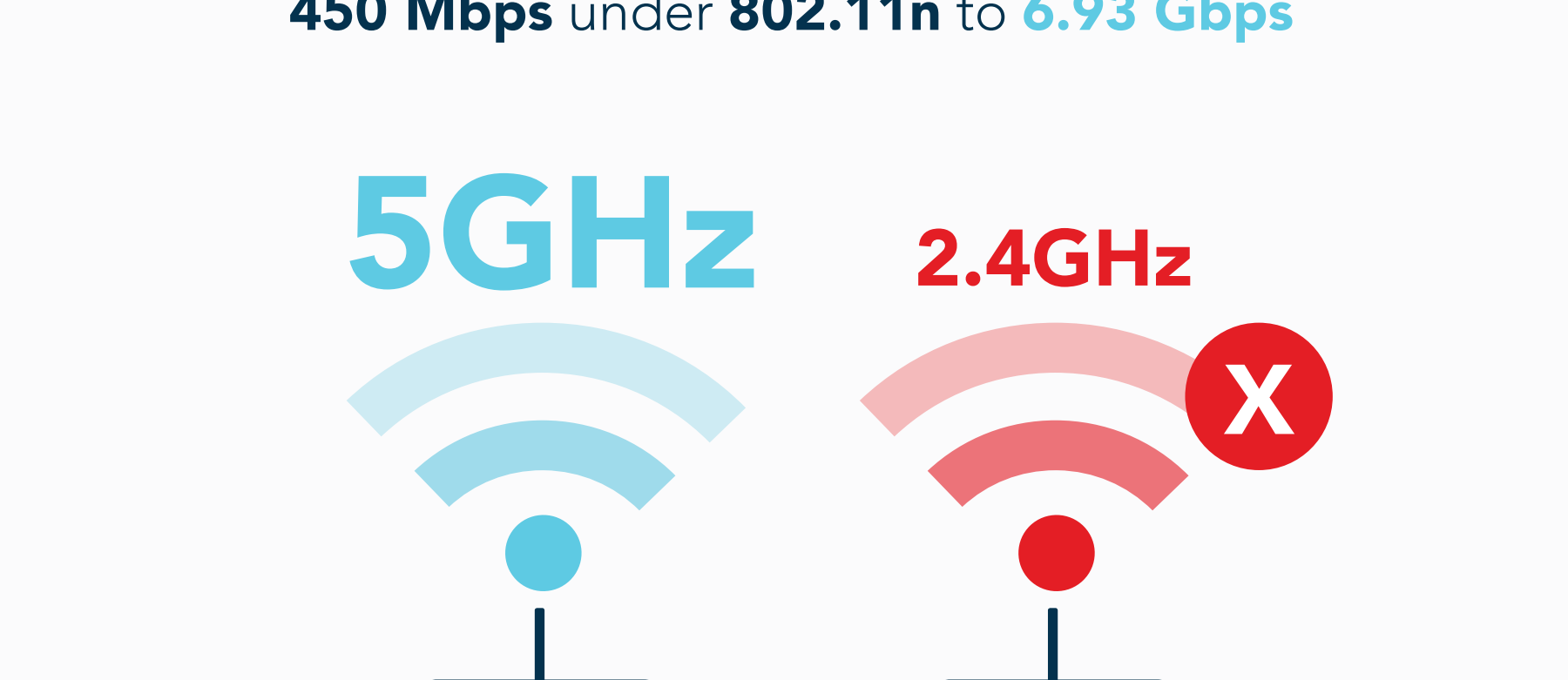
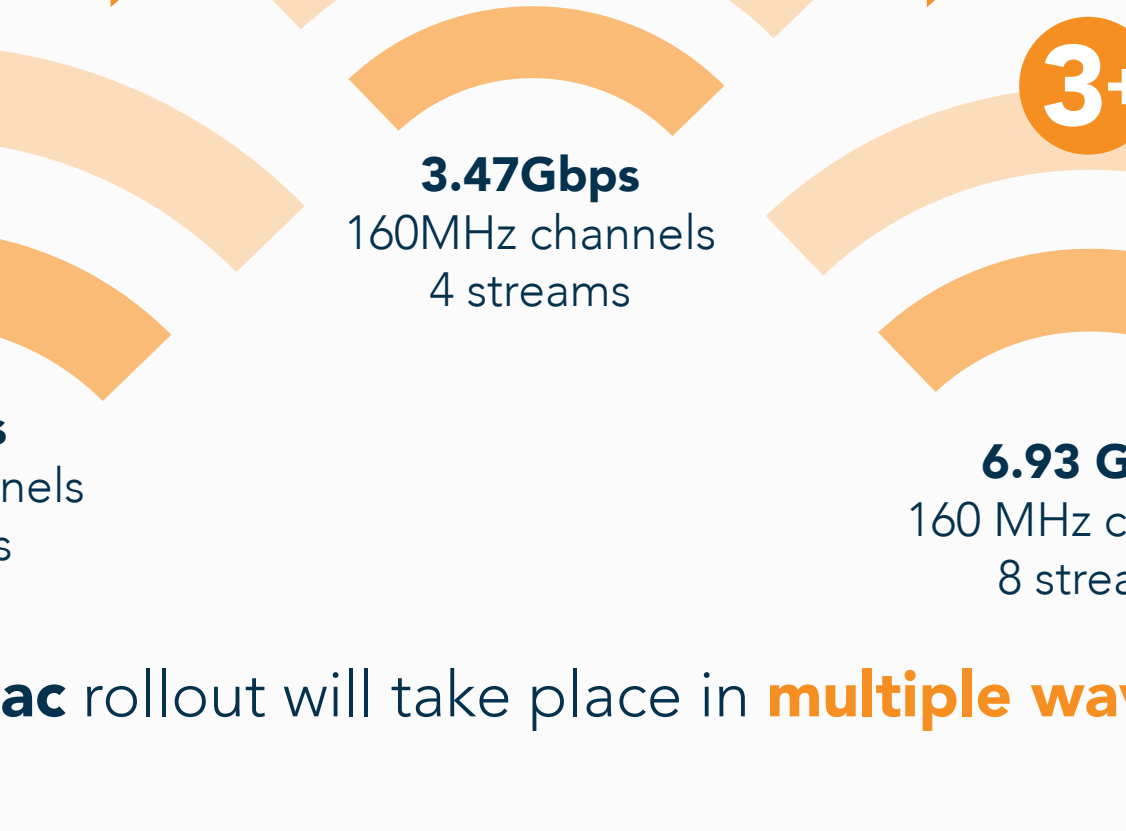


