IEEE P802.15

Wireless Personal Area Networks

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | Resolution to CID 690, 706, 715 | |
| Date Submitted | 18, September 2019 | |
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| Re: | Move all Ranging related parameters to separate substructure in MCSP-DATE.\* calls. | |
| Abstract | This document provides editing instructions to resolve CID 690, 706, 715. | |
| Purpose | Resolve CID 690, 706, 715 | |
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# Overview

This document provides editing instructions to move all ranging related parameters out from the MCPS-DATA.\* primitives to separate substructure which is then referenced from the main primitive. This way the users of the MCPS-DATA primitives who are not doing ranging, can just leave that substructure empty, and do not need to provide lots of useless parameters.

# MCPS-DATA.request

In MCPS-DATA.request primitive semantics remove following entries from the list: UwbPrf, Ranging, RangingPhr, TxTimeSpecified, RangingTxTime, RequestRrtiTx, UwbPreambleSymbolRepetitions, LocationEnhancingInformationPostamble, and LocationEnhancingInformationPostambleLength. Replace them with “RangingRequestParams” parameter.

In Table 8-75 move entries UwbPrf, Ranging, UwbPreambleSymbolRepetitions, LocationEnhancingInformationPostamble, and LocationEnhancingInformationPostambleLength to new Table 8-75a with title of “Elements of RangingRequestParams”. Add following row to Table 8-75 after KeyIndex:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| RangingRequestParams | RangingRequestParams value | As defined in Table 8-75a | Ranging related parameters, if no ranging is requested this can be omitted. |

In section 16.2.5 fix HrpUwbPreambleSymbolsRepetitions to UwbPreambleSymbolRepetitions.

# MCPS-DATA.confirm

In MCPS-DATA.confirm primitive semantics remove following entries from the list: RangingReceived, ~~RangingCounterStart,~~ TxRangingCounter, ~~RangingCounterStop~~, RxRangingCounter, RangingTrackingInterval, RangingOffset, RangingFom, RangingStsFom, AngleOfArrivalAzimuth, AngleOfArrivalElevation, AngleOfArrivalPresent. Replace them with “RangingConfirmParams” parameter.

In Table 8-76 move entries RangingReceived, RangingCounterStart, RangingCounterStop, RangingTrackingInterval, RangingOffset, and RangingFom to new Table 8-76a with title of “Elements of RangingConfirmParams”. Add AngleOfArrivalAzimuth, AngleOfArrivalElevation, AngleOfArrivalPresent, and RangingStsFom as new entries Table 8-76a instead of Table 8-76. Keep adding the AckHeaderIeList, AckPayloadIeList, and Rssi to 8-76. Add following row to Table 8-76 after Timestamp:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| RangingConfirmParams | RangingConfirmParams value | As defined in Table 8-76a | Ranging related parameters, if no ranging was done this is omitted. |

# MCPS-DATA.indication

In MCPS-DATA.indication primitive semantics remove following entries from the list: RangingReceived, ~~RangingCounterStart~~, TxRangingCounter, ~~RangingCounterStop~~, RxRangingCounter, RangingTrackingInterval, RangingOffset, RangingFom, Sp3Packet, RxS0RangingCounter, RxS1RangingCounter, RxS2RangingCounter, RxS3RangingCounter, RxS4RangingCounter, TxS0RangingCounter, TxS1RangingCounter, TxS2RangingCounter, TxS3RangingCounter, TxS4RangingCounter, RangingStsS1Fom, RangingStsS2Fom, RangingStsS3Fom, RangingStsS4Fom, RangingStsAoaAzimuthFom, RangingStsAoaElevationFom, AngleOfArrivalAzimuth, AngleOfArrivalElevation, and AngleOfArrivalSupported. Replace them with “RangingIndicationParams” parameter.

In Table 8-77 move entries RangingReceived, RangingCounterStart, RangingCounterStop, RangingTrackingInterval, RangingOffset, RangingFom, AngleOfArrivalAzimuth, AngleOfArrivalElevation, and AngleOfArrivalSupported to new Table 8-77a with title of “Elements of RangingIndicationParams”. Move new entries Sp3Packet, RxS0RangingCounter, RxS1RangingCounter, RxS2RangingCounter, RxS3RangingCounter, RxS4RangingCounter, TxS0RangingCounter, TxS1RangingCounter, TxS2RangingCounter, TxS3RangingCounter, TxS4RangingCounter, RangingStsS1Fom, RangingStsS2Fom, RangingStsS3Fom, RangingStsS4Fom, RangingStsAoaAzimuthFom, and RangingStsAoaElevationFom from Table 8-77 to Table 8-77a. Add following row to Table 8-77 after KeyIndex:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| RangingIndicationParams | RangingIndicationParams value | As defined in Table 8-77a | Ranging related parameters, if no ranging was done this is omitted. |

