IEEE P802.19
Wireless Coexistence

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| Annex C Messages |
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Abstract

This document is a submission to IEEE 802.19 TG1 proposing update to Annex C Messages.

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# Proposed update

*It is proposed to substitute Annex C Messages with the text below.*

IEEE802191Message DEFINITIONS AUTOMATIC TAGS ::= BEGIN

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

**--Imported data types**

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

--Imported data types

IMPORTS

 --Coexistence protocol entity ID

 CxID,

 --Status

 Status,

 --CxMedia status

 CxMediaStatus,

 --Coexistence service

 CoexistenceService,

 --Subscribed service

 SubscribedService,

 --Network technology

 NetworkTechnology,

 --Network type

 NetworkType,

 --Location

 Geolocation,

 --Discovery information

 DiscoveryInformation,

 --Coverage area

 CoverageArea,

 --Installation parameters

 InstallationParameters,

 --List of available frequencies

 ListOfAvailableFrequencies,

 --List of operating frequencies

 ListOfOperatingFrequencies,

 --List of available channel numbers

 ListOfAvailableChNumbers,

 --List of operating channel numbers

 ListOfOperatingChNumbers,

 --List of supported frequencies

ListOfSupportedFrequencies,

 --Required resource

 RequiredResource,

 --Operation code for registration

 OperationCode,

 --List of available frequencies of the subject WSO

 ListOfSubjectWSOAvailableFrequencies,

 --Transmission schedule

 TxSchedule,

 --Frequency range

 FrequencyRange,

 --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 report

 CoexistenceReport,

 --Channel priority

 ChannelPriority,

 --Measurement capability

 MeasurementCapability,

 --List of neighbor CM

 ListOfNeighborCM,

 --Failed parameters

 FailedParameters,

 --Channel classification information

 ChClassInfo,

 --Required information description

 ReqInfoDescr,

 --Requested information value

 ReqInfoValue,

 --Event parameters

 EventParams,

 --Negotiation status

 NegotiationStatus,

 --Negotiation information

 NegotiationInformation

 --Winner CM ID list

 ListOfWinnerCMID,

 -- Slot time position list

 ListOfSlotTimePosition

 --Measurement description

 MeasurementDescription,

 --Measurement result

 MeasurementResult,

 --Mobility Information

 MobilityInformation

FROM IEEE802191DataType;

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

**--Message structure, header structure, and payload types**

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

--Message structure

CxMessage ::= SEQUENCE {

 -- Message header

 header CxHeader,

 -- Message payload

 payload CxPayload}

--Header

CxHeader ::= CHOICE {

 --For announcement

 none NULL,

 --For request or single response

 requestID INTEGER (0..2147483647),

 --For multiple responses

 multipleResponse SEQUENCE {

 --Original request ID

 requestID INTEGER (0..2147483647),

 --Response number

 sequenceNumber INTEGER (0..2147483647),

 --True is the response is last

 isLastResponse BOOLEAN}}

--Payload types

CxPayload ::= CHOICE {

 --WSO subscription request

 subscriptionRequest SubscriptionRequest,

 --WSO subscription response

 subscriptionResponse SubscriptionResponse,

 --WSO subscription change request

 subscriptionChangeRequest SubscriptionChangeRequest,

 --WSO subscription change response

 subscriptionChangeResponse SubscriptionChangeResponse,

 --CE registration request

 ceRegistrationRequest CERegistrationRequest,

 --Registration response

 registrationResponse RegistrationResponse,

 --Reconfiguration request

 reconfigurationRequest ReconfigurationRequest,

 --Reconfiguration response

 reconfigurationResponse ReconfigurationResponse,

 --Stop operation announcement

 stopOperationAnnouncement StopOperationAnnouncement,

 --Stop operation confirm

 stopOperationConfirm StopOperationConfirm,

 --Coexistence report announcement

 coexistenceReportAnnouncement CoexistenceReportAnnouncement,

 --Coexistence report confirm

 coexistenceReportConfirm CoexistenceReportConfirm,

 --Coexistence report request

 coexistenceReportRequest CoexistenceReportRequest,

 --Coexistence report response

 coexistenceReportResponse CoexistenceReportResponse,

 --CM registration request

 cmRegistrationRequest CMRegistrationRequest,

 --Coexistence set information announcement

 coexistenceSetInformationAnnouncement CoexistenceSetInformationAnnouncement,

 --Coexistence set information confirm

 coexistenceSetInformationConfirm CoexistenceSetInformationAnnouncement,

 --Coexistence set information request

 coexistenceSetInformationRequest CoexistenceSetInformationRequest,

 --Coexistence set information response

 coexistenceSetInformationResponse CoexistenceSetInformationResponse,

 --Coexistence set element information announcement

 coexistenceSetElementInformationAnnouncement CoexistenceSetElementInformationAnnouncement,

