IEEE 802.19.1a
Wireless Coexistence

|  |
| --- |
| Comment resolution on CID68 |
| Date: 2016-09-12 |
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|  |  |  |  |  |

Abstract

This document provides comment resolution on CID68.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Comment ID | **Page No.** | **Section** | **Line No.** | **Type (General, Editorial, Technical)** | **Comments** | **Proposed changes** | Resolutions |
| 68 | **54** | **6.4.3.2** | **14** | **Technical** | **In this operation, CE sends client ID of GCO to CM, however in registration, only GCO ID is sent to CM. In this case CM cannot identify which clientID corresponds to gcoID. This issue should be solved.** | **Need proposal** | wait for contributions |

The provided comment is as follows:

*In this operation, CE sends client ID of GCO to CM, however in registration, only GCO ID is sent to CM. In this case CM cannot identify which clientID corresponds to gcoID. This issue should be solved.*

===== (Text starts)

* 1. CM operation
		1. **Profile 3**
			1. **Subscription change**

When a CM requires to change subscription of a ~~WSO~~GCO, the CM shall perform the subscription change procedure described in clause **Error! Reference source not found.**. The CM shall generate and send the ***SubscriptionChangeRequest*** message to the CE serving this ~~WSO~~GCO.

The following table shows ***CxMessage*** fields in ***SubscriptionChangeRequest*** message.~~Table below shows~~ ***~~SubscriptionChangeRequest~~*** ~~payload element.~~

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***~~Header~~header*** | ***CxHeader*** | ***requestID*** |
| ***~~Payload~~paylaod*** | ***CxPayload*** | ***sucscriptionChangeRequest*** |

Table below shows ***SubscriptionChangeRequest*** payload element.

~~Table below shows~~ ***~~CxMessage~~*** ~~fields in~~ ***~~SubscriptionChangeRequest~~*** ~~message.~~

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***gcoID*** | ***OCTET STRING*** | GCO ID |
| ***clientID*** | ***IA5String*** | GCO subscription identifier |
| ***coexistenceService*** | ***CoexistenceService*** | Set to “information” if the intent is to update the service subscription to the information service.Set to “management” if the intent is to update the service subscription to the management service. |

===== (Text ends)

===== (Text starts)

* 1. CE operation
		1. Profile 3
			1. General description
			2. **~~WSO~~GCO subscription**

After the start-up, a CE shall perform the ~~WSO~~GCO subscription procedure described in clause **Error! Reference source not found.**. The CE shall send the ***CxMediaSubscriptionRequest*** primitive to the ~~WSO~~GCO/RLSS it serves and shall wait for the ***CxMediaSubscriptionResponse*** primitive from this ~~WSO~~GCO/RLSS. After the CE has received the ***CxMediaSubscriptionResponse*** primitive from the ~~WSO~~GCO/RLSS, the CE shall generate and send the ***SubscriptionRequest*** message to the CM to which it prefers to subscribe.

Table below shows ***CxMediaSubscriptionResponse*** payload element.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***gcoID*** | ***OCTET STRING*** | GCO ID |
| ***clientID*** | ***IA5String*** | ~~WSO~~GCO subscription identifier |
| ***clientPassword*** | ***IA5String*** | ~~WSO~~GCO subscription password |
| ***coexistenceService*** | ***CoexistenceService*** | Set to “information” if the intent is to subscribe to the information service.Set to “management” if the intent is to subscribe to the management service. |

Table below shows ***CxMessage*** fields in ***SubscriptionRequest*** message.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***~~Header~~header*** | ***CxHeader*** | ***requestID*** |
| ***~~Payload~~payload*** | ***CxPayload*** | ***subscriptionRequest*** |

Table below shows ***subscriptionRequest*** payload element.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***gcoID*** | ***OCTET STRING*** | GCO ID |
| ***clientID*** | ***IA5String*** | ~~WSO~~GCO subscription identifier |
| ***clientPassword*** | ***IA5String*** | ~~WSO~~GCO subscription password |
| ***coexistenceService*** | ***CoexistenceService*** | Set to “information” if the intent is to subscribe to the information service.Set to “management” if the intent is to subscribe to the management service. |

The CE shall send the ***CxMediaSubscriptionConfirm*** primitive to the ~~WSO~~GCO/RLSS after it has received the ***SubscriptionResponse*** message from the CM.

