**IEEE P802.15**

**Wireless Personal Area Networks**

|  |  |
| --- | --- |
| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | **Resolution of SRM Related CIDs** |
| Date Submitted | [11 March, 2019] |
| Source | [Shoichi kitazawa, Hidetoshi Yokota][Muroran IT, Landis+Gyr][address] | Voice: [ ]Fax: [ ]E-mail: [kitazawa@ieee.org, hidetoshi.yokota@landisgyr.com] |
| Re: |  |
| Abstract | [Proposed resolutions of SRM related CIDs for the 802.15.4md D01 Draft Comments (as of Revision 25)] |
| Purpose | [This document is used to submit comments for an 802.15.4md] |
| Notice | This document has been prepared to assist the IEEE P802.15. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein. |
| Release | The contributor acknowledges and accepts that this contribution becomes the property of IEEE and may be made publicly available by P802.15. |

**Proposed Resolution**

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 162 | 8.2.26.1 | The StartTime does not include any information what is the resolution or units of the value, and what is the epoch.  | Add missing text. |

Resolution: Revised

Proposed Resolution:

That information is described in Section 7.5.27 (l.5 of p.269). The proposed change is to add that information in the corresponding Description as "The time at which the requested measurement should be started as defined in 7.5.27."

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 163 | 8.2.26.1 | Duration field does not include resolution or units of the value. | Add missing text. |

Resolution:

Proposed Resolution:

That information is described in Section 7.5.27 (l.8 of p.269). The proposed change is to add that information in the corresponding Description as "The duration over which the requested measurement should be measured as defined in 7.5.27."

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 164 | 8.2.26.1 | The description what is supposed to happen when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

Add the following sentence on l.3 "On receipt of MLME-SRM.request primitive by a device, the MLME of the device attempts to generate a SRM Request command as described in 7.5.27 with the information contained in this primitive, and if successful, sends it to the destination device according to the DstAddr parameter."

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 168 | 8.2.26.2 | Same comments as for table 8-75, i.e., about the StartTime, Duration and LinkHandle fields. |  |

Resolution: Revised

Proposed Resolution:

Same as CID#119

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 170 | 8.2.26.2 | The description what is supposed to happen when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

Revise l.2-.3 as follows, "The MLME-SRM.indication primitive is generated by the MAC sublayer and issued to the next higher layer on receipt of a SRM Request command, which then takes a designated action (e.g., get or set PIB attributes) as described in 6.17.2.3. The detailed usage of the MLME-SRM.indication primitive by the next higher layer is beyond the scope of this document."

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 171 | 8.2.26.2 | The SrmHandle description is wrong, as if I understand correctly it actually comes from the sending node, and there is no guarantee that it will be unique, as there might be two devices in the network sending you two different SRM requests which same SRM Token value.  | Clarify the role of the SrmHandle |

Resolution: Rejected

Proposed Resolution:

The role of SrmHandle in MLME-SRM.response is to match the corresponding Response as described in Table 8-76. SrmHandle is locally unique and distinguished by the source address in the SRM Request.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 172 | 8.2.26.3 | Table 8-77 texts are confusing, as it is talking like we had received frame, but we are actually getting information from the higher layer and sending it out. Fix descriptions for the DeviceAddress, PayloadIeList, MeasuredDeviceAddrMode, and MeasuredDeviceAddress. | Fix text. |

Resolution: Revised

Proposed Resolution:

"Modify the SRM Request/Response flows in Figs 6-85 and 6-86 as shown on p.4 in 15-19-0087-02-04md, where MLME-SRM.response is removed and MLME-SRM-RES.\* primitives are newly defined instead."

