1:2017
<https://standards.itech.ai/catalog/standards/sist/124ff462-da30-4d2e-b7bf-6b1a097c67d3/iso-24102-3-2013-amd-1-2017>

Table 36 — MA-REQUEST.confirm Parameter description

| Name | Description |
|---------------------|---|
| CommandRef | Unique cyclic reference number of command. Same value as in related MA-REQUEST.request. |
| MA-ReqConfirm.No | Reference number of command. Same value as MA-Request.No in related MA-REQUEST.request. |
| MA-ReqConfirm.Value | Carries optional confirm data. |
| ErrStatus | Error/return code, see Table P.1. |

An MA-REQUEST.confirm shall be generated by the ITS-S management entity upon performance of a previous MA-REQUEST.request in case ErrStatus indicates error or MA-ReqConfirm is present. It may be generated in case ErrStatus indicates success or MA-ReqConfirm is not present.

On receipt of MA-REQUEST.confirm, ErrStatus and MA-ReqConfirm shall be evaluated and a possible action shall be performed properly. Details are outside the scope of this document.

13.4 SA-COMMAND

13.4.1 SA-COMMANDS

Annex S provides an overview and coding details on SA-COMMANDS that may be sent to the ITS-S application entity.

SA-COMMANDS shall be enabled by means of the service primitives SA-COMMAND.request and SA-COMMAND.confirm.

13.4.2 SA-COMMAND.request

The management service primitive SA-COMMAND.request allows the ITS-S management entity to trigger an action at the ITS-S application entity.

The parameters of the management service primitive SA-COMMAND.request are as follows:

```
SA-COMMAND.request  (
                    CommandRef,
                    SA-Command
                    )
```

Table 37 — SA-COMMAND.request Parameter description

| Name | Description |
|-----------------|--|
| CommandRef | Unique cyclic reference number of command. |
| A-Command.No | See Annex S. |
| A-Command.Value | See Annex S. |

An SA-COMMAND.request shall be generated by the ITS-S management entity when the ITS-S application entity shall perform an action.

On receipt of SA-COMMAND.request the requested action shall be performed.

13.4.3 SA-COMMAND.confirm

The service primitive SA-COMMAND.confirm reports the result of a previous SA-COMMAND.request.

The parameters of SA-COMMAND.confirm are as follows:

```
SA-COMMAND.confirm (
                    CommandRef,
                    SA-CmdConfirm,
                    ErrStatus
                    )
```

Table 38 — SA-COMMAND.confirm Parameter description

| Name | Description |
|---------------------|---|
| CommandRef | Unique cyclic reference number of command. Same value as in related SA-COMMAND.request. |
| SA-CmdConfirm.No | Reference number of command. Same value as A-Command.No in related SA-COMMAND.request. |
| SA-CmdConfirm.Value | Carries optional confirm data. |
| ErrStatus | Error/return code, see Table P.1. |

An SA-COMMAND.confirm shall be generated by the ITS-S application entity upon performance of a previous SA-COMMAND.request in case ErrStatus indicates error or SA-CmdConfirm is present. It may be generated in case ErrStatus indicates success or A-CmdConfirm is not present.

On receipt of SA-COMMAND.confirm, ErrStatus and SA-CmdConfirm shall be evaluated and a possible action shall be performed properly.

13.5 SA-REQUEST

13.5.1 SA-REQUESTs

Annex T provides an overview and coding details on SA-REQUESTs.

SA-REQUESTs shall be enabled by means of the service primitives SA-REQUEST.request and SA-REQUEST.confirm.

13.5.2 SA-REQUEST.request

The management service primitive SA-REQUEST.request allows the ITS-S application entity to trigger an action at the ITS-S management entity.

The parameters of SA-REQUEST.request are as follows:

```
SA-REQUEST.request (
    CommandRef,
    SA-Request
)
```

Table 39 — SA-REQUEST.request Parameter description

| Name | Description |
|------------------|--|
| CommandRef | Unique cyclic reference number of command. |
| SA-Request.No | See Annex T. |
| SA-Request.Value | See Annex T. |

An SA-REQUEST.request shall be generated by the ITS-S application entity when the ITS-S management entity shall perform an action.