Table below shows ***CxMediaSubscriptionConfirm*** primitive.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***cxMediaStatus*** | ***CxMediaStatus*** | ~~Status~~cxMediaStatus |

* + - 1. **~~WSO~~GCO subscription update**

After a CE has received a ***CxMediaSubscriptionIndication*** primitive from the ~~WSO~~GCO/RLSS it serves, the CE shall perform the ~~WSO~~GCO subscription update procedure described in clause **Error! Reference source not found.**. The CE shall generate and send the ***SubscriptionRequest*** message to the CM to which it is subscribed.

Table below shows ***CxMediaSubscriptionIndication*** payload element.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***gcoID*** | ***OCTET STRING*** | GCO ID |
| ***clientID*** | ***IA5String*** | ~~WSO~~GCO subscription identifier |
| ***clientPassword*** | ***IA5String*** | ~~WSO~~GCO subscription password |
| ***coexistenceService*** | ***CoexistenceService*** | Set to “information” if the intent is to subscribe to the information service.Set to “management” if the intent is to subscribe to the management service. |

Table below shows ***CxMessage*** fields in ***SubscriptionRequest*** message.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***~~Header~~header*** | ***CxHeader*** | ***requestID*** |
| ***~~Payload~~payload*** | ***CxPayload*** | ***subscriptionRequest*** |

Table below shows ***subscriptionRequest*** payload element.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***gcoID*** | ***OCTET STRING*** | GCO ID |
| ***clientID*** | ***IA5String*** | ~~WSO~~GCO subscription identifier |
| ***clientPassword*** | ***IA5String*** | ~~WSO~~GCO subscription password |
| ***coexistenceService*** | ***CoexistenceService*** | Set to “information” if the intent is to subscribe to the information service.Set to “management” if the intent is to subscribe to the management service.Set to “noService” if the intent is to stop the service subscription |

The CE shall send the ***CxMediaSubscriptionConfirm*** primitive to the ~~WSO~~GCO/RLSS after it has received the ***SubscriptionResponse*** message from the CM.

Table below shows ***CxMediaSubscriptionConfirm*** primitive.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***cxMediaStatus*** | ***cxMediaStatus*** | ***~~Status~~***cxMediaStatus |

* + - 1. **Subscription change**

After a CE has received a ***SubscriptionChangeRequest*** message from the CM to which it is subscribed, the CE shall perform the subscription change procedure described in clause **Error! Reference source not found.**. The CE shall generate and send the ***CxMediaChangeSubscriptionRequest~~CxMediaChangeSybscriptionRequest~~*** primitive to the ~~WSO~~GCO/RLSS that is serves.

Table below shows ***CxMediaChangeSubscriptionRequest*** primitives.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***coexistenceService*** | ***CoexistenceService*** | Set to “information” if the intent is to update the service subscription to the information service.Set to “management” if the intent is to update the service subscription to the management service. |

Also, the CE shall send the ***SubscriptionChangeResponse*** message to the CM after it has received the ***CxMediaChangeSubscriptionResponse*** primitive from the ~~WSO~~GCO/RLSS.

Table below shows ***CxMessage*** fields in ***SubscriptionChangeResponse*** message.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***~~Header~~header*** | ***CxHeader*** | ***requestID*** |
| ***~~Payload~~payload*** | ***CxPayload*** | ***sucscriptionChangeResponse*** |

Table below shows ***SubscriptionChangeResponse*** payload element.

|  |  |  |
| --- | --- | --- |
| *Parameter* | *Data type* | *Value* |
| ***gcoID*** | ***OCTET STRING*** | GCO ID |
| ***clientID*** | ***IA5String*** | ~~WSO~~GCO subscription identifier |
| ***status*** | ***~~CxMedia~~Status*** | ***~~Status~~status*** |

===== (Text ends)

===== (Text starts)