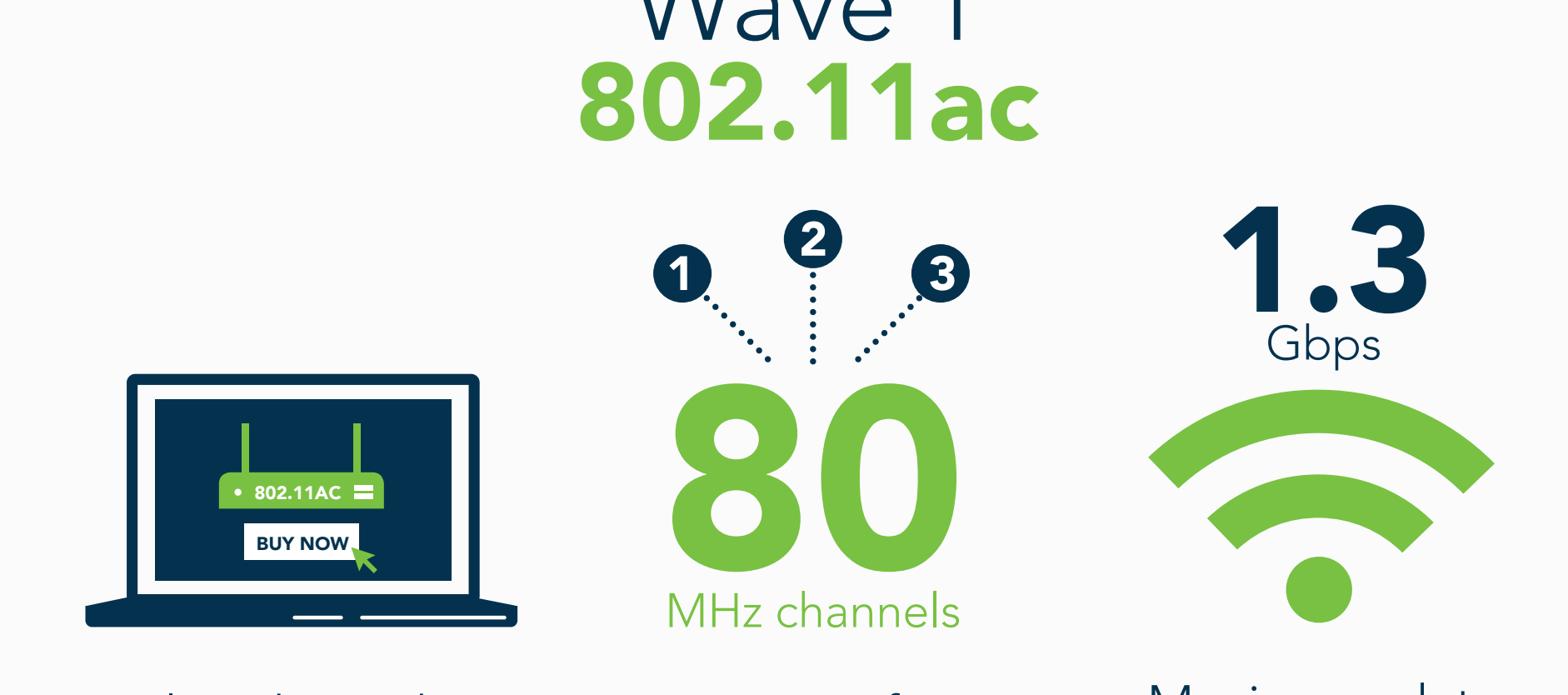
The ABCs of 802.11ac



802.11ac takes wireless data rate capabilities from **450 Mbps** under 802.11n to **6.93 Gbps**



802.11ac only operates in the **5 GHz band**



