**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) |
| Title | Suggested Text for Many-to-Many Peering to Resolve Comment CID-37-43 |
| Date Submitted | January 2017 |
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| Re: | TG8 draft text for comment resolution for 802.15.8 |
| Abstract | This is the work in progress text of the MAC component for IEEE 802.15.8 group for PAC. |
| Purpose | This document provides the details of draft text to IEEE 802.15.8 |
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| Patent Policy | The contributor is familiar with the IEEE-SA Patent Policy and Procedures:<http://standards.ieee.org/guides/bylaws/sect6-7.html#6> and<http://standards.ieee.org/guides/opman/sect6.html#6.3>.Further information is located at <http://standards.ieee.org/board/pat/pat-material.html> and<http://standards.ieee.org/board/pat>. |

# [This is draft text to resolve comment submitted to TG8]

* + - 1. Many-to-many peering procedure

Many-to-many peering occurs among an initiator PD (I-PD) and a number of responder PDs (R-PDs). The many-to-many peering procedure follows subclause 6.5.3.4, discovery procedure for many-to-many group, where the I-PD obtained a list of candidate R-PDs for forming many-to-many group. The result of many-to-many peering is that a number of selected PDs including the I-PD and all R-PDs get peered forming a PAC group. As illustrated in Figure xxx, many-to-many peering procedure shall contain the following steps.

1. The I-PD’s higher layer triggers the many-to-many peering procedure by issuing the MLME-PEERING.request primitive to its MAC sublayer with the content of targeted R-PDs selected from the list of qualified R-PDs obtained at the many-to-many discovery.
2. Upon reception of the MLME-PEERING.request primitive, the I-PD’s MAC sublayer multicasts the Peering Request command frame with the content of targeted R-PDs and the PeeringType parameter is set to MANY2MANY.
3. Upon reception of Peering Request command frame, a R-PD’s MAC sublayer shall issue the MLME-PEERING.indication primitive to its next higher layer, indicating many-to-many peering request with the PeeringType parameter set to MANY2MANY.
4. Each R-PD’s next higher layer receiving the MLME-PEERING.indication primitive decides either to accept or reject the request to peer within *macPeeringResponseTimeout*. The next higher layer of the R-PD shall issue a MLME-PEERING.response primitive to their MAC sublayers.
5. Upon reception of the MLME-PEERING.response primitive, the R-PD’s MAC sublayer shall multicast the Peering Response command frame with the content of targeted R-PDs.
6. The I-PD re-multicasts the Peering Request command frame if the I-PD does not receive the Peering Response command frame for the targeted R-PDs until reaching the *macMaxFrameRetries*.
7. A soon as the I-PD broadcasts/multicasts Peering Request command frame, the I-PD shall wait for either: the arrival of Peering Response command frames from all targeted R-PDs or *macPeeringResponseTimeout* is reached.
8. Upon reception of Peering Response command frames, the I-PD’s MAC sublayer shall issue the MLME-PEERING.confirm to its next higher layer.
9. The I-PD’s next higher layer updates the content of targeted R-PDs in accordance with the results of the step h.
10. The next higher layer of the I-PD may start many-to-many group operation using multicast with the updated R-PDs.



Figure xxx —Many-to-many peering procedure chart