# **D.2 Messages for IEEE 802.19.1a**

IEEE802191aMessage DEFINITIONS AUTOMATIC TAGS ::= BEGIN

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

**--Imported data types**

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

--Imported data types

IMPORTS

 --Coexistence protocol entity ID

 CxID,

 --Status

 Status,

 --CxMedia status

 CxMediaStatus,

 --Coexistence service

 CoexistenceService,

 --Network technology

 NetworkTechnology,

 --Network type

 NetworkType,

 --Location

 Geolocation,

 --Region

 Region,

 --Coverage area

 CoverageArea,

 --Installation parameters

 InstallationParameters,

 --List of available frequencies

 ListOfAvailableFrequencies,

 --List of operating frequencies

 ListOfOperatingFrequencies,

 --List of supported frequencies

ListOfSupportedFrequencies,

 --Required resource

 RequiredResource,

 --Operation code for registration

 OperationCode,

 --Frequency range

 FrequencyRange,

 --CM registration

 CMRegistration,

 --CE registration

 CERegistration,

 --Coexistence report

 CoexistenceReport,

 --List of coexistence reports

 ListOfCoexistenceReports,

 --Measurement capability

 MeasurementCapability,

 --List of neighbor CMs

 ListOfNeighborCMs,

 --Mobility Information

 MobilityInformation,

 --Entity profile

 EntityProfile,

 --List of master CM candidate

 ListOfMasterCMCandidates,

--List of desired performance

 ListOfDesiredPerformances,

 SpecRequestModification

FROM IEEE802191aDataType;

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

**--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 {

 --CM association request

 cmAssociationRequest CMAssociationRequest,

 --CM association response

 cmAssociationResponse CMAssociationResponse,

--GCO subscription request

 subscriptionRequest SubscriptionRequest,

 --GCO subscription response

 subscriptionResponse SubscriptionResponse,

 --GCO subscription change request

 subscriptionChangeRequest SubscriptionChangeRequest,

 --GCO subscription change response

 subscriptionChangeResponse SubscriptionChangeResponse,

 --CE registration request

 ceRegistrationRequest CERegistrationRequest,

 --Registration response

 registrationResponse RegistrationResponse,

 --Reconfiguration request

 reconfigurationRequest ReconfigurationRequest,

 --Reconfiguration response

 reconfigurationResponse ReconfigurationResponse,

 --Coexistence report request

 coexistenceReportRequest CoexistenceReportRequest,

 --Coexistence report response

 coexistenceReportResponse CoexistenceReportResponse,

 --CM registration request

 cmRegistrationRequest CMRegistrationRequest,

 --Coexistence set information request

 coexistenceSetInformationRequest CoexistenceSetInformationRequest,

 --Coexistence set information response

 coexistenceSetInformationResponse CoexistenceSetInformationResponse,

 --CM Reconfiguration request

 cmReconfigurationRequest CMReconfigurationRequest,

 --CM Reconfiguration response

 cmReconfigurationResponse CMReconfigurationResponse,

 --Master/Slave CM configuration request

 masterSlaveCMconfigurationRequest MasterSlaveCMconfigurationRequest,

 --Master/Slave CM configuration response

 masterSlaveCMconfigurationResponse MasterSlaveCMconfigurationResponse,

 -- CE Proxy Coexistence Service Request

 ceProxyCoexistenceServiceRequest CEProxyCoexistenceServiceRequest,

 -- CM Proxy Coexistence Service Request

 cmProxyCoexistenceServiceRequest CMProxyCoexistenceServiceRequest,

 --Inter-CM association request

interCMAssociationRequest InterCMAssociationRequest,

--Inter-CM association response

interCMAssociationResponse InterCMAssociationResponse,

--Inter-COE association request

interCOEAssociationRequest InterCOEAssociationRequest,

--Inter-COE association response

interCOEAssociationResponse InterCOEAssociationResponse,

--Operating frequency information request

operatingFreqInformationRequest OperatingFreqInformationRequest,

--Operating frequency information response

operatingFreqInformationResponse OperatingFreqInformationResponse,

-- Inter-COE operating frequency information request

interCOEOperatingFreqInformationRequest InterCOEOperatingFreqInformationRequest,

-- Inter-COE operating frequency information request

interCOEOperatingFreqInformationResponse InterCOEOperatingFreqInformationResponse,

...

}

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

**--CM Association**

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

CMAssociationRequest ::= SEQUENCE {

 --GCO subscription ID

 ClientID IA5String OPTIONAL,

 ...

}

CMAssociationResponse ::= SEQUENCE {

 --Status

 status Status OPTIONAL,

 ...