802.11ac rollout will take place in **multiple waves**

Wave 1 802.11ac



Already on the market

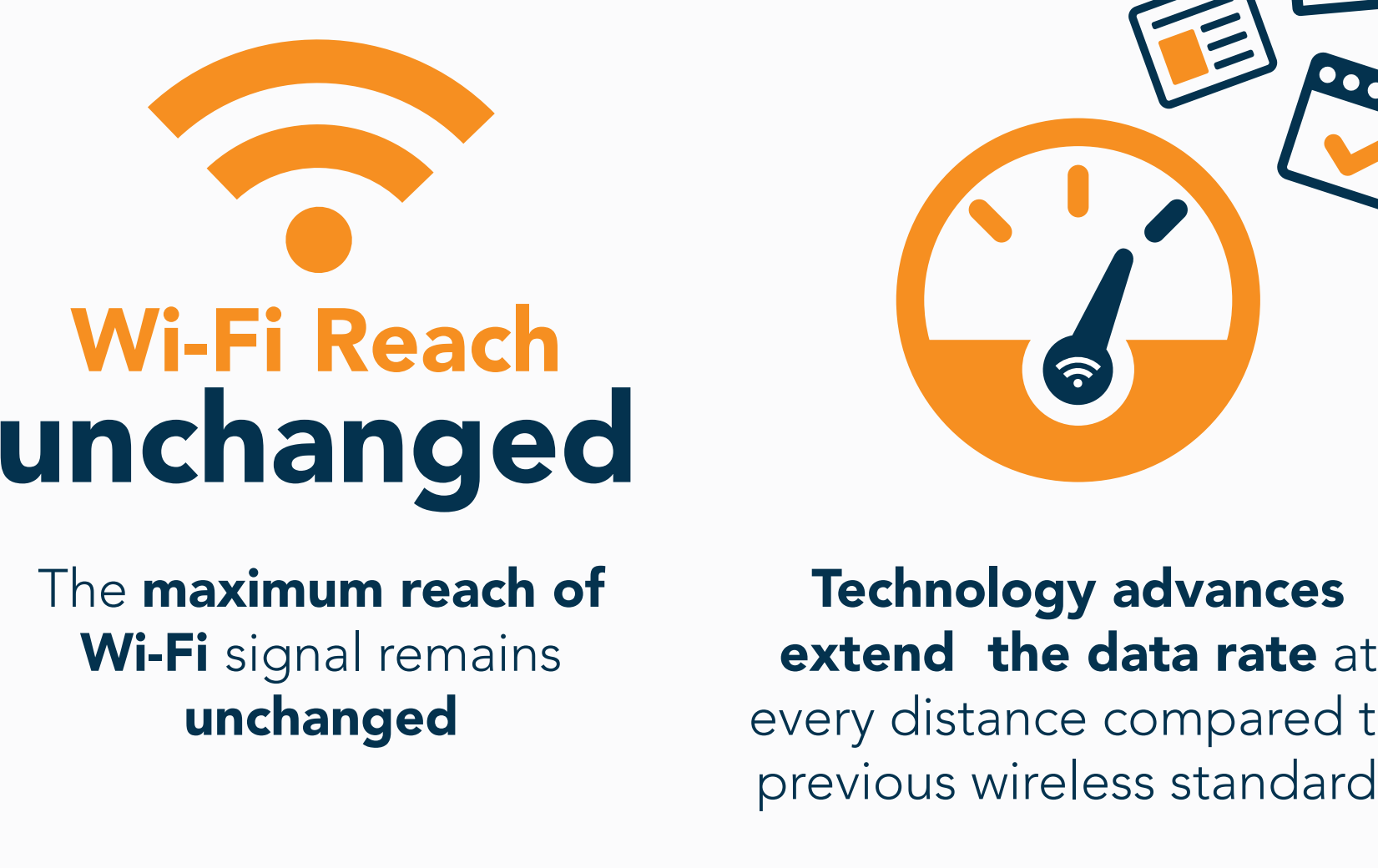
Support for **80 MHz channels** and up to **3 data streams**

