

How Smart Link-Dispatching drives Wi-Fi 7 efficiency

Efficiency starts with MLO

Wi-Fi 7 standard introduces Multi-Link Operation (MLO) which can achieve 80% throughput enhancement compared to a single link in a heavily loaded network.

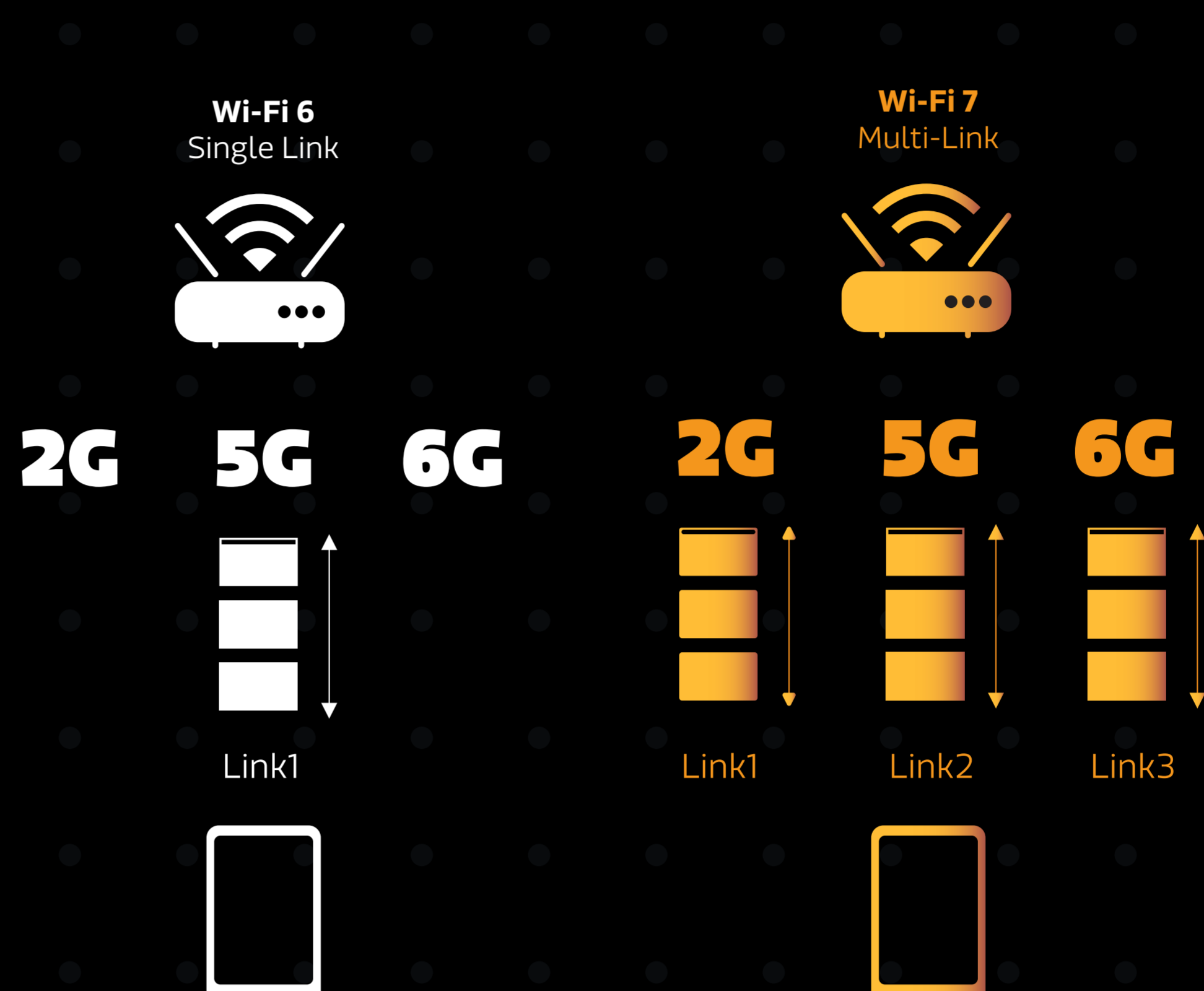
80%
throughput enhancement with MLO

This supports a growing number of use cases with strict latency and QoS requirements like:



How MLO works

MLO enables Multi-Link Devices (MLD) to allow concurrent data transmission and reception in multiple channels across single or multiple frequency bands in 2.4GHz, 5GHz and 6GHz.



