Traffic Schedule on 802.11ax MAC

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Background BSS is a WLAN with star topology and AP as the center. The **star topology** means AP works as a **router** who relay the UL traffic to the backbone and the DL traffic to the STAs. AP should transmit at least half of the total traffic, we called it DL traffic.

Problem Before 802.11ax, AP is seen as a STA who need to contend with all the other STAs. It is very unfair for DL traffic and for AP, especially in dense scenario.

New in 802.11ax The difference in 802.11ax makes it possible to solve this problem. The big difference is trigger-based UL, which means AP will schedule both the UL and DL traffic. Later is some idea about the scheduler.

Idea of Scheduler

Idea of Scheduler

See the UL/DL as two queues. AP schedules the UL transmission by send a TF first. Following is the options which can be used as scheduler.

1. (Weighted) Round Robin
2. (Weighted) Fair Queueing
   Generalized Processor Sharing Model (GPS)

Resource Request procedure is needed for AP to maintain the UL queue.

Thanks