Maximum data rate of **1.3 Gbps**

Wave 2 802.11ac

Coming Soon

WAVE 2 / 802.11AC



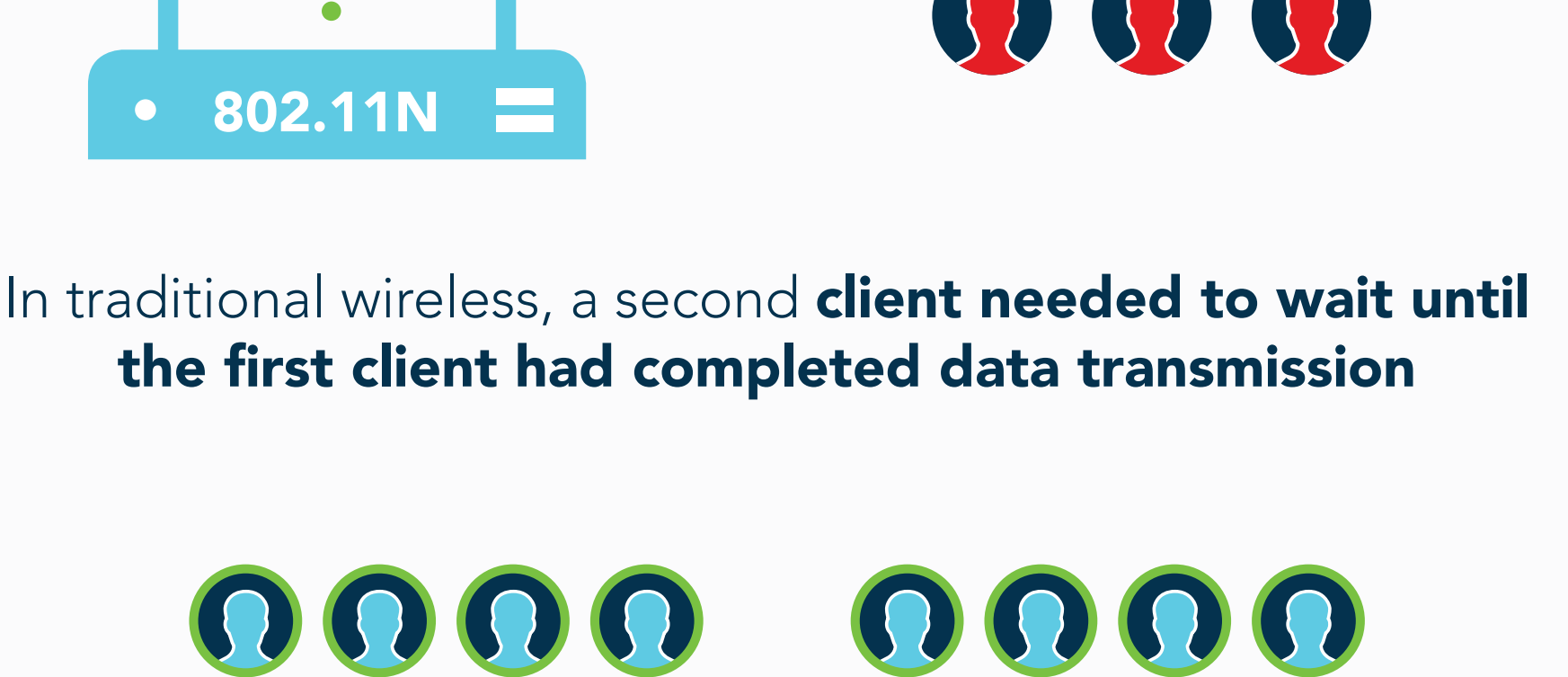
First MU-MIMO products

160 MHz channels and **4 streams**

Maximum data rate of **3.47 Gbps**

Other Key Benefits

Rate at range



The **maximum reach of Wi-Fi** signal remains **unchanged**

Technology advances extend the data rate at every distance compared to previous wireless standards

