INTERNATIONAL STANDARD

ISO 24102-5

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AMENDMENT 1
2017-04

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

Part 5:
Fast service advertisement protocol (FSAP)

AMENDMENT 1

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)

AMENDEMENT 1

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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.

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

Part 5: Fast service advertisement protocol (FSAP)

AMENDMENT 1

Page 13, 8.2.1

Replace the bullet line: "- non-IP based services (timeout information), or"

with the bullet line: "- non-IP based services, or".

Page 14, 8.2.4

Insert the following Note at the end of the first paragraph:

NOTE The groupcast manager may use predetermined quantized values of the interval between subsequent transmissions of the service advertisement message that match best the requested interval.

Page 19, Annex A

Replace the entire Annex A with the following one:

Annex A
(normative)

ASN.1 modules

A.1 Overview

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

— CALMfsap { ISO (1) standard (0) calm-management (24102) fsap (5) asnm-1 (1)}

NOTE The acronym "CALM" used in this annex was introduced in the previous edition of this document. For backward-compatibility, the acronym is maintained here.

A.2 Module CALMfsap

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 enabling cheap implementations, "fill" bits were defined. All fill bits shall be set to the value '0'b.

```
CALMfsap { iso (1) standard (0) calm-management (24102) fsap (5) asnm-1 (1)}

DEFINITIONS AUTOMATIC TAGS::=BEGIN

IMPORTS

ITSaid FROM CITSapplMgmtApplReg {iso(1) standard(0) cits-applMgmt (17419) applRegistry
```

```
(2)}

PortNumber FROM CALMfntp { iso (1) standard (0) calm-nonip(29281) fntp(1) asnm-1 (1)}

Directivity, LLserviceAddr, MedType, UserPriority FROM CALMllsap {iso(1) standard(0) calm-
ll-sap(21218) asnm-1 (1)}

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

TransportAddressType, TransportAddress FROM TRANSPORT-ADDRESS-MIB

;

-- End of IMPORTS

-- Types

-- PDUs --

-- SAM --

SAM::=SEQUENCE{
       fmtID         FmtID, -- value sam
       version       VersionFSAP,
       serverID      StationID,
       serviceList   ServiceList,
       channelList   ChannelList,
       ipServList    IpServList
       }

FmtID::=INTEGER{
       sam (0),
       ctx (1)
       } (0..15)

VersionFSAP::=INTEGER(0..15)

ServiceList::=SEQUENCE (SIZE(0..noNonipServices))OF NonipService

ChannelList::=SEQUENCE(SIZE(0..noChannels)) OF SessionChannel
-- Name changed from ServiceChannel to SessionChannel for clarification

IpServList::=SEQUENCE (SIZE(0..noIpServices))OF IpService

NonipService::=SEQUENCE{
       serviceID           ITSaid,
       serviceData         ServiceData,
       serverPort          PortNumber, -- always transmitted, even if not used
       sessionChannel      INTEGER(0..noChannels) -- '0':no change of channel
       }

SessionChannel::= SEQUENCE{
       serviceChannel      INTEGER(0..255), -- medium-specific channel number
       medium              MedType, -- identification of access technology
       schParams           OCTET STRING -- medium-specific parameters
}

IpService::=SEQUENCE{
       serviceID           ITSaid,
       serviceData         IpServiceData,
       ipInfo              IpInfo,
       sessionChannel      INTEGER(0..noChannels)
}

-- CTX --

CTX::=SEQUENCE{
       fmtID         FmtID, -- value ctx
       version       VersionFSAP,
       clientID      StationID,
```

```
        servContextList     ServContextList,
        ipContextList       IpContextList
}

ServContextList::=SEQUENCE (SIZE(0..noNonipContexts))OF NonipContext

IpContextList::=SEQUENCE (SIZE(0..noIpContexts))OF IpContext

IpContext::=SEQUENCE{
        serviceID     ITSaid,
        contextData   IpContextData,
        ipInfo        IpInfo
}

-- MF-SAP services --

GCctxTxCmd::=SEQUENCE{
        link   LLserviceAddr, -- NT protocol and UC-VCI
        ctx    CTX
        }

GCperiodCmd::=SEQUENCE{
        applicationID       ApplicationID,
        bcVCIs              SEQUENCE (SIZE(1..256)) OF LLserviceAddr,
        gcInterval          GcInterval, -- repetition interval
        priority            UserPriority, -- of advertisement
        serviceDataReg      ServiceDataReg -- advertisement details
        }

GCsamctx::= SEQUENCE{
        applicationID       ApplicationID, -- unique in the host
        serverID            StationID, -- of peer station