}

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

**--GCO and CM subscription**

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

--GCO subscription request

SubscriptionRequest ::= SEQUENCE {

 --GCO ID

 gcoID OCTET STRING OPTIONAL,

 --GCO subscription ID

 clientID IA5String OPTIONAL,

 --GCO subscription password

 clientPassword IA5String OPTIONAL,

 --Coexistence service to which GCO is subscribed

 coexistenceService CoexistenceService OPTIONAL

}

--GCO subscription response

SubscriptionResponse ::= SEQUENCE {

 --CM subscription ID

 serverID IA5String OPTIONAL,

 --CM subscription password

 serverPassword IA5String OPTIONAL,

 --Subscription status

 status Status OPTIONAL

}

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

**--GCO subscription change**

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

--Request to change subscription

SubscriptionChangeRequest ::= SEQUENCE {

 --GCO ID

 gcoID OCTET STRING OPTIONAL,

 --GCO subscription ID

 clientID IA5String OPTIONAL,

 --Coexistence service to which GCO is subscribed

 coexistenceService CoexistenceService OPTIONAL

}

--Response for subscription change

SubscriptionChangeResponse :: = SEQUENCE {

 --GCO ID

 gcoID OCTET STRING OPTIONAL,

 --GCO subscription ID

 clientID IA5String OPTIONAL,

 --Status

 cxMediaStatus CxMediaStatus OPTIONAL

}

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

**--GCO registration**

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

CERegistrationRequest ::= SEQUENCE OF SEQUENCE {

 --New registration, registration update or deregistration

 OperationCode OperationCode OPTIONAL,

 --GCO ID

 gcoID OCTET STRING OPTIONAL,

 --Network ID

 networkID OCTET STRING OPTIONAL,

 --GCO Descriptor (Profile 3)

 gcoDescriptor GCODescriptor 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 supported frequencies

 listOfSuppFrequencies ListOfSupportedFrequencies OPTIONAL,

 --Required resource

 RequiredResource RequiredResource OPTIONAL,

 --Measurement capability

 MeasurementCapability MeasurementCapability OPTIONAL,

 --List of desired performance

 ListOfDesiredPerformances ListOfDesiredPerformances OPTIONAL,

 --Spectrum transition capability

 SpectrumTransitionCapability BOOLEAN OPTIONAL,

 --Operation region

 OperationRegion Range OPTIONAL

}

--Registration response

RegistrationResponse ::= SEQUENCE {

 --Registration status

 Status Status OPTIONAL,

 --Registration update duration [s]