 --Coexistence set element information confirm

 coexistenceSetElementInformationConfirm CoexistenceSetElementInformationConfirm,

 --Coexistence set element information request

 coexistenceSetElementInformationRequest CoexistenceSetElementInformationRequest,

 --Coexistence set element information response

 coexistenceSetElementInformationResponse CoexistenceSetElementInformationResponse,

 --Coexistence set element reconfiguration request

 coexistenceSetElementReconfigurationRequest CoexistenceSetElementReconfigurationRequest,

 --Coexistence set element reconfiguration response

 coexistenceSetElementReconfigurationResponse CoexistenceSetElementReconfigurationResponse,

 --CM Reconfiguration request

 cmReconfigurationRequest CMReconfigurationRequest,

 --CM Reconfiguration response

 cmReconfigurationResponse CMReconfigurationResponse,

 --WSO channel classification request

 channelClassificationRequest ChannelClassificationRequest,

 -- WSO channel classification response

 channelClassificationResponse ChannelClassificationResponse,

 --CM channel classification request

 cmChannelClassificationRequest CMChannelClassificationRequest,

 -- CM channel classification response

 cmChannelClassificationResponse CMChannelClassificationResponse,

 -- WSO channel classification update

 channelClassificationAnnouncement ChannelClassificationAnnouncement,

 --Available channel list request from WSO

 availableChannelsRequest AvailableChannelsRequest,

 -- Available channel list response from WSO

 availableChannelsResponse AvailableChannelsResponse,

 --Information acquiring request

 infoAcquiringRequest InforAcquiringRequest,

 --Information acquiring response

 infoAcquiringResponse InforAcquiringResponse,

 -- Event indication

 eventIndication EventIndication,

 -- Event confirm

 eventConfirm EventConfirm,

 --WSO measurement request

 measurementRequest MeasurementRequest,

 --WSO measurement response

 measurementResponse MeasurementResponse,

 --WSO measurement confirm

 measurementConfirm MeasurementConfirm,

 --Master/Slave CM request

 masterCMRequest MasterCMRequest,

 --Master/Slave CM response

 masterCMResponse MasterCMResponse,

 --Master/Slave CM configuration request

 masterSlaveCMconfigurationRequest MasterSlaveCMconfigurationRequest,

 --Master/Slave CM configuration response

 masterSlaveCMconfigurationResponse MasterSlaveCMconfigurationResponse,

 --Negotiation request

 negotiationRequest NegotiationRequest,

 --Negotiation announcement

 negotiationAnnouncement NegotiationAnnouncement,

 --Deregistration request

 wsoDeregistrationRequest WsoDeregistrationRequest,

 -- Deregistration response

 wsoDeregistrationResponse WsoDeregistrationResponse

}

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

**--WSO and CM subscription**

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

--WSO subscription request

SubscriptionRequest ::= SEQUENCE {

 --WSO subscription ID

 clientID IA5String OPTIONAL,

 --WSO subscription password

 clientPassword IA5String OPTIONAL,

 --Coexistence service to which WSO is subscribed

 coexistenceService CoexistenceService OPTIONAL,

 --Coexistence service to which WSO is subscribed

 subscribedService SubscribedService OPTIONAL}

--WSO subscription response

SubscriptionResponse ::= SEQUENCE {

 --CM subscription ID

 serverID IA5String OPTIONAL,

 --CM subscription password

 serverPassword IA5String OPTIONAL,

 --Subscription status

 --noError means subscription is confirmed

 --rejected means subscription is not confirmed

 status Status OPTIONAL,

 --Status

 status CxMediaStatus OPTIONAL}

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

**--WSO subscription change**

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

--Request to change subscription

SubscriptionChangeRequest ::= SEQUENCE {

 --Coexistence service to which WSO is subscribed

 subscribedService SubscribedService}

--Response for subscription change

SubscriptionChangeResponse :: = SEQUENCE {

 --Status

 status CxMediaStatus}

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

**--WSO registration**

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

CERegistrationRequest ::= SEQUENCE OF SEQUENCE {

 --New registration, registration update or deregistration

 operationCode OperationCode,

 --WSO ID

 wsoID OCTET STRING,

 --Network ID

 networkID OCTET STRING OPTIONAL,

 --Network technology

 networkTechnology NetworkTechnology OPTIONAL,

 --Network type

 networkType NetworkType OPTIONAL,

 --Location

 geolocation Geolocation OPTIONAL,

 --Discovery information

