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AMENDMENT 1
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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

Foreword

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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:
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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
      }
```

3

```
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)),
```