Multi-user performance (MU-MIMO)

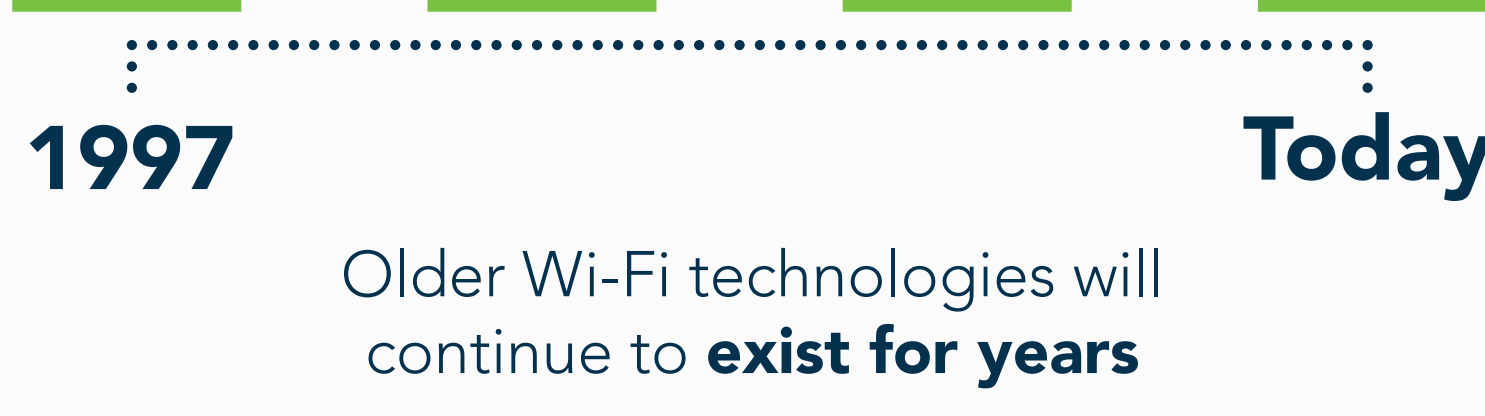


In traditional wireless, a second **client needed to wait until the first client had completed data transmission**



11ac uses multiple antennas to simultaneously transmit to multiple clients (up to 4 clients). This is like a 4 port wired switch

