IEEE P802.19
Wireless Coexistence

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| Proposed update to data types |
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Abstract

This document is a submission to IEEE 802.19 TG1 proposing update to data types.

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# Proposed update

*It is proposed to add Normative Annex Data Types Definition using the text below.*

**Normative Annex Data Types Definition**

IEEE802191DataType DEFINITIONS AUTOMATIC TAGS ::= BEGIN

**-----------------------------------------------------------**

**--Exported data types**

**-----------------------------------------------------------**

--Exported data types

EXPORTS

 --Coexistence protocol entity ID

 CxID,

 --Status

 Status,

 --Coexistence service

 CoexistenceService,

 --Network technology

 NetworkTechnology,

 --Geolocation

 Geolocation,

 --Coverage area

 CoverageArea,

 --Installation parameters

 InstallationParameters,

 --Frequency range

 FrequencyRange,

 --List of available frequencies

 ListOfAvailableFrequencies,

 --List of operating frequencies

 ListOfOperatingFrequencies,

 --Required resource

 RequiredResource,

 --Operation code for registration

 OperationCode,

 --List of available frequencies of the subject WSO

 ListOfSubjectWSOAvailableFrequencies,

 --Transmission schedule

 TxSchedule,

 --CM registration

 CMRegistration,

 --CE registration

 CERegistration,

 --List of subject CEs

 ListOfSubjectCEs,

 --List of neighbor CMs transport information

 ListOfNeighborCMsTransport,

 --List of neighbor CM WSOs

 ListOfNeighborCMWSOs,

 --List of CEs for reconfiguration

 ReconfigListOfCEs

;

**-----------------------------------------------------------**

**--Coexistence protocol entity ID**

**-----------------------------------------------------------**

--Coexistence protocol entity type

CxType ::= ENUMERATED {

 --Coexistence enabler

 ce,

 --Coexistence manager

 cm,

 --Coexistence discovery and information server

 cdis}

--Coexistence protocol entity ID

CxID ::= SEQUENCE {

 --Entity type

 type CxType,

 --Entity ID

 id OCTET STRING}

**-----------------------------------------------------------**

**--Status**

**-----------------------------------------------------------**

--Status

Status ::= ENUMERATED {

 --Primitive/message is successfully processed

 noError,

 --Primitive/message is rejected due to security reasons

 rejected,

 --Primitive/message cannot be successfully processed because according to the current entity status different primitive/message is expected

 invalidEntityStatus,

 --Primitive/message cannot be successfully processed because of invalid values of parameters

 invalidArgument,

 --Primitive/message cannot be successfully processed because of the process error in the receiving entity

 processFailure,

 --Primitive/message cannot be successfully processed because of the connection error