On receipt of SA-REQUEST.request the required action shall be performed.

13.5.3 SA-REQUEST.confirm

The service primitive SA-REQUEST.confirm reports the result of a previous SA-REQUEST.request.

The parameters of SA-REQUEST.confirm are as follows:

```
SA-REQUEST.confirm (
    CommandRef,
    SA-ReqConfirm,
    ErrStatus
)
```

Table 40 — SA-REQUEST.confirm Parameter description

| Name | Description |
|---------------------|---|
| CommandRef | Unique cyclic reference number of command. Same value as in related SA-REQUEST.request. |
| SA-ReqConfirm.No | Reference number of command. Same value as SA-Request.No in related SA-REQUEST.request. |
| SA-ReqConfirm.Value | Carries optional confirm data. |
| ErrStatus | Error/return code, see Table P.1. |

An SA-REQUEST.confirm shall be generated by the ITS-S management entity upon performance of a previous SA-REQUEST.request in case ErrStatus indicates error or SA-ReqConfirm is present. It may be generated in case ErrStatus indicates success or SA-ReqConfirm is not present.

On receipt of SA-REQUEST.confirm, ErrStatus and SA-ReqConfirm shall be evaluated and a possible action shall be performed properly. Details are outside the scope of this document.

Page 23, Conformance

Renumber existing Clause 13 to Clause 14.

Replace NOTE with the following:

NOTE Service access points may become observable and thus testable in PDUs for ITS station-internal management communications specified in ISO 24102-4.

Page 24, Annex A

Replace the whole Annex A with the following:

Annex A
(normative)
ASN.1 modules

A.1 Overview

The following ASN.1 module is specified in this annex:

— CALMmsap {ISO (1) standard (0) calm-management (24102) msap (3) asnm-1 (1)}.

A.2 Module CALMmsap

This module specifies ASN.1 type definitions together with useful ASN.1 value definitions.

Unaligned packed encoding rules (PER) as specified in ISO/IEC 8825-2 shall be applied for this ASN.1 module.

In order to achieve octet alignment and enabling cheap implementations, "fill" bits were defined. All fill bits shall be set to the value '0'b. In case fill bits precede a CHOICE type, the CHOICE tag shall be evaluated only in case all fill bits show the value '0'b in order to identify a conflict with newer versions of the specification providing more choices.

```

CALMmsap {iso (1) standard (0) calm-management (24102) msap (3) asnm-1 (1)}

DEFINITIONS AUTOMATIC TAGS ::= BEGIN

IMPORTS

CIclass, Cistatus, Errors, INsapPrimitivesDown, INsapPrimitivesUp, I-Param, I-ParamNo,
KineVectOut, Link-ID, MACaddress, MedID, MedType, UserPriority FROM CALMllsap {iso (1)
standard (0) calm-ll-sap (21218) asnm-1 (1)}

ITS-scuId, ITS-SSI FROM CALMmanagement {iso (1) standard (0) calm-management (24102) local
(1) asnm-1 (1)}

IICrequestTX, IICresponseTX, IICrequestRX, IICresponseRX FROM CALMiitsscu {iso (1)
standard (0) calm-management (24102) iitsscu (4) asnm-1 (1)}

GCctx, GCdeleteCmd, GCregerServer, GCregerServerConf, GCsam, GCsamctx, GCsamctxConf,
GCctxTxCmd, GCperiodCmd, CTXrxNot, SAMrxNot, GCupdateServer, GCupdateServerConf,
GCderegServer, GCderegServerConf, GCregerClient, GCregerClientConf, GCupdateClient,
GCupdateClientConf, GCderegClient, GCderegClientConf FROM CALMfsap {iso (1) standard (0)
calm-management (24102) fsap (5) asnm-1 (1)}

SetIPv6, SetConfIPv6, UpdateIPv6, DeleteIPv6, SetNotIPv6, UpdateNotIPv6, DeleteNotIPv6
FROM ITSipv6 {iso (1) standard (0) its-ipv6 (21210) asnm-1 (1)}

HostServiceInfo, NFSapPrimitivesDown, NFSapPrimitivesUp, SetFNTP, SetConfFNTP, UpdateFNTP,
DeleteFNTP, SetNotFNTP, UpdateNotFNTP, DeleteNotFNTP FROM CALMfntp {iso (1) standard (0)
calm-nonip (29281) fntp(1) asnm-1 (1)}

