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

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

Following the discovery procedure for many-to-many group as defined in subclause 6.5.3.4, where the I-PD obtained a list of candidate R-PDs, many-to-many peering procedure forms a many-to-many group. The result of many-to-many peering is that a number of PDs including the I-PD and accepting R-PDs get peered forming a many-to-many 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 selected multicast group address and the list of targeted R-PDs selected from the list of qualified R-PDs obtained during the many-to-many discovery.
2. Upon reception of the MLME-PEERING.request primitive, the I-PD’s MAC sublayer broadcasts the Peering Request command frame with content of the PeeringType parameter set to many-to-many, multicast group address, the list of targeted R-PDs, and an empty list of accepted R-PDs.
3. Upon reception of Peering Request command frame, the MAC sublayer of an R-PD in the list of targeted R-PDs shall issue the MLME-PEERING.indication primitive to its next higher layer, indicating peering request with the PeeringType parameter set to MANY2MANY, multicast group address, the list of targeted R-PDs, and the list of accepted R-PDs.
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 the MAC sublayer. Where the next higher layer is accepting the peering request, it shall add the selected multicast group address to *macGroupIdList*.
5. Upon reception of the MLME-PEERING.response primitive, the R-PD’s MAC sublayer shall send the Peering Response command frame including the multicast group address to the I-PD.
6. The I-PD shall wait for either the arrival of Peering Response command frames from all targeted R-PDs or *macPeeringResponseTimeout* is reached. Then, the I-PD updates the list of targeted R-PDs by moving the R-PDs responding with accept to the accepted R-PD list and discarding R-PDs responding with reject.
7. The I-PD broadcasts additional Peering Request command frame with the updated list of targeted R-PDs and the updated list of accepted R-PDs, repeating steps d) to g), until the updated targeted R-PDs list is empty, or reaching the *macMaxFrameRetries*.
8. The I-PD’s MAC sublayer shall issue the MLME-PEERING.confirm to its next higher layer with the final list of accepted R-PDs.
9. The next higher layer of I-PD issues a final MLME-PEERING.request primitive to its MAC sublayer with an empty list of targeted R-PDs and the final list of accepted R-PDs.
10. Upon reception of the MLME-PEERING.request primitive, the I-PD’s MAC sublayer shall multicast a final many-to-many Peering Request command frame with the final list of accepted R-PDs using the multicast group address selected in step a).
11. Upon reception of the final Peering Request command frame, the MAC sublayer of an R-PD shall issue the MLME-PEERING.indication primitive to its next higher layer, indicating a many-to-many group is formed with the final list of R-PDs. Any R-PD not in the final list shall remove the multicast group address from its *macGroupIdList*.
12. The next higher layer of the I-PD and final accepted R-PDs may communicate in many-to-many manner using the selected multicast group address.

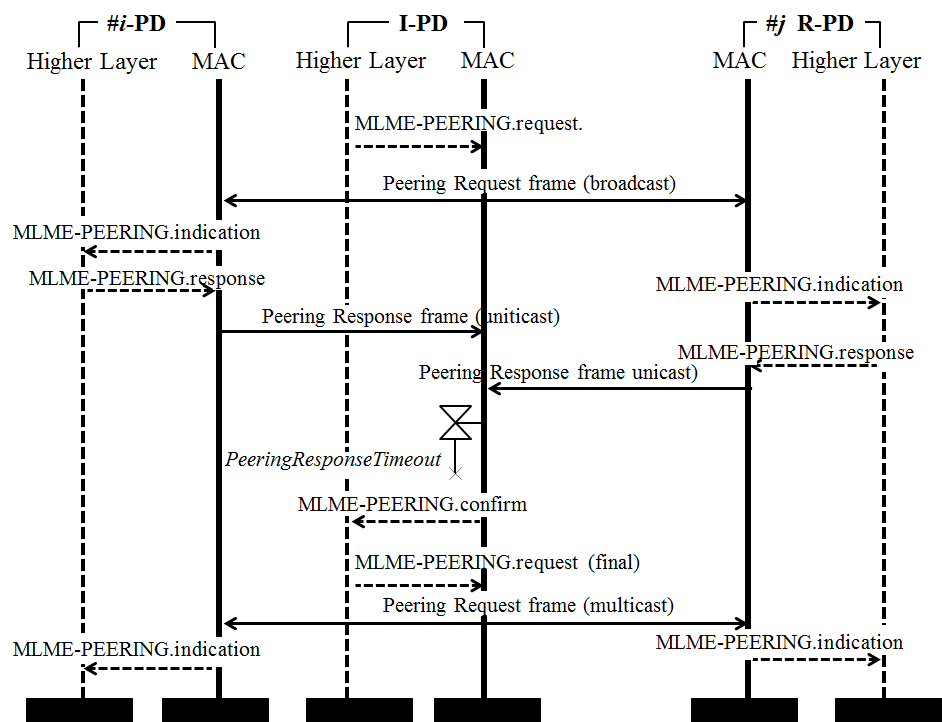


Figure xxx —Many-to-many peering procedure chart