        serviceInfo         ServiceInfo,
        link                LLserviceAddr
        }

GCsamctxConf::= SEQUENCE{
        applicationID       ApplicationID, -- unique in the host
        link                LLserviceAddr, -- as received in the GCsamctx
        port                PortNumber -- dynamically assigned port number to be used in
CTX
        }

GCdeleteCmd::=SEQUENCE{
        applicationID       ApplicationID
        }

ServiceInfo::=SEQUENCE{
        fill    BIT STRING (SIZE(7)),
        info    CHOICE{
                        nonipService  NonipSAMctx,
                        ipService     IpSAMctx
                }
        }

NonipSAMctx::=SEQUENCE{
        serviceID     ITSaid,
        providerPort  PortNumber
        }

IpSAMctx::=SEQUENCE{
        serviceID     ITSaid,
        ipInfo        IpInfo
        }

-- MN-SAP services --

CTXrxNot::=SEQUENCE{
        link   LLserviceAddr,
        ctx    CTX
        }
```

```
SAMrxNot::=SEQUENCE{
       link   LLserviceAddr,
       sam    SAM
       }

GCsam::= SEQUENCE{
       applicationID       ApplicationID,  -- unique in the host
       serverID            StationID,  -- peer station
       serviceData         SAMserviceData,
       link                LLserviceAddr
}

SAMserviceData::=SEQUENCE{
       fill          BIT STRING (SIZE(7)),
       servData      CHOICE {
                     nonipService  NonipSAM,
                     ipService     IpSAM
              }
       }

NonipSAM::=SEQUENCE{
       serviceID           ITSaid,
       serviceData         ServiceData,
       providerPort        PortNumber,
       sessionChannel      SessionChannel
}

IpSAM::=SEQUENCE{
       serviceID           ITSaid,
       serviceData         IpServiceData,
       ipInfo              IpInfo,
       sessionChannel      SessionChannel
       }
GCctx::= SEQUENCE{
       applicationID       ApplicationID,  -- unique in the host
       clientID            StationID,  -- peer station
       serviceContext      CTXserviceData
       }

CTXserviceData::=SEQUENCE{
       fill          BIT STRING (SIZE(7)),
       servData      CHOICE {
                     nonipContext  NonipContext,
                     ipContext     IpContext
              }
       }

NonipContext::=SEQUENCE{
       serviceID     ITSaid,
       contextData   ContextData,
       userPort      PortNumber
       }

GCregServer::= SEQUENCE{
       applicationID       ApplicationID,
       gCschedule          GCschedule,
       priority            UserPriority,
       serviceDataReg      ServiceDataReg
       }

GCupdateServer::= SEQUENCE{
       applicationID       ApplicationID,
       gCschedule          GCschedule,
       fill                BIT STRING (SIZE(7)),
       serviceDataReg      SEQUENCE (SIZE(0..1)) OF ServiceDataReg
       }

GCderegServer::= SEQUENCE{
       applicationID       ApplicationID
       }
```

```
GCregClient::= SEQUENCE{
       applicationID       ApplicationID,
       priority            UserPriority,
       serviceID           ITSaid,
       contextData         ContextData
       }

GCupdateClient::= SEQUENCE{
       applicationID       ApplicationID,
       serviceID           ITSaid,
       contextData         ContextData
       }

GCderegClient::= SEQUENCE{
       applicationID       ApplicationID
       }

GCregServerConf::= SEQUENCE{
       applicationID       ApplicationID
       }

GCupdateServerConf::= SEQUENCE{
       applicationID       ApplicationID
       }

GCderegServerConf::= SEQUENCE{
       applicationID       ApplicationID
       }

GCregClientConf::= SEQUENCE{
       applicationID       ApplicationID
       }

GCupdateClientConf::= SEQUENCE{
       applicationID       ApplicationID
       }
GCderegClientConf::= SEQUENCE{
       applicationID       ApplicationID
       }


-- General types --
ServiceData::=OCTET STRING (SIZE(0..noServiceDataOctets))

ContextData::=OCTET STRING (SIZE(0..noContextDataOctets))

IpServiceData::=OCTET STRING (SIZE(0..noIpServiceDataOctets))

IpContextData::=OCTET STRING (SIZE(0..noIpContextDataOctets))

GCschedule::= SEQUENCE (SIZE(0..255)) OF GCsched

GCsched::= SEQUENCE{
       medium MedType,
       directivity   Directivity,
       gcInterval    GcInterval
       }

ServiceDataReg::= SEQUENCE{
       fill          BIT STRING (SIZE(7)),
       datareg       CHOICE{
                     nonipData     [0] NonipServiceReg,
                     ipData [1] IpServiceReg
              }
       }

NonipServiceReg::=SEQUENCE{
       serviceID     ITSaid,
       serviceData   OCTET STRING (SIZE(0..noServiceDataOctets)),
```