```

ISO 24102-3:2013/Amd.1:2017(E)

ITS-S-Appl-Reg, ITS-S-Appl-RegConf, ITS-S-Appl-RegFinal FROM CITSapplReq {iso (1) standard (0) cits-applReq (17423) asnm-1 (1)}

;

-- End of IMPORTS

-- GENERIC OBJECT CLASSES

-- Communication-SAP generic OBJECT CLASS

```
COMMUPDOWN::=CLASS {
    &primitiveRef INTEGER (0..255),
    &Primitive
}
```

-- FA-SAP services up and down

FASAPDOWN::=COMMUPDOWN

```
FAsapPrimitivesDown::=SEQUENCE{
    spRef          FASAPDOWN.&primitiveRef({FAsapspdown}),
    servPrimitive  FASAPDOWN.&Primitive({FAsapspdown}{@spRef})
}
```

```
FAsapspdown FASAPDOWN::={gCsamctxConfFA | gCregServerFA | gCupdateServerFA |
gCderegServerFA | gCregClientFA | gCupdateClientFA | gCderegClientFA, ...}
```

```
gCsamctxConfFA  FASAPDOWN::={&primitiveRef 2, &Primitive GCsamctxConf}
gCregServerFA   FASAPDOWN::={&primitiveRef 3, &Primitive GCregServer}
gCupdateServerFA FASAPDOWN::={&primitiveRef 4, &Primitive GCupdateServer}
gCderegServerFA FASAPDOWN::={&primitiveRef 5, &Primitive GCderegServer}
gCregClientFA   FASAPDOWN::={&primitiveRef 6, &Primitive GCregClient}
gCupdateClientFA FASAPDOWN::={&primitiveRef 7, &Primitive GCupdateClient}
gCderegClientFA FASAPDOWN::={&primitiveRef 8, &Primitive GCderegClient}
```

<https://standards.iteh.ai/catalog/standards/sist/124ff462-da30-4d2e-b7bf-6b1a097c67d3/iso-24102-3-2013-amd-1-2017>

```
FASAPUP::=COMMUPDOWN
```

```
FAsapPrimitivesUp::=SEQUENCE{
    spRef          FASAPUP.&primitiveRef({FAsapspsup}),
    servPrimitive  FASAPUP.&Primitive({FAsapspsup}{@spRef})
}
```

```
FAsapspsup FASAPUP::={gCsamctxFA | gCregServerConfFA | gCupdateServerConfFA |
gCderegServerConfFA | gCregClientConfFA | gCupdateClientConfFA | gCderegClientConfFA |
gCsamFA | gCctxFA, ...}
```

```
gCsamctxFA      FASAPUP::={&primitiveRef 2, &Primitive GCsamctx}
gCregServerConfFA FASAPUP::={&primitiveRef 3, &Primitive GCregServerConf}
gCupdateServerConfFA FASAPUP::={&primitiveRef 4, &Primitive GCupdateServerConf}
gCderegServerConfFA FASAPUP::={&primitiveRef 5, &Primitive GCderegServerConf}
gCregClientConfFA FASAPUP::={&primitiveRef 6, &Primitive GCregClientConf}
gCupdateClientConfFA FASAPUP::={&primitiveRef 7, &Primitive GCupdateClientConf}
gCderegClientConfFA FASAPUP::={&primitiveRef 8, &Primitive GCderegClientConf}
gCsamFA         FASAPUP::={&primitiveRef 9, &Primitive GCsam}
gCctxFA         FASAPUP::={&primitiveRef 10, &Primitive GCctx}
```

-- MX-SAP generic OBJECT CLASS

```
MXSERV::=CLASS {
    &mxref INTEGER(0..255),
    &MXParam
}
```

-- MF-SAP Service primitives --

-- MF-SAP Command.request --

MFSA-CR::=MXSERV