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 174 | 8.2.26.3 | The description what is supposed to happen when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

When the MLME-SRM.response is received by the MLME, an SRM Report command defined in 7.5.28 is generated and sent to the originated device.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 175 | 8.2.26.4 | Why do we have DeviceAddrMode, DeviceAddress, MeasuredDEviceAddrMode, and MeasuredDeviceAddress in this primitive? Those are not needed as we have SrmHandle to match the corresponding request. | Remove extra parameters. |

Resolution: Rejected

Proposed Resolution:

Could be removed for simplicity, but useful for maintaining consistency.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 176 | 8.2.26.4 | The description what is supposed to happen when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

The SRM.confirm primitive is generated by the MLME and issued to its next higher layer in response to an SRM.request primitive. The SRM.confirm primitive returns a Status value defined in Table 8-78.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 183 | 8.2.27.1 | The description when this primitive is called is missing. | Add missing text. |

Resolution:

Proposed Resolution:

When the MLME-SRM-REPORT.request is issued by the next higher layer of a device, the MLME of the device acknowledges it by sending back an MLME-SRM-REPORT.confirm primitive with a Status code. The MLME then generates SRM Report command and attempts to send it to the specfied destination device.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 184 | 8.2.27.1 | The SrmMetricId is defined as bit fields not as number, so you need to define how that group of bits is converted to interger. Or change the SrmMetricId to be defined as interger. Also 7.5.30 does not define SmrMetricId. | Add missing text. |

Resolution: Revised

Proposed Resolution:

The 5 bits of SrmMetricId (b0..b5) defined in Table 7-15 shall be converted to an Integer value with b6 and b7 filled with zero.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 185 | 8.2.27.1 | ScopeId is defined is bit fields, not as enumeration, you need to provide mapping from the bit values to enumeration (or from integers to enumeration). Perhaps add enumeration values also to table 7-16. Also 7.5.30 does not define ScopeID. | Add missing text. |

Resolution: Revised

Proposed Resolution:

The 2 bits of ScopeId (b0b1) defined in Table 7-16 shall be converted to Enumeration value with (b2..b7) filled with zero.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 187 | 8.2.27.2 | Description is confusing. The information is sent where? There is also extra newline. | Rewrite description. |

Resolution: Revised

Proposed Resolution:

"Change the descriptions of DeviceAddrMode and DeviceAddress of Table 8-80 to "The addressing mode of the device that sent the SRM Report". "The address of the device that sent the SRM Report", respectively.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 189 | 8.2.27.2 | Same comments about the SrmMetricId and ScopeId as in 8.2.27.1 |  |

Resolution: Revised

Proposed Resolution:

Same as CID#185

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 190 | 8.2.27.2 | Same comments as for table 8-75, i.e., about the StartTime, and Duration. |  |

Resolution: Revised

Proposed Resolution:

Same as CID#119

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 192 | 8.2.27.3 | The description when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

The MLME-SRM-REPORT.confirm primitive is generated by the MLME and issued to its next higher layer in response to an MLME-SRM-REPORT.request primitive. The MLME-SRM-REPORT.confirm primitive returns a Status value defined in Table 8-81.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 193 | 8.2.27.3 | The description what is supposed to happen when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

Same as CID#192

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 197 | 8.2.28.1 | Same comments about the SrmMetricId and ScopeId as in 8.2.27.1 |  |

Resolution: Revised

Proposed Resolution:

Same as CID#185

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 198 | 8.2.28.1 | Same comments as for table 8-75, i.e., about the StartTime, and Duration. |  |

Resolution: Revised

Proposed Resolution:

Same as CID#119

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 200 | 8.2.28.1 | The description when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

When the MLME-SRM-INFORMATION.request is issued by the next higher layer of a device, the MLME of the device acknowledges it by sending back an MLME-SRM-INFORMATION.confirm primitive with a Status code. The MLME then generates SRM Information command and attempts to send it to the specified destination device.

Notes: Clarify the difference between the information v/s response/ report.