 discoveryInformation DiscoveryInformation OPTIONAL,

 --Coverage area

 coverageArea CoverageArea OPTIONAL,

 -- Mobility information

 mobilityInformation MobilityInformation OPTIONAL,

 --Installation parameters

 installationParameters InstallationParameters OPTIONAL,

 --List of available frequencies

 listOfAvailableFrequencies ListOfAvailableFrequencies OPTIONAL,

 --Transmission schedule is supported or not

 txScheduleSupported BOOLEAN OPTIONAL,

 --List of operating frequencies

 listOfOperatingFrequencies ListOfOperatingFrequencies OPTIONAL,

 --List of available channel number

 listOfAvailableChNumbers ListOfAvailableChNumbers OPTIONAL,

 --List of supported channel number

 listOfSupportedChNumbers SEQUENCE OF INTEGER OPTIONAL,

 -- List of supported frequencies

 listOfSuppFrequencies ListOfSupportedFrequencies OPTIONAL,

 --List of operating channel number

 listOfOperatingChNumbers ListOfOperatingChNumbers OPTIONAL,

 --Required resource

 requiredResource RequiredResource OPTIONAL,

 --Measurement capability

 measurementCapability MeasurementCapability OPTIONAL}

--Registration response

RegistrationResponse ::= SEQUENCE {

 --Registration status

 status Status OPTIONAL}

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

**--WSO reconfiguration**

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

--Reconfiguration request

ReconfigurationRequest ::= SEQUENCE OF SEQUENCE {

 --WSO ID

 wsoID OCTET STRING OPTIONAL,

 --Operating frequency

 operatingFrequency FrequencyRange OPTIONAL,

 --List of operating channel number

 listOfOperatingChNumber SEQUENCE OF INTEGER OPTIONAL,

 --Transmission power limit

 txPowerLimit REAL OPTIONAL,

 --Indication whether the channel is shared

 channelIsShared BOOLEAN OPTIONAL,

 --Transmission schedule

 txSchedule TxSchedule OPTIONAL,

 -- Channel classification information

 chClassInfo ChClassInfo OPTIONAL,

 -- Mobility information

 mobilityInformation MobilityInformation OPTIONAL

}

--Reconfiguration response

ReconfigurationResponse ::= SEQUENCE OF SEQUENCE {

 --WSO ID

 wsoID OCTET STRING OPTIONAL,

 --Reconfiguration status

 status Status OPTIONAL,

 --Status

 status BOOLEAN OPTIONAL,

 --Failed parameters

 failedParameters FailedParameters OPTIONAL}

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

**--Stop operation**

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

--Stop operation announcement

StopOperationAnnouncement ::= SEQUENCE {}

--Stop operation confirm

StopOperationConfirm ::= SEQUENCE {

 --Stop operation status

 status Status}

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

**--Coexistence report**

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

--Coexistence report announcement

CoexistenceReportAnnouncement ::= SEQUENCE OF SEQUENCE {

 --Subject WSO ID

 wsoID OCTET STRING,

 --List of subject WSO available frequencies

 listOfSubjectWSOAvailableFrequencies ListOfSubjectWSOAvailableFrequencies}

--Coexistence report confirm

CoexistenceReportConfirm ::= SEQUENCE {

 --Coexistence report status

 status Status}

--Request for coexistence report

CoexistenceReportRequest ::= SEQUENCE {}

--Response for coexistence report

CoexistenceReportResponse ::= SEQUENCE {

 --Coexistence report information

 coexistenceReport CoexistenceReport,

 --Channel priority information

 channelPriority ChannelPriority}

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

**--CM registration**

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

--CM registration request

CMRegistrationRequest ::= SEQUENCE {

 --CM registration

 cmRegistration CMRegistration OPTIONAL,

 --CE registration

 ceRegistration CERegistration OPTIONAL,

 --Operationg code

 operationCode OperationCode OPTIONAL,

 --CE ID

 ceID CxID OPTIONAL,

 --Network ID

 networkID OCTET STRING OPTIONAL,

 --Network technology

 networkTechnology NetworkTechnology OPTIONAL,

 --Network type

 networkType NetworkType OPTIONAL,

 --Discovery information

 discoveryInformation DiscoveryInformation OPTIONAL,

 --List of supported channel number

 listOfSupportedChNumbers SEQUENCE OF INTEGER OPTIONAL,

 -- List of supported frequencies

 listOfSuppFrequencies ListOfSupportedFrequencies OPTIONAL

}

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

**--Coexistence set information**

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

--Coexistence set information announcement

CoexistenceSetInformationAnnouncement ::= SEQUENCE {

 --List of subject CEs

 listOfSubjectCEs ListOfSubjectCEs,

 --List of neighbor CMs transport information mentioned inside the list of subject CEs

