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

 )