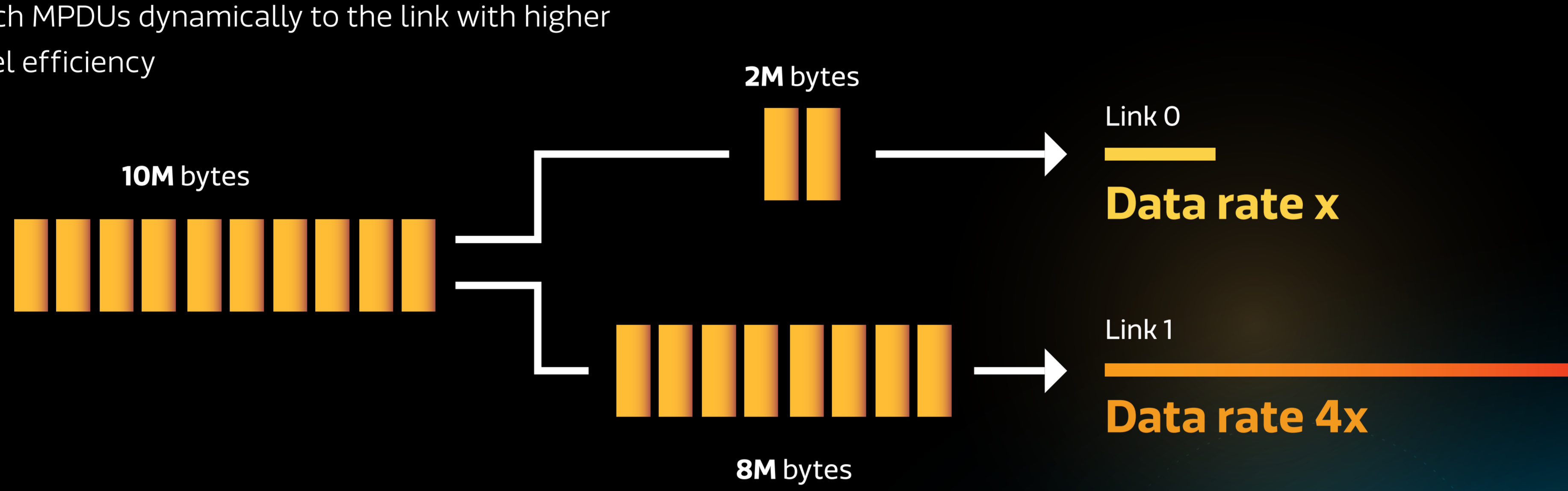
What makes MLO so efficient?

The answer is: SMART Link-Dispatching

MediaTek technology allows MLO to efficiently dispatch data among available links according to traffic requirements using Smart Link-Dispatching.

Putting the "Smart" in "Link-Dispatching"

