**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 changes for subclause 5.5.1 peering procedure | |
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| Re: | TG8 draft text for peering procedure 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 for subclause 5.5.1 Peering procedure TG8]

1. * 1. Peering procedure

Peering procedure is initiated by an initiator PD (I-PD). The next higher layer of the I-PD shall request through the MLME-PEERING.request primitive for peering.

* Optional: Authentication & Authorization (full validation)
* Communication link parameters, such as, ChannelNumber, ChannelPage, GroupMode, MulticastGroup\_ID, DestinationAddress, CyclicSuperframeStructure.
* Establish the link.

The MAC layer of an I-PD sends a Peering Request message including requested peering information. Responder may send a Peering Response message to the I-PD for indicating if the peering request is accepted or not. The response message may include peering information if the request is accepted.

* + - 1. One-to-one peering procedure

One-to-one peering occurs between a pair of PDs, the initiator PD (I-PD) and the responder PD (R-PD). The result of one-to-one peering is that the I-PD and the R-PD are peered each other. As illustrated in Figure 38, a one-to-one Peering procedure shall contain the following steps.

1. The I-PD’s Higher Layer triggers Peering procedure with an MLME-PEERING.request to its MAC (i.e. I-PD’s MAC).
2. The I-PD’s MAC receiving the Higher Layer’s MLME-PEERING.request sends the Peering Request command to the targeted PD’s MAC (i.e. R-PD’s MAC).
3. The R-PD’s MAC receives the Peering request command and sends an immediate ACK message to the I-PD’s MAC*.*
4. The R-PD’s MAC sends the MLME-PEERING.indication to its Higher Layer (i.e. R-PD’s Higher Layer).
5. The R-PD’s Higher Layer receiving the Peering Request conducts Authentication and Authorization if required.
6. The Higher Layer receiving the Peering Request (i.e. R-PD’s Higher Layer) decides either to accept the Peering Request or not and indicates it to the MAC (i.e. R-PD’s MAC) accordingly.
7. The R-PD’s MAC sends Peering Response message to the I-PD’s MAC as directed by the Higher Layer.
8. The I-PD’s MAC receiving the Peering Response message sends ACK/NACK message to the R-PD’s MAC.
9. The I-PD’s MAC receiving the Peering Response message sends the Peering Response message to its Higher Layer (i.e. I-PD’s Higher Layer).
10. A link between I-PD and R-PD is established is the peering request is accepted.
11. 

Figure 38—One-to-one peering procedure message sequence chart