 listOfNeighborCMsTransport ListOfNeighborCMsTransport}

--Coexistence set information confirm

CoexistenceSetInformationConfirm ::= SEQUENCE {

 --Coexistence set information status

 status Status}

--Request for coexistence set information

CoexistenceSetInformationRequest ::= SEQUENCE {

 listOfNetworkID SEQUENCE OF OCTET STRING}

--Response for coexistence set information

CoexistenceSetInformationResponse ::= SEQUENCE {

 --Network ID

 coexistenceReport CoexistenceReport,

 --List of neighbor CM

 listOfneighborCM ListOfneighborCM}

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

**--Coexistence set element information**

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

--Coexistence set element information announcement

CoexistenceSetElementInformationAnnouncement ::= SEQUENCE OF SEQUENCE{

 --CE ID

 ceID CxID,

 --Coexistence service

 coexistenceService CoexistenceService OPTIONAL,

 --List of neighbor CM WSOs

 listOfNeighborCMWSOs ListOfNeighborCMWSOs OPTIONAL

}

--Coexistence set element information confirm

CoexistenceSetElementInformationConfirm ::= SEQUENCE {

 --Coexistence set element information status

 status Status}

--Coexistence set element information request

CoexistenceSetElementInformationRequest ::= SEQUENCE OF SEQUENCE{

 --CE ID

 ceID CxID,

 --List of neighbor CM WSOs

 listOfNeighborCMWSOs ListOfNeighborCMWSOs

}

--Coexistence set element information response

CoexistenceSetElementInformationResponse ::= SEQUENCE OF SEQUENCE{

 --CE ID

 ceID CxID,

 --Coexistence service

 coexistenceService CoexistenceService,

 --List of neighbor CM WSOs

 listOfNeighborCMWSOs ListOfNeighborCMWSOs

}

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

**--Coexistence set element reconfiguration**

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

--Coexistence set element reconfiguration request

CoexistenceSetElementReconfigurationRequest ::= SEQUENCE{

 --List of subject CEs

 reconfigListOfSubjectCEs ReconfigListOfCEs,

 --List of neighbor CEs

 reconfigListOfNeighborCEs ReconfigListOfCEs

}

--Coexistence set element reconfiguration response

CoexistenceSetElementReconfigurationResponse ::= SEQUENCE{

 --Indicates whether the suggested reconfiguration is accepted or not

 requestIsAccepted BOOLEAN

}

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

**--WSO reconfiguration for another CM**

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

--Reconfiguration request

CMReconfigurationRequest ::= SEQUENCE {

 --Indication for CE to be reconfigured

 reconfigTarget CxID,

 --List of operating channel number

 listOfOperatingChNumber SEQUENCE OF INTEGER,

 --Transmission power limitation

 txPowerLimit REAL,

 --Indication whether the channel is shared

 channelIsShared BOOLEAN,

 --Transmission schedule

 txSchedule TxSchedule ,

 -- Channel classification information

 chClassInfo ChClassInfo}

--Reconfiguration response

ReconfigurationResponse ::= SEQUENCE {

 --Indication for CE to be reconfigured

 reconfigTarget CxID,

 --Status

 status BOOLEAN

 --Failed parameters

 failedParameters FailedParameters}

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

**--Channel classification**

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

--Channel classification request

ChannelClassificationRequest ::= SEQUENCE {

 -- List of network ID

 listOfNetworkID SEQUENCE OF OCTET STRING}

-- Channel classification response

ChannelClassificationResponse ::= SEQUENCE OF SEQUENCE{

 -- Network ID

 networkID OCTET STRING

 --Channel classification information

 chClassInfo ChClassInfo}

--CM Channel classification request

CMChannelClassificationRequest ::= SEQUENCE {

 -- List of network ID

 listOfNetworkID SEQUENCE OF OCTET STRING}

-- CM Channel classification response

CMChannelClassificationResponse ::= SEQUENCE OF SEQUENCE{

 -- Network ID

 networkID OCTET STRING

 --Channel classification information

 chClassInfo ChClassInfo}

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

**--Channel classification update**

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

--Channel classification update

ChannelClassificationAnnouncement ::= SEQUENCE OF SEQUENCE {

 -- Network ID