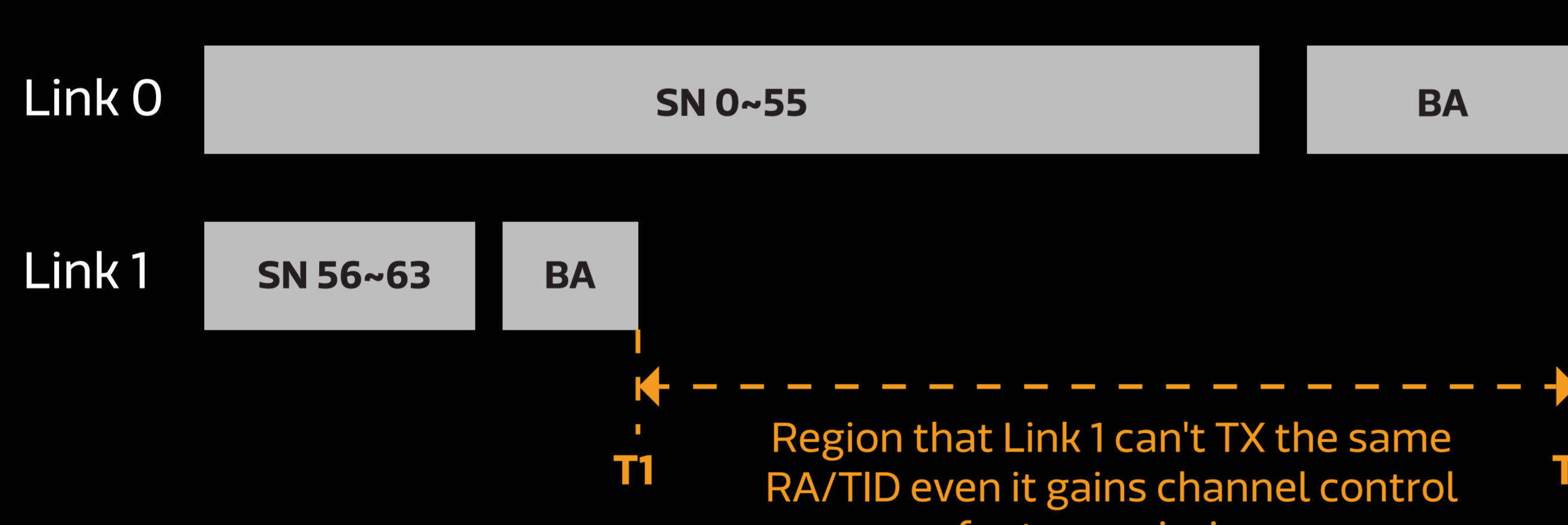
- 1 First, estimate the data rate on each link first
- 2 Dispatch MPDUs dynamically to the link with higher channel efficiency



Link-dispatching method matters

Let's compare the operation of two overlapping MLD links with TX PPDU of Link 0/Link 1 and a size 64 aggregation window in the negotiated BA agreement.

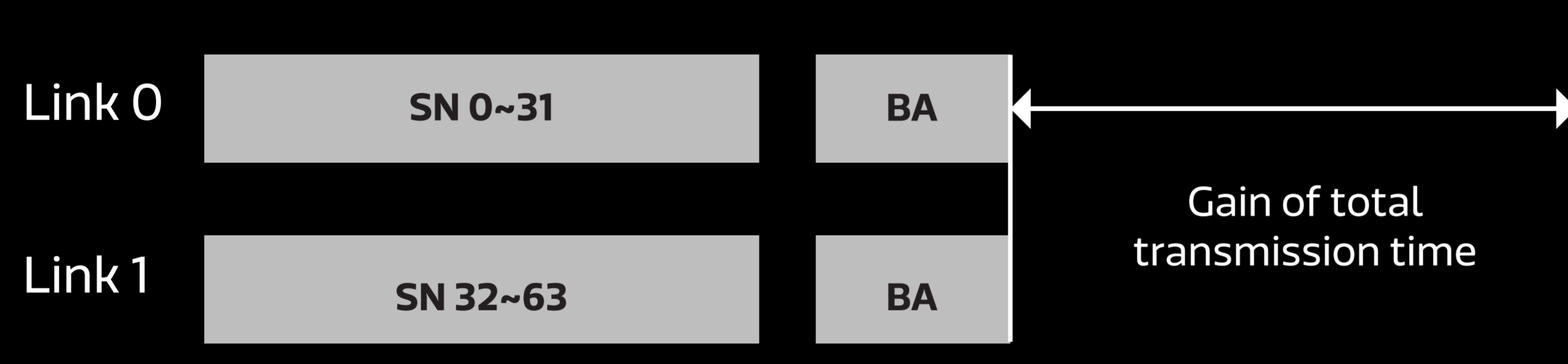
Method 1



Method 1 shows that the sliding window cannot move forward.

During T1 to T2 period, it cannot transmit the same RA/TID even if it gains channel control for transmission; this is because the BA for SN 0 through SN 55 in Link 0 is not received.

Method 2



Method 2 demonstrates why Smart Link-Dispatching is a better way to dispatch MPDUs between the two links.

