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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



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

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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

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
}

GCregrServer ::= 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
}

```



```

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

```

```

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

```

```

GDeeregClient ::= SEQUENCE{
    applicationID      ApplicationID
}

```

```

GServerConf ::= SEQUENCE{
    applicationID      ApplicationID
}

```

```

GUpdateServerConf ::= SEQUENCE{
    applicationID      ApplicationID
}

```

```

GDeeregServerConf ::= SEQUENCE{
    applicationID      ApplicationID
}

```

```

GClientConf ::= SEQUENCE{
    applicationID      ApplicationID
}

```

```

GUpdateClientConf ::= SEQUENCE{
    applicationID      ApplicationID
}

```

```

GDeeregClientConf ::= 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)),
}

```