IEEE P802.11
Wireless LANs

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| “Annex G (part 2)”  |
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Abstract

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| At first look, it may seem obvious that we must keep Annex G as it meticulously defines all the packet exchanges and is normative, but there are consequences.“***frame exchange sequence*:** A sequence of frames specified by Annex G”Hence, any sequence of frames not in Annex G is not, on the face of it, a valid sequence. In Draft D0.0 “frame exchange” 309 instances, of which “frame exchange sequence” 128“valid response” 4 instances“frame sequence” 23 instances“see Annex G” 5 instances“in Annex G” 9 instancesIf we can remove “Annex G” from the definition, then it all gets easier. We could keep Annex G, or remove it, but let’s first see if we can agree on a correct definition for “frame exchange sequence”.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_What exactly is a “frame exchange sequence”? In G.2. Basic Sequences, “Except where modified by the *pifs* attribute, frames are separated by a SIFS or RIFS.”Hence, “frame exchange sequences” appear to be a sequence of frames separated by an IFS.Note the definition of “successful transmission”***successful transmission***: A transmission and the reception of its expected immediate response or a transmission for which no immediate response is expectedThe only thing missing is “sequence”. For example, consider a TXOP where we can have a succession of data/ACK exchanges, all seperated by SIFS. Is this a series of “successful transmissions” rather than one successful transmission? I think it is. So *frame exchange sequence =* several *successful transmissions***Consider the 4-way handshake**. This is a *frame sequence,* i.e., a sequence of 8 or more frames, that consists of 4 *frame sequence exchanges* OR four *successful transmissions*. IS THAT RIGHT? Can we agree on the use of the terms? In this case, *successful transmission = frame exchange sequence*In case of TXOP, that is not true. What is a frame sequence? (Note these are not formal definitions, I am just trying to see if we all understand their usage)***Frame sequence***: a sequence of frames sent to make something happen, e.g. 4 way handshake, umpteen figures with “frame exchange” in the title. A succession of frames in some order, BUT although each frame may have an immediate response frame (e.g., ACK), each ‘request’ frame may come after a back off.What is a “**Frame exchange sequence**” **?**It needs to get across the concept of “immediate response”, where “Immediate response” means RIFS, SIFS, PIFS or DIFS between frames/packets, including, for example, TXOPs (EDCA and HCCA), and RTS/CTS exchange before data packetsSuggested definitions:Explicit definition as proposed by Robert:***frame exchange sequence***: A frame that is not an immediate response and that does not solicit an immediate response or a sequence of frames exchanged between two STAs where each frame in the sequence is addressed to the other STA and either solicits an immediate response from the other STA or is the response to a frame from the other STA that solicits an immediate reponseMy only problem with this is “immediate response” and “response to previous frame. In a TXOP is the next data frame a response to the preceeding data/ACK? Simple (builds upon the *successful transmission* definition)***frame exchange sequence –*** A successful transmission or a sequence of exchanged frames, each frame seperated from the previous frame by an IFS***.***It is accurate but DIFS can occur even with back-off.***frame exchange sequence –*** A successful transmission or a sequence of exchanged frames that ends when a backoff procedure is required.I think this is getting close. *Successful transmission* covers the single frame and request / immediate response and frame exchange sequence ends when a backoff procedure takes place.MAYBE, ***frame exchange sequence***: A successful transmission or a sequence of frames exchanged between two STAs which ends when a backoff procedure takes place.Before continuing, I suggest we get agreement on a new definition for “frame exchange sequence” |  |  |  |  |  |  |
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I propose:

***frame exchange sequence***: A successful transmission or a sequence of frames exchanged between two STAs which ends when a backoff procedure is required.

Note:

***successful transmission***: A transmission and the reception of its expected immediate response or a transmission for which no immediate response is expected