 networkID OCTET STRING

 --Channel classification information

 chClassInfo ChClassInfo}

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

**--Information acquiring from another CM**

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

-- Information acquiring request

InfoAcquringRequest ::= SEQUENCE {

 ceID CxID,

 listOfReqInfoDescr SEQUENCE OF ReqInfoDescr}

-- Information acquiring response

InfoAcquringResponse ::= SEQUENCE {

 ceID CxID,

 reqInfoValue ReqInfoValue}

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

**--Available channel list from WSO**

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

-- Available channel request

AvailableChannelsRequest ::= SEQUENCE {}

-- Available channel response

AvailableChannelsResponse ::= SEQUENCE {

 --Available channel list information

 listOfAvailableChNumbers ListOfAvailableChNumbers}

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

**--Event indication**

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

-- Event indication

EventIndication ::= SEQUENCE {

 -- Event indication information

 eventParams EventParams}

-- Event confirm

EventConfirm ::= SEQUENCE {}

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

**--Measurement Request**

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

-- Measurement request

MeasurementRequest ::= SEQUENCE {

 -- Measurement request information

 measurementDescription MeasurementDescription}

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

**-- Measurement results**

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

-- Measurement response

MeasurementResponse ::= SEQUENCE OF SEQUENCE{

 -- Measurement results

 measurementResult MeasurementResult}

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

**-- Negotiation**

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

-- Negotiation request

NegotiationRequest ::= SEQUENCE {

 -- Negotiation status

 negotiationStatus NegotiationStatus,

 -- Negotiation information

 negotiationInformation NegotiationInformation}

-- Negotiation announcement

NegotiationAnnouncement ::= SEQUENCE {

 -- Winner CM ID list

 listOfWinnerCMID ListOfWinnerCMID,

 -- Slot time position list

 listOfSlotTimePosition ListOfSlotTimePosition}

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

**--Master/Slave CM selection**

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

--Master/Slave CM selection request

MasterCMRequest ::= SEQUENCE {

 --List of CEs managed by CM that intends to become slave CM

 listOfCEs SEQUENCE OF CxID}

-- Master/Slave CM selection response

MasterCMResponse ::= SEQUENCE {

 --Status

 status CxMediaStatus}

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

**--Master/Slave CM configuration**

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

--Master/Slave CM configuration request

MasterSlaveCMconfigurationRequest ::= SEQUENCE {

 -- List of CEs managed by CM

 listOfCEs SEQUENCE OF CxID}

--Master/Slave CM configuration response

MasterSlaveCMconfigurationResponse ::= SEQUENCE {

 --Operationg code

 operationCode OperationCode,

 --Slave CE ID

 slaveCeID CxID,

 --Network ID

 networkID OCTET STRING,

 --Network technology

 networkTechnology NetworkTechnology,

 --Network type

 networkType NetworkType

 --Discovery information

 discoveryInformation DiscoveryInformation,

 --Transmission schedule is supported or not

 txScheduleSupported BOOLEAN,

 --List of available channel number

 listOfAvailableChNumbers ListOfAvailableChNumbers,

 --List of supported channel number

 listOfSupportedChNumbers SEQUENCE OF INTEGER,

 --List of operating channel number

 listOfOperatingChNumbers ListOfOperatingChNumbers,

 --Required resource

 requiredResource RequiredResource

 --Measurement capability

 measurementCapability MeasurementCapability}

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

**--WSO deregistration**

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

--Deregistration request

WsoDeregistrationRequest ::= SEQUENCE {

 --Flag of wso deregistration

 wsoDeregistration BOOLEAN}

--Deregistration response

WsoDeregistrationResponse ::= SEQUENCE {

 --Status

 status CxMediaStatus}

END