Congestion

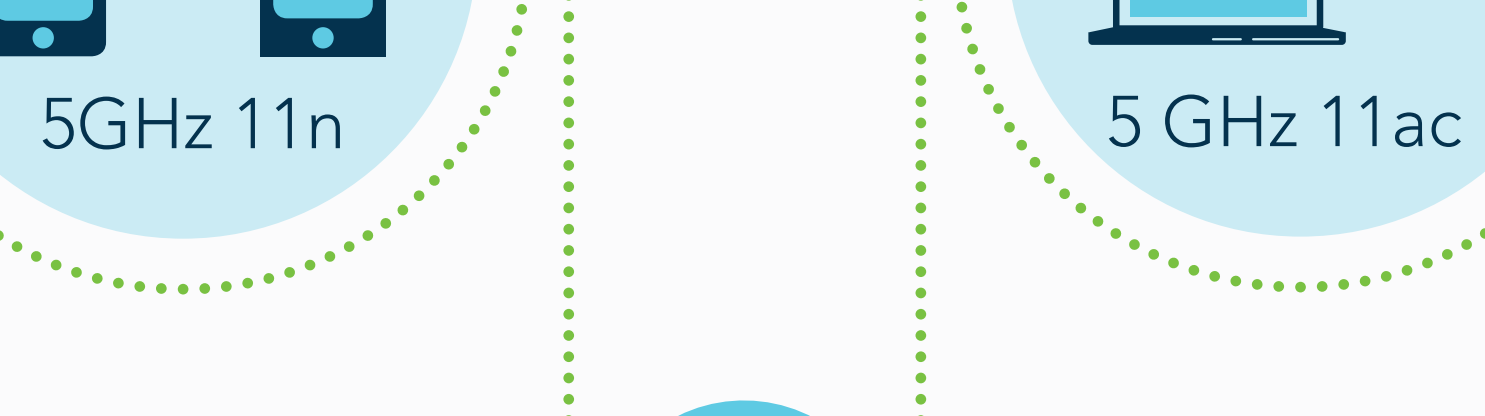


This helps avoid slow throughput due to congestion

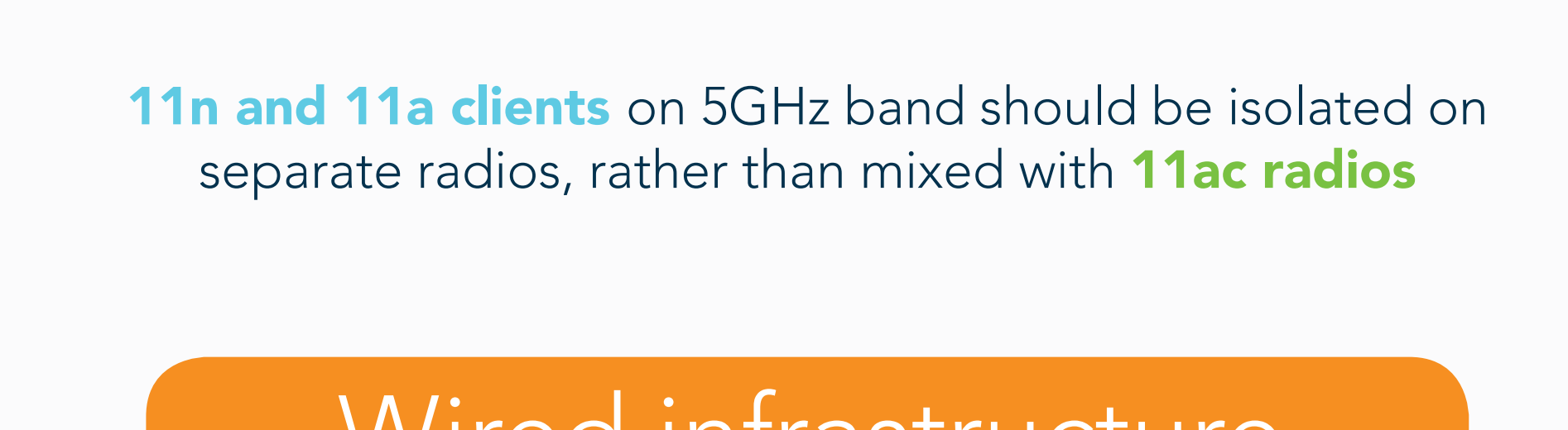
Solution

migrate to decentralized architecture

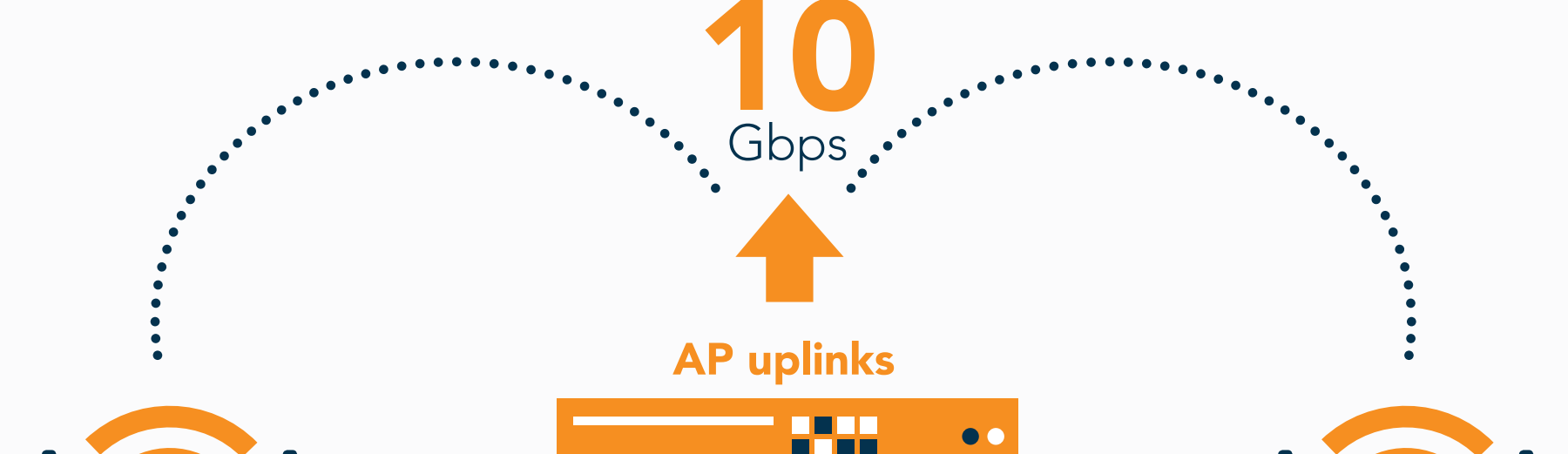