 RegistrationUpdateDuration REAL OPTIONAL

}

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

**--GCO reconfiguration**

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

--Reconfiguration request

ReconfigurationRequest ::= SEQUENCE OF SEQUENCE {

 --GCO ID

 GcoID OCTETSTRING OPTIONAL,

 --List of operating frequencies and operation parameters to be configured

 ListOfOperatingFrequencies ListOfOperatingFrequencies OPTIONAL,

 --Network technology to be configured

 NewNetworkTechnology NetworkTechnology OPTIONAL,

 SpecRequestModification SpecRequestModification OPTIONAL

}

--Reconfiguration response

ReconfigurationResponse ::= SEQUENCE OF SEQUENCE {

 --GCO ID

 gcoID OCTETSTRING OPTIONAL,

 --Reconfiguration status

 status Status OPTIONAL,

 --list of available frequencies

 ListOfAvailableFrequencies ListOfAvailableFrequencies OPTIONAL

}

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

**--Coexistence report**

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

--Response for coexistence report

CoexistenceReportResponse ::= SEQUENCE {

 --Coexistence report information

 coexistenceReport CoexistenceReport OPTIONAL,

 --List of coexistence report

 ListOfCoexistenceReports ListOfCoexistenceReports OPTIONAL

}

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

**--CM registration**

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

--CM registration request

CMRegistrationRequest ::= SEQUENCE {

 --CM profile

 CmProfile EntityProfile OPTIONAL,

 --CM registration

 cmRegistration CMRegistration OPTIONAL,

 --CE registration

 ceRegistration CERegistration OPTIONAL,

 --Operation code

 operationCode OperationCode OPTIONAL,

 --CM ID

 cmID CxID OPTIONAL,

 --Maximum number of controllable GCO

 maximumNumberOfControllableGCO INTEGER OPTIONAL

}

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

**--Coexistence set information**

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

--Request for coexistence set information

CoexistenceSetInformationRequest ::= SEQUENCE {

 --List of network IDs

 listOfNetworkIDs SEQUENCE OF OCTET STRING OPTIONAL,

 --Operation code

 operationCode OperationCode OPTIONAL

}

--Response for coexistence set information

CoexistenceSetInformationResponse ::= SEQUENCE {

 --Network ID

 networkID OCTET STRING OPTIONAL,

 --List of neighbor CMs

 listOfNeighborCMs listOfNeighborCMs OPTIONAL,

 --List of master CM candidates

 listOfMasterCMCandidates ListOfMasterCMCandidates OPTIONAL

}

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

**--GCO reconfiguration for another CM**

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

--CM Reconfiguration request

CMReconfigurationRequest ::= SEQUENCE {

 --Network technology to be configured

 newNetworkTechnology NetworkTechnology OPTIONAL,

 --GCO ID

 gcoID OCTETSTRING OPTIONAL,

 --Target CE ID

 ceID CxID OPTIONAL,

 --List of operating frequencies and operation parameters to be configured

 listOfOperatingFrequencies ListOfOperatingFrequencies OPTIONAL

}

--CM Reconfiguration response

CMReconfigurationResponse ::= SEQUENCE {

 --Status

 status Status OPTIONAL

}

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

**--Master/Slave CM configuration**

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

--Master/Slave CM configuration request

MasterSlaveCMConfigurationRequest ::= SEQUENCE {

 --CM ID

 cmID CxID OPTIONAL,

 --Operation code

 operationCode OperationCode OPTIONAL,

 --CM profile

 cmProfile EntityProfile OPTIONAL,

 --CE registration information

 ceRegistration CERegistration OPTIONAL

}

--Master/Slave CM configuration response

MasterSlaveCMConfigurationResponse ::= SEQUENCE {

 --Status

 status Status OPTIONAL

}

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

**--Proxy coexistence service**

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

--CEProxyCoexistenceServiceRequest

CEProxyCoexistenceServiceRequest ::= SEQUENCE {

--CE ID

ceID CxID OPTIONAL,

--List of GCOs

listOfGCOs ListOfGCOs OPTIONAL,

...

}

--CMProxyCoexistenceServiceRequest

CMProxyCoexistenceServiceRequest ::= SEQUENCE {

--CM ID

cmID CxID OPTIONAL,

--List of CEs

listOfCEs ListOfCEs OPTIONAL,

...

}

--InterCMAssociationRequest

InterCMAssociationRequest ::= SEQUENCE {

--CM ID

cmID CxID,

--Management region of the CM

managementRegion Region OPTIONAL

}

--InterCMAssociationResponse

InterCMAssociationResponse ::= SEQUENCE {

--status of request processing

status Status,

--List of accessible CMs

listOfAccessibleCMs ListOfAccessibleCMs OPTIONAL

}

-- OperatingFreqInformationRequest

OperatingFreqInformationRequest ::= SEQUENCE {

--CM ID

cmID CxID,

--region information

Region Region

}

-- OperatingFreqInformationResponse

OperatingFreqInformationResponse ::= SEQUENCE {

--Status of request processing

status Status,

--List of coexistence reports

listOfCoexistenceReports ListOfCoexistenceReports

}

-- InterCOEAssociationRequest

InterCOEAssociationRequest ::= SEQUENCE {

--COE ID

coeID CxID,

--InterCMAssociationRequest

interCMAssociationRequest InterCMAssociationRequest

}

-- InterCOEOperatingFreqInformationRequest

InterCOEOperatingFreqInformationRequest ::= SEQUENCE {

--COE ID

coeID CxID,

--OperatingFreqInformationRequest

operatingFreqInformationRequest OperatingFreqInformationRequest

}

-- InterCOEOperatingFreqInformationResponse

InterCOEOperatingFreqInformationResponse ::= SEQUENCE {

--COE ID

coeID CxID,

--OperatingFreqInformationResponse

operatingFreqInformationResponse OperatingFreqInformationResponse

}

END

===== (Text ends)