**IEEE P802.15**

**Wireless Personal Area Networks**

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| Project | IEEE P802.15 Working Group for Wireless Personal Area Networks (WPANs) | |
| Title | TG 8 MAC Draft Text for Data Request Command, PAC Group ID Conflict, and Orphan Notification | |
| Date Submitted | May 13, 2015 | |
| Source | Qing Li (InterDigital Inc.) | Email: Qing.Li@InterDigital.com |
| Re: | Draft text of MAC data request command 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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1. MAC protocol
   1. MPDU formats

----------------------------- Beginning of Text ------------------------------------

(Copied from IEEE 802.15.4 2011 release, clause 5.3.4, and then modified for PAC)

* + 1. **Data request command**

The data request command is sent by a device to request data from another PD.

There are two cases for which this command is sent. This command shall be sent when instructed to do so by the next higher layer on reception of the MLME-POLL.request primitive. In addition, a PD may send this command to another PD *macResponseWaitTime* after the acknowledgment to an peering request command.

All PDs shall be capable of transmitting this command..

The data request command shall be formatted as illustrated in [Figure 53.](#_bookmark183)

|  |  |
| --- | --- |
| **Octets: variable** | **1** |
| MHR fields | Command Frame Identifier |

**Figure 53—Data request command format**

If the data request command is triggered by the reception of an MLME-POLL.request primitive from the next higher layer, then the destination addressing information shall be the same as that contained in the primitive. The Source Addressing Mode field shall be set according to the value of *macShortAddress*. If *macShortAddress* is less than 0xfffe, short addressing shall be used. Extended addressing shall be used otherwise.

If the data request command is being sent following the acknowledgment to a peering request command frame, the Destination Addressing Mode field shall be set according to the coordinator to which the data request command is directed. If *macCoordShortAddress* is equal to 0xfffe, extended addressing shall be used. Short addressing shall be used otherwise. The Source Addressing Mode field shall be set to use extended addressing.

If the Destination Addressing Mode field is set to indicate that destination addressing information is not present, the PAC Group ID Compression field shall be set to zero and the source PAC Group identifier shall contain the value of *macPACGId*. Otherwise, the PAC Group ID Compression field shall be set to one. In this case and in accordance with the PAC Group ID Compression field, the Destination PAC Group Identifier field shall contain the value of *macPACGId*, while the Source PAC Group Identifier field shall be omitted.

The Frame Pending field shall be set to zero and ignored upon reception, and the AR field shall be set to one.

* + 1. **PAC Group ID conflict notification command**

The PAC Group ID conflict notification command is sent by a PD to other PDs (??) when a PAC Group identifier conflict is detected.

All PDs shall be capable of transmitting this command.

The PAC Group ID conflict notification command shall be formatted as illustrated in [Figure 5](#_bookmark186)4.

|  |  |
| --- | --- |
| **Octets: variable** | **1** |
| MHR fields | Command Frame Identifier |

**Figure 54—PAC Group ID conflict notification command format**

The Destination Addressing Mode and Source Addressing Mode fields shall both be set to indicate extended addressing.

The Frame Pending field shall be set to zero and ignored upon reception, and the AR field shall be set to one.

The PAC Group ID Compression field shall be set to one. In accordance with this value of the PAC Group ID Compression field, the Destination PAC Group Identifier field shall contain the value of *macPACGId*, while the Source PAC Group Identifier field shall be omitted. The Destination Address field shall contain the value of *macCoordExtendedAddress*. The Source Address field shall contain the value of *macExtendedAddress*.

* + 1. **Orphan notification command**

The orphan notification command is used by a peered PD that has lost synchronization with others.

All PDs shall be capable of transmitting this command.

The orphan notification command shall be formatted as illustrated in [Figure 55.](#_bookmark189)

|  |  |
| --- | --- |
| **Octets: 15** | **1** |
| MHR fields | Command Frame Identifier |

**Figure 55—Orphan notification command format**

The Source Addressing Mode field shall be set to indicate extended addressing. The Destination Addressing Mode field shall be set to indicate short addressing.

The Frame Pending field and AR field shall be set to zero and ignored upon reception.

The PAC Group ID Compression field shall be set to one. In accordance with this value of the PAC Group ID Compression field, the Destination PAC Group Identifier field shall contain the value of the broadcast PAC Group Identifier, while the Source PA CIdentifier field shall be omitted. The Destination Address field shall contain the broadcast short address. The Source Address field shall contain the value of *macExtendedAddress*.