Change MLME-DATA.request semantics:

MCPS-DATA.request (

SrcAddrMode,

DstAddrMode,

DstPanId,

DstAddr,

Msdu,

MsduHandle,

HeaderIeList,

PayloadIeList,

HeaderIeIdList,

NestedIeSubIdList,

AckTx,

GtsTx,

IndirectTx,

SecurityLevel,

KeyIdMode,

KeySource,

KeyIndex,

~~UwbPrf,~~

~~Ranging~~,

~~RangingPhr~~,

~~TxTimeSpecified~~,

~~RangingTxTime~~,

~~RequestRrtiTx~~,

~~UwbPreambleSymbolRepetitions~~,

DataRate,

~~LocationEnhancingInformationPostamble~~,

~~LocationEnhancingInformationPostambleLength~~,

PanIdSuppressed,

SeqNumSuppressed,

SendMultipurpose

FrakPolicy,

CriticalEventMessage

)

To:

MCPS-DATA.request (

SrcAddrMode,

DstAddrMode,

DstPanId,

DstAddr,

Msdu,

MsduHandle,

HeaderIeList,

PayloadIeList,

HeaderIeIdList,

NestedIeSubIdList,

AckTx,

GtsTx,

IndirectTx,

SecurityLevel,

KeyIdMode,

KeySource,

KeyIndex,

DataRate,

RangingRequestParams,

PanIdSuppressed,

SeqNumSuppressed,

SendMultipurpose

FrakPolicy,

CriticalEventMessage

)

Change MLME-DATA.confirm semantics:

MCPS-DATA.confirm (

MsduHandle,

Timestamp,

~~RangingReceived~~,

~~TxRangingCounter~~,

~~RxRangingCounter~~,

~~RangingTrackingInterval~~,

~~RangingOffset~~,

~~RangingFom~~,

~~RangingStsFom~~,

NumBackoffs,

AckPayload,

AckHeaderIeList,

AckPayloadIeList,

~~AngleOfArrivalAzimuth~~,

~~AngleOfArrivalElevation~~,

~~AngleOfArrivalPresent~~,

Rssi,

Status

)

To:

MCPS-DATA.confirm (

MsduHandle,

Timestamp,

NumBackoffs,

AckPayload,

AckHeaderIeList,

AckPayloadIeList,

RangingConfirmParams,

Rssi,

Status

)

Change MLME-DATA.indication semantics:

MCPS-DATA.indication (

SrcAddrMode,

SrcPanId,

SrcAddr,

DstAddrMode,

DstPanId

DstAddr,

Msdu,

HeaderIeList,

PayloadIeList,

MpduLinkQuality,

Dsn,

Timestamp,

SecurityLevel,

KeyIdMode,

KeySource,

KeyIndex,

~~RangingReceived~~,

~~TxRangingCounter~~,

~~RxRangingCounter~~,

~~RangingTrackingInterval~~,

~~RangingOffset~~,

~~RangingFom~~,

~~Sp3Packet~~,

~~RxS0RangingCounter~~,

~~RxS1RangingCounter~~,

~~RxS2RangingCounter~~,

~~RxS3RangingCounter~~,

~~RxS4RangingCounter~~,

~~TxS0RangingCounter~~,

~~TxS1RangingCounter~~,

~~TxS2RangingCounter~~,

~~TxS3RangingCounter~~,

~~TxS4RangingCounter~~,

~~RangingStsS1Fom~~,

~~RangingStsS2Fom~~,

~~RangingStsS3Fom~~,

~~RangingStsS4Fom~~,

~~RangingStsAoaAzimuthFom~~,

~~RangingStsAoaElevationFom~~,

~~AngleOfArrivalAzimuth~~,

~~AngleOfArrivalElevation~~,

~~AngleOfArrivalSupported~~,

DataRate,

Rssi

)

To:

MCPS-DATA.indication (

SrcAddrMode,

SrcPanId,

SrcAddr,

DstAddrMode,

DstPanId

DstAddr,

Msdu,

HeaderIeList,

PayloadIeList,

MpduLinkQuality,

Dsn,

Timestamp,

SecurityLevel,

KeyIdMode,

KeySource,

KeyIndex,

RangingIndicationParams,

DataRate,

Rssi

)