Legacy Client Impact



Older Wi-Fi technologies will continue to **exist for years**

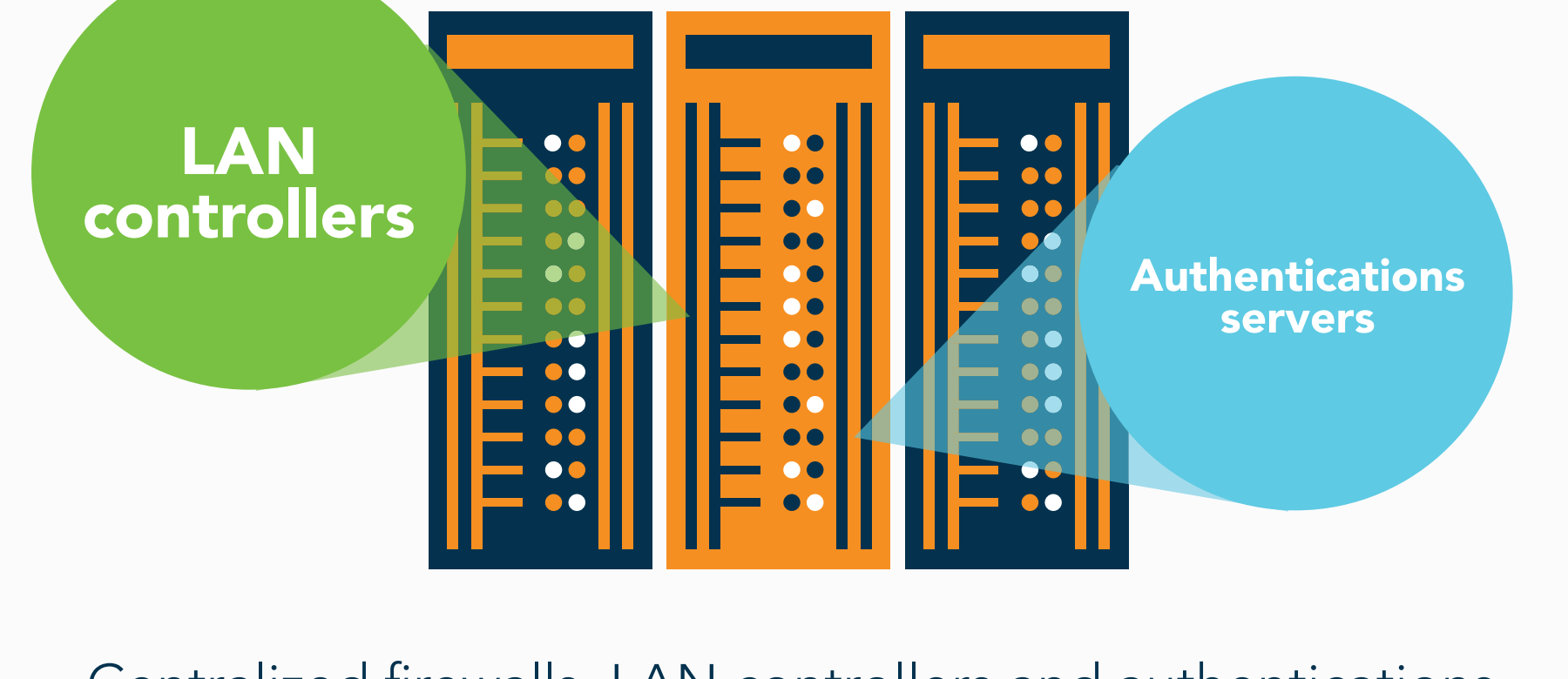


1.3Gbps 11ac clients will be significantly slowed down by **450Mbps 11n** and **54Mbps 11a clients**