 networkFailure}

**-----------------------------------------------------------**

**--Coexistence service**

**-----------------------------------------------------------**

--Coexistence service

CoexistenceService ::= ENUMERATED {

 --Information service

 information,

 --Management service

 management,

 --No service

 noService}

**-----------------------------------------------------------**

**--Network technology**

**-----------------------------------------------------------**

NetworkTechnology ::= ENUMERATED {

 --IEEE 802.11af

 ieee802dot11af,

 --IEEE 802.22

 ieee802dot22,

 --Radio microphone

 radioMic,

 --Area broadcast

 areaBroadcast}

**-----------------------------------------------------------**

**--Location**

**-----------------------------------------------------------**

--Location

Geolocation ::= CHOICE {

 --Place name or ID

 placeID OCTET STRING,

 --Coordinates of the master station

 coordinates SEQUENCE {

 --Latitude

 latitude REAL,

 --Longitude

 longitude REAL,

 --Altitude

 altitude REAL OPTIONAL}}

**-----------------------------------------------------------**

**--Coverage area**

**-----------------------------------------------------------**

--Coverage area

CoverageArea ::= SEQUENCE {

 --Coverage radius

 radius REAL,

 --Reference central frequency

 refFrequency REAL,

 --Reference height of master station

 refMasterHeight REAL,

 --Reference height of slave station

 refSlaveHeight REAL,

 --Reference transmission power

 refTxPower REAL}

**-----------------------------------------------------------**

**--Installation parameters**

**-----------------------------------------------------------**

--Installation parameters

InstallationParameters ::= SEQUENCE {

 --Operating height of master station

 opMasterHeight REAL OPTIONAL,

 --Operating height of slave station

 opSlaveHeight REAL OPTIONAL,

 --Operating transmission power

 opTxPower REAL OPTIONAL}

**-----------------------------------------------------------**

**--Frequency range related data types**

**-----------------------------------------------------------**

--Frequency range

FrequencyRange ::= SEQUENCE {

 --Start frequency

 startFreq REAL,

 --Stop frequency

 stopFreq REAL}

--List of available frequencies

ListOfAvailableFrequencies ::= SEQUENCE OF SEQUENCE {

 --Frequency range

 frequencyRange FrequencyRange,

 --Transmission power limit

 txPowerLimit REAL OPTIONAL,

 --Start time when this frequency range is available

 availableStartTime GeneralizedTime OPTIONAL,

 --Duration during which this frequency range is available

 availableDuration REAL OPTIONAL}

--List of supported frequencies

ListOfSupportedFrequencies ::= SEQUENCE OF FrequencyRange

--List of operating frequencies

ListOfOperatingFrequencies ::= SEQUENCE OF SEQUENCE {

 --Frequency range

 frequencyRange FrequencyRange,

 --Occupancy if known

 occupancy REAL OPTIONAL}

**-----------------------------------------------------------**

**--Required resource**

**-----------------------------------------------------------**

--Required resource

RequiredResource ::= SEQUENCE OF SEQUENCE {

 --Required bandwidth

 requiredBandwidth REAL,

 --Expected occupancy if known

 occupancy REAL OPTIONAL}

**-----------------------------------------------------------**

**--Operation code for registration**

**-----------------------------------------------------------**

--Operation code for registration

OperationCode ::= ENUMERATED {

 --New registration

 new,

 --Update of registration information

 update,

 --Deregistration

 delete}

**-----------------------------------------------------------**

**--Reconfiguration related data types**

**-----------------------------------------------------------**

--Transmission schedule

TxSchedule ::= SEQUENCE {

 --Schedule start time

 scheduleStartTime GeneralizedTime,

 --Schedule frame duration

 scheduleFrameDuration REAL,

 --Number of schedule frames

 numberOfFrames INTEGER,

 --Transmission start time within a schedule frame

 transmissionStartTime REAL,

 --Transmission duration within a schedule frame

 transmissionDuration REAL}

**-----------------------------------------------------------**

**--CM registration**

**-----------------------------------------------------------**

--CM registration

CMRegistration ::= SEQUENCE {

 --CM IP address

 ipAddress OCTET STRING,

 --CM port number

 portNumber INTEGER}

--List of WSO for registration

ListOfWSORegistrations ::= SEQUENCE OF SEQUENCE {

 --New registration, registration update or deregistration

 operationCode OperationCode,

 --WSO ID

 wsoID OCTET STRING,

 --Network technology

 networkTechnology NetworkTechnology OPTIONAL,

 --Location

 geolocation Geolocation OPTIONAL,

 --Coverage area

 coverageArea CoverageArea OPTIONAL,

 --Installation parameters

 installationParameters InstallationParameters OPTIONAL,

 --List of available frequencies

 listOfAvailableFrequencies ListOfAvailableFrequencies OPTIONAL}

--CE registration

CERegistration ::= SEQUENCE OF SEQUENCE{

 --CE ID

 ceID CxID,

 -- List of WSO registration

 listOfWSORegistration ListOfWSORegistrations}

**-----------------------------------------------------------**

**--Coexistence set information related data types**

**-----------------------------------------------------------**

--Interference direction

InterferenceDirection ::= ENUMERATED {

 --Subject WSO creates interference to neighbor WSO

 source,

 --Neighbor WSO creates interference to subject WSO

 victim,

 --Both subject WSO and neighbor WSO create interference to each other

 mutual}

--List of neighbor WSOs

ListOfNeighborWSOs ::= SEQUENCE OF SEQUENCE {

 --Neighbor WSO ID

 wsoID OCTET STRING,

 --Neighbor WSO network technology

 networkTechnology NetworkTechnology,

 --Interference direction

 interferenceDirection InterferenceDirection,

 --Distance to subject WSO

 distance REAL

 --List of operating frequencies

 --Not used in CoexistenceSetInformationAnnouncement

 --Used in CoexistenceReportAnnouncement and CxMediaCoexistenceReportIndication

 listOfOperatingFrequencies ListOfOperatingFrequencies OPTIONAL}

--List of neighbor CEs

ListOfNeighborCEs ::= SEQUENCE OF SEQUENCE {

 --Neihgbor CE ID

 ceID CxID,

 --List of neighbor WSOs

 listOfNeighborWSOs ListOfNeighborWSOs}

--List of neighbor CMs

ListOfNeighborCMs ::= SEQUENCE OF SEQUENCE {

 --Neighbor CM ID

 cmID CxID,

 --List of neighbor CEs

 listOfNeighborCEs ListOfNeighborCEs}

--List of available frequencies of the subject WSO

ListOfSubjectWSOAvailableFrequencies ::= SEQUENCE OF SEQUENCE {

 --Frequency range

 frequencyRange FrequencyRange,

 --List of neighbor CMs

 listOfNeighborCMs ListOfNeighborCMs}

--List of subject WSOs

ListOfSubjectWSOs ::= SEQUENCE OF SEQUENCE {

 --Subject WSO ID

 wsoID OCTET STRING,

 --List of available frequencies of the subject WSO

 listOfSubjectWSOAvailableFrequencies ListOfSubjectWSOAvailableFrequencies}

--List of subject CEs

ListOfSubjectCEs ::= SEQUENCE OF SEQUENCE {

 --Subject CE ID

 ceID CxID,

 --List of subject WSOs

 listOfSubjectWSOs ListOfSubjectWSOs}

--List of neighbor CMs transport information

ListOfNeighborCMsTransport ::= SEQUENCE OF SEQUENCE {

 --Neighbor CM ID

 cmID CxID,

 -- Neighbor CM IP address

 ipAddress OCTET STRING,

 -- Neighbor CM port number

 portNumber INTEGER}

**-----------------------------------------------------------**

**--Coexistence set element information related data types**

**-----------------------------------------------------------**

--List of neighbor CM WSOs

ListOfNeighborCMWSOs ::= SEQUENCE OF SEQUENCE {

 --WSO ID

 wsoID OCTET STRING,

 --List of available frequencies

 listOfAvailableFrequencies ListOfAvailableFrequencies OPTIONAL,

 --List of operating frequencies

 listOfOperatingFrequencies ListOfOperatingFrequencies OPTIONAL

}

**-----------------------------------------------------------**

**--Coexistence set element reconfiguration related data types**

**-----------------------------------------------------------**

--List of WSOs

ReconfigListOfWSOs ::= SEQUENCE OF SEQUENCE {

 --WSO ID

 wsoID OCTET STRING,

 --Potential new operating frequency

 newOperatingFrequency FrequencyRange

}

--List of CEs

ReconfigListOfCEs ::= SEQUENCE OF SEQUENCE {

 --CE ID

 ceID CxID,

 --List of WSOs

 reconfigListOfWSOs ReconfigListOfWSOs

}

END