IEEE P802.11  
Wireless LANs

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| Resolutions for CIDs: 2055, 2073, and 2075 | | | | |
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Abstract

This document contains proposed resolutions for CIDs: 2055, 2073, and 2075. Addressing comments provided in response to the initial sponsor ballot on P802.11ak D4.0, related to clauses: 4.3.27.4.3 and 9.3.1.8.7.

CIDs 2055, 2073, and 2075 as copied from [1], 9note these comments are technical and part of a “No Vote”).

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| **CID** | **Clause Number** | **Page** | **Comment** | **Proposed Change** |
| 2055 | 4.3.27.4.3 | 12.03 | Figure 4-13c confuses what an "ESS" is. It implies that only the non-GLK STAs/AP are part of an ESS. Nothing else in the text says that a BSS with some GLK STAs isn't also part of an ESS. | Clarify what the "ESS" box in Figure 4-13c represents. As this clarifies whether GLK STAs are part of an ESS, check that all the text (including baseline text) is consistent with this view. |
| 2073 | 9.3.1.8.7 | 44.01 | This is for the "GLK-GCR BlockAcqReq" variant. | Add "GLK-GCR" before "BlockAcqReq" |
| 2075 | 9.3.1.8.7 | 44.19 | There is no Fragment Number subfield | Delete the last sentence of this paragraph. Same thing in 9.3.1.9.7. |

**CID 2055:**

Discussion:

Significant changes have been made to Figure 4-13c in response to other comments and discussions held at various 802.11 TGak meetings (F2F and Teleconferences) [2] and it is also proposed to make changes to the associated text as shown in 11-17/1389. However, the portion of the figure which shows the ESS has not fundamentally changed. This is because during the discussions it was agreed that general links are not part of an ESS and there is no such thing as a GLK ESS. 802.11 defines an ESS as: “**extended service set (ESS)**: A set of one or more interconnected basic service sets (BSSs) that appears as a single BSS to the logical link control (LLC) layer at any station (STA) associated with one of those BSSs.” [3]. A general link is defined as: “**general link (GLK)**: A point to point connection between two instances of the IEEE Std 802.1D Internal Sublayer Service that uses an IEEE Std 802.11 wireless link between stations (STAs). A general link is suitable for use in an IEEE Std 802.1Q bridged network.” [4]. Hence the ISS to ISS GLK is a point to point link which does not have any of the properties usually associated with an 802.11 link within ESS, which would include the ability to freely move between BSSs in the ESS without reassociation or loss of an assigned IP address. Assuming the proposed text in 11-17/1389 is agreed or modified and then agreed these text changes should clarify what is meant by the ESS shown in the figure.

Proposed Resolution:

Revised – the description of what is in the “ESS” box in Figure 4-13c has been updated in 11-17/1389 to clarify whether GLK STAs are part of an ESS.

**CID 2073:**

Discussion: This addition of “GLK-GCR” before “BlockAcqReq” is consistent with the text in all the other BlockAcqReq sections in 802.11-2016. Therefore, this correction should be made.

Proposed Resolution:

Accept

Change: “For the BlockAcqReq variant, the TID\_INFO subfield in the BAR Control field in the GLK-GCR BlockAckReq frame is 0.”

To: “For the GLK-GCR BlockAcqReq variant, the TID\_INFO subfield in the BAR Control field in the GLK-GCR BlockAckReq frame is 0.”

**CID 2075:**

Discussion: All BlockAcqReq variants contain a statement that the Fragment Number subfield in the Block Ack Starting Sequence Control subfield is 0. I believe that this is due to the definition of the Block Ack Starting Sequence Control, which is provided in the Basic BlockAckReq variant (9.3.1.8.2) clause Figure 9-28. Note that this is not the best way to define a subfield that is used by all the BlockAcqReq variants, but it seems to be the only place where the specification defines the Starting Sequence Number subfield and all other variants do refer to this figure to define the subfield, see highlighted text below. Therefore, the issue is that the current GLK-GCR BlockACKReq variant text is in error when it references Figure 9-31a as to where the Block Ack Starting Sequence Control subfield is shown. Figure 9-31a shows the BAR Information Field format. The text should reference the Block Ack Starting Sequence Control subfield Figure 9-28 as all the other BA variants do.

As taken from 802.11-2016:

**9.3.1.8.2 Basic BlockAckReq variant**

The use of the basic BlockAckReq variant is obsolete. Consequently, this subclause might be removed in a later revision of the standard.

The TID\_INFO subfield of the BAR Control field of the Basic BlockAckReq frame contains the TID for which a Basic BlockAck frame is requested.

The BAR Information field of the Basic BlockAckReq frame contains the Block Ack Starting Sequence Control subfield, as shown in Figure 9-28. The Starting Sequence Number subfield of the Block Ack Starting Sequence Control subfield contains the sequence number of the first MSDU for which this Basic BlockAckReq frame is sent. The Fragment Number subfield is set to 0.



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**9.3.1.8.6 GCR BlockAckReq variant**

The TID\_INFO subfield of the BAR Control field of the GCR BlockAckReq frame is set to 0.

The BAR Information field of the GCR BlockAckReq frame contains the Block Ack Starting Sequence Control subfield and GCR Group Address subfield, as shown in Figure 9-31. The Block Ack Starting Sequence Control subfield is shown in Figure 9-28. The Starting Sequence Number subfield of the Block Ack Starting Sequence Control subfield contains the sequence number of the first MSDU or A-MSDU for which this BlockAckReq frame is sent. The Fragment Number subfield of the Block Ack Starting Sequence Control subfield is set to 0.

Proposed Resolution:

Revised – Correctly reference the Block Ack Starting Sequence Control subfield which is defined in Figure 9-28 not Figure 9-31a. Figure 9-31a defines the BAR information field format (GLK-GCR BlockAckReq).

Change: “The Block Ack Starting Sequence Control subfield is shown in Figure 9-31a (Block Ack Starting Sequence Control subfield).”

To: “The Block Ack Starting Sequence Control subfield is shown in Figure 9-28 (Block Ack Starting Sequence Control subfield).”

**References:**

**[1]** 11-17/0898r6, “ak Sponsor Ballot Comment Resolutions”,[11-17/0898r6](https://mentor.ieee.org/802.11/dcn/17/11-17-0898-06-00ak-sponsor-ballot-comment-resolutions.xlsx)

**[2]** 11-17/0932r6, “802.11ak Figs 4-13”, [11-17/0932r6](https://mentor.ieee.org/802.11/dcn/17/11-17-0932-06-00ak-802-11ak-fig-4-13c.docx)

**[3]** IEEE Std 802.11™-2016 (Revision of IEEE Std 802.11-2012), “IEEE Standard for Information technology—Telecommunications and information exchange between systems

Local and metropolitan area networks—Specific requirements Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications”, Approved 7 December 2016

**[4]** P802.11ak/D4.0, March 2017, “IEEE P802.11ak™/D4.0 Draft Standard Telecommunications and information exchange between systems – Local and metropolitan area networks Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications Amendment 4: Enhancements For Transit Links Within 8 Bridged Networks”,  
[Draft P802.11ak\_D4.0](http://www.ieee802.org/11/private/Draft_Standards/11ak/Draft%20P802.11ak_D4.0.pdf)