🡪Insert the following paragraph at the beginning of sub-clause 6.17.2.1:

“An SRM-capable device shall be able of transmitting and receiving the following MAC command frames:

* SRM Request/Response: these messages are typically used to get or set SRM-related PIBs between SRM-capable devices. More details are described in 6.17.2.3.
* SRM Report: this message is typically used by a PAN device for spontaneously sending SRM-related PIBs to the PAN Coordinator (e.g., periodically or at the occurrence of a predefined event). More details are described in 6.17.2.4.
* SRM Information Notification”: this message is typically used by the PAN Coordinator for providing SRM-related information to single or multiple PAN device(s) within its PAN (e.g., the maximum transmission powered allowed in the PAN). More details are described in 6.17.2.5.”

[Reference (not intended for the resolution)]

The following figure is an excerpt from the [TGD](https://mentor.ieee.org/802.15/dcn/14/15-14-0555-13-004s-tg4s-technical-guidance-document.docx) for SRM (Figure 14 in Section 8.1) that illustrates use cases for these messages.



|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 201 | 8.2.28.1 | The description what is supposed to happen when this primitive is called is missing. For example how does the AskedConfirm change the processing rules. Or the SignalMethod. | Add missing text. |

Resolution: Revised

Proposed Resolution:

Same as CID#200

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 202 | 8.2.28.2 | The DeviceAddrMode and DeviceAddress descriptions could be more clear about that the address is the device sending this and where the report is sent back. | Fix the text. |

Resolution: Revised

Proposed Resolution:

Change the description of DeviceAddressMode and DeviceAddress in Table 8-83 to "The address mode of the device that sent the SRM Information Notification message." and "The address of the device that sent the SRM Information Notification message.", respectively.

Notes:

how do we get the information when using the MAC command, as it only includes the Payload IE.
🡪 Change all "PayloadIeList" parameters to "HeaderIeList" and "Payload IEs" to "Header IEs" in Sub-clause 8.2.28.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 204 | 8.2.28.2 | The description when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

The MLME-SRM-INFORMATION.indication primitive is generated by the MAC sublayer and issued to the next higher layer on receipt of a SRM Information command. The usage of the MLME-SRM-INFORMATION.indication primitive by the next higher layer is beyond the scope of this document.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 205 | 8.2.28.2 | The description what is supposed to happen when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

Same as CID#204

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 207 | 8.2.28.3 | The description when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

The MLME-SRM-INFORMATION.confirm primitive is generated by the MLME and issued to its next higher layer in response to an MLME-SRM-INFORMATION.request primitive. The MLME-SRM-INFORMATION.confirm primitive returns a Status value defined in Table 8-84.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 208 | 8.2.28.3 | The description what is supposed to happen when this primitive is called is missing. | Add missing text. |

Resolution: Revised

Proposed Resolution:

Same as CID#207.

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 220 | 8.4.2.9 | Can macNoiseHistogram really be represented as single integer, or should it be array of integers? | Fix type. |

Resolution: Revised

Proposed Resolution:

Change the type to "Array".

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 221 | 8.4.2.9 | There is no transmit buffer defined for IEEE 802.15.4. The mac can be done completely in a way where there is no buffers at all, and it will simply send the frame out when it receives it from the higher layer and higher layer is supposed to take care of buffer management. Because of this macAverageBufferUtilization and macMaximumBufferUtilizaitions metrics are outside the scope of IEEE 802.15.4. | Remove metrics. |

Resolution: Reject

Proposed Resolution:

This could be optional, but useful for measuring congestion or occupancy of the network."

|  |  |  |  |
| --- | --- | --- | --- |
| **CID** | **Clause** | **Comment** | **Proposed change** |
| 222 | 8.4.2.9 | Why is there macChannelPage, macChannelNumber, macRxAddrMode and macRxDeviceAddress in this PIB table. What is this table used for? I assumed this was global table used to measure global metrics, but it seems it is not. | Clarify the role of this table. |

Resolution: Reject

Proposed Resolution:

The roles of these attributes are described in 7.4.2.21, which describes an example of signal quality related IEs