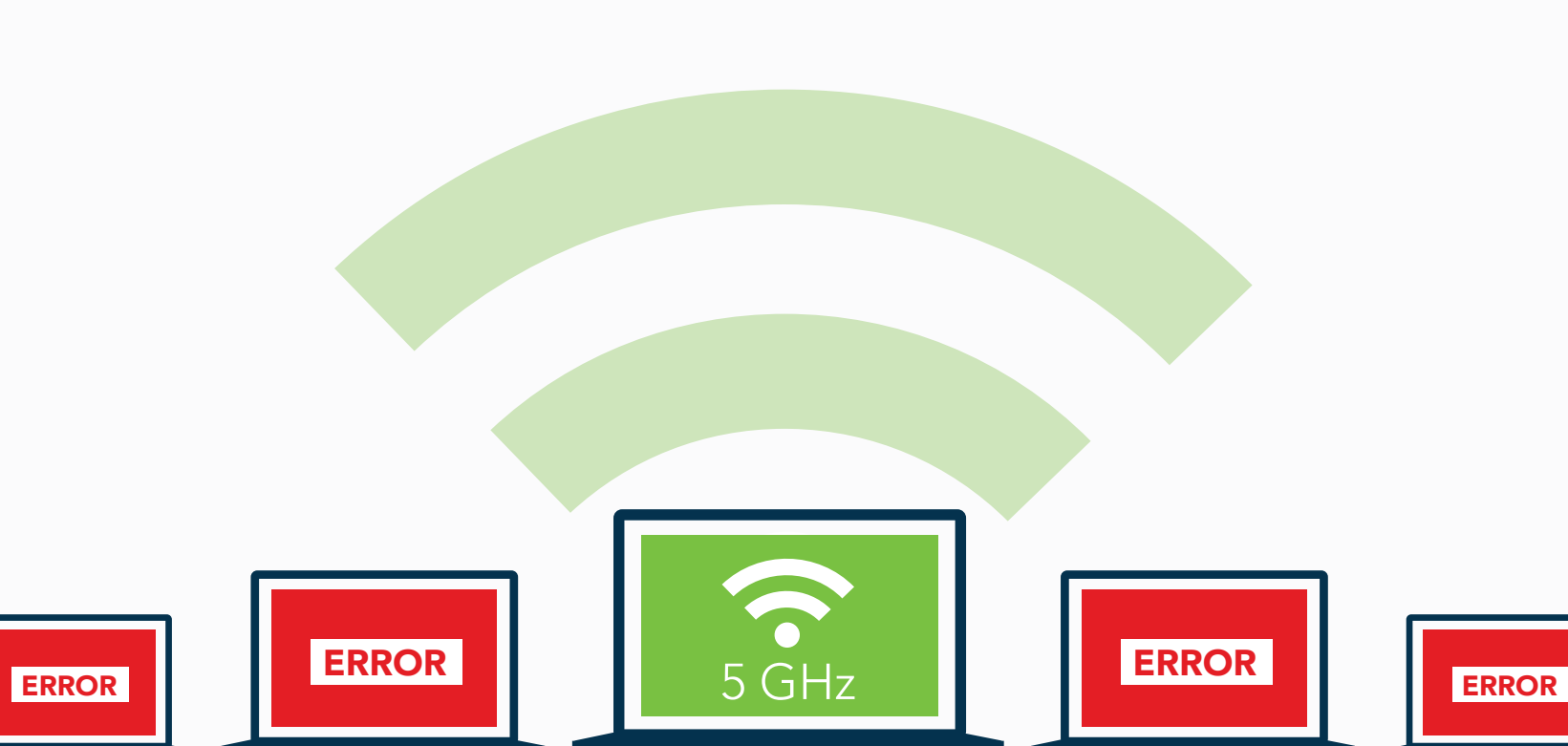


11n and 11a clients on 5GHz band should be isolated on separate radios, rather than mixed with **11ac radios**

Wired infrastructure upgrades



AP uplinks may need to be increased, as AP bandwidth may require more than **1 Gbps**. Aggregated links from the core to the AP must keep pace with this need



Centralized firewalls, LAN controllers and authentications servers may also reach their limits

New site survey



Wi-Fi networks designed as recently as a couple years ago were probably designed for coverage, not capacity and may not properly account for smartphones, tablets, etc.



11ac deployments need to account for increased capacity requirements and more diverse client capabilities

Control application usage



Faster speeds means clients can take advantage of more/different applications



Applications that didn't used to be practical on mobile devices may be now

Learn more
<http://wifi.xirrus.com/abcs-11ac>