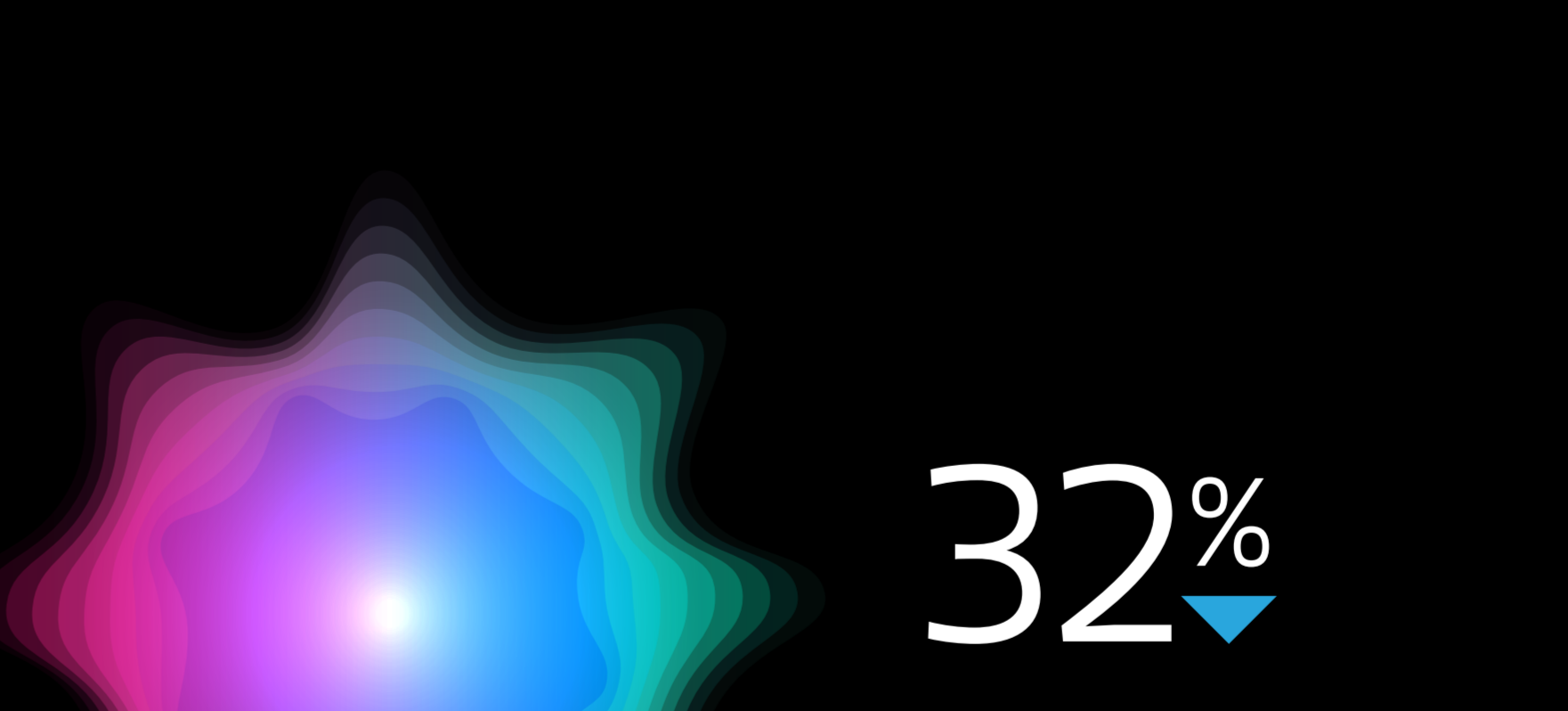
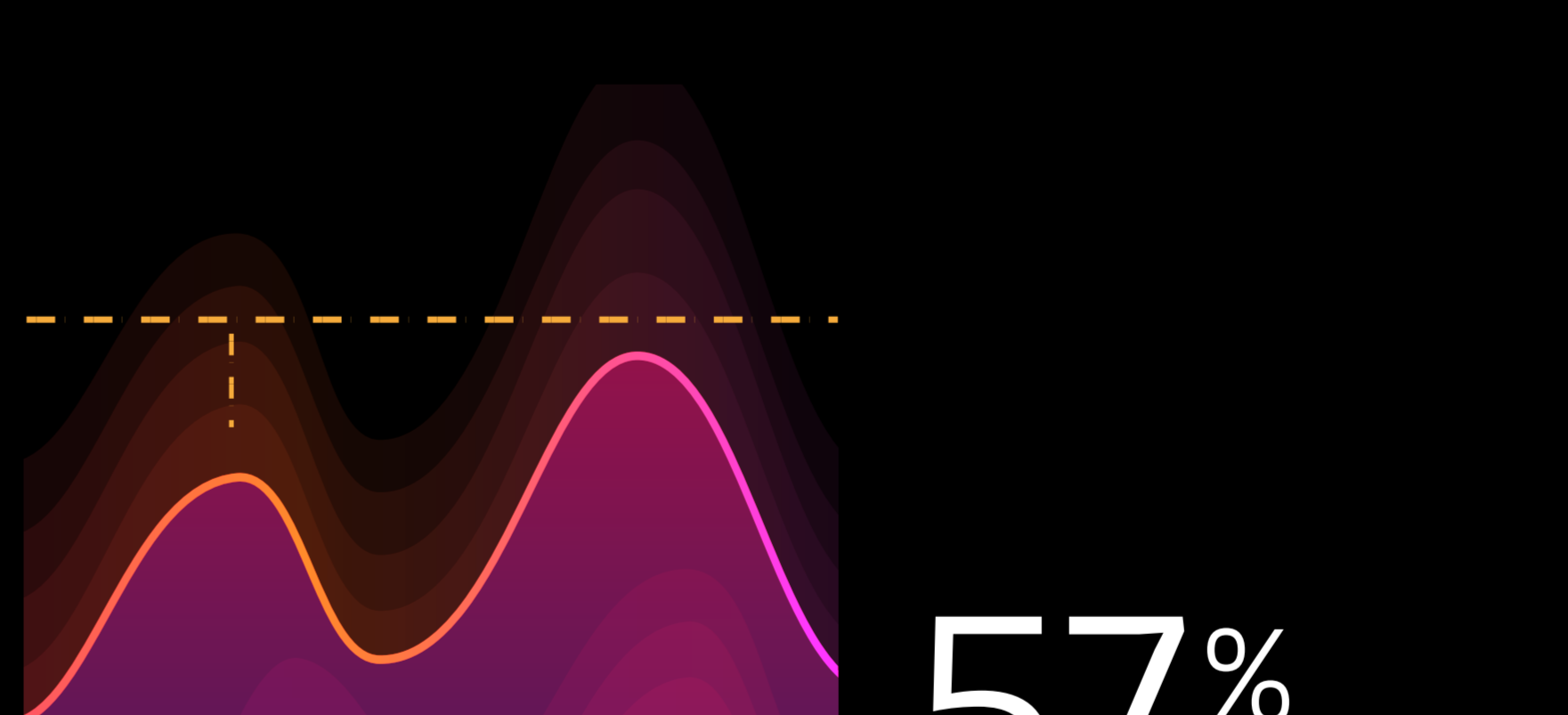
Total transmission time using Smart Link-Dispatching (Method 2) is less than Method 1 for the same data traffic.

Did you know?

Channel efficiency is related to the % of the theoretical physical layer (PHY) transmission rate that the actual maximum throughput achieved.

TEST SCENARIO RESULTS

Smart Link-Dispatching technology from MediaTek Enhances Wi-Fi 7 Efficiency



Get ready for Wi-Fi 7 with the latest in MLO innovation from MediaTek

MediaTek's innovations and product platforms are ready to support next-generation MLO reliability using our just-announced Filogic 880 and Filogic 380 high performance, power-efficient and reliable Wi-Fi solutions.

Prepare for the future with MediaTek Filogic

Whether you are ready to deploy Wi-Fi 6/6E solutions today or are planning for Wi-Fi 7, you can count on Filogic to keep you connected.

Discover MediaTek Filogic



About MediaTek

MediaTek is the world's largest supplier of Wi-Fi solutions and the fourth largest global fabless semiconductor company, powering more than two billion devices a year. We build chips that are less about connecting people to their devices and more about connecting your devices to what matters.

mediatek.com