

La nouvelle norme WiFi : 802.11ax

Date : 03.04.2019

Version : 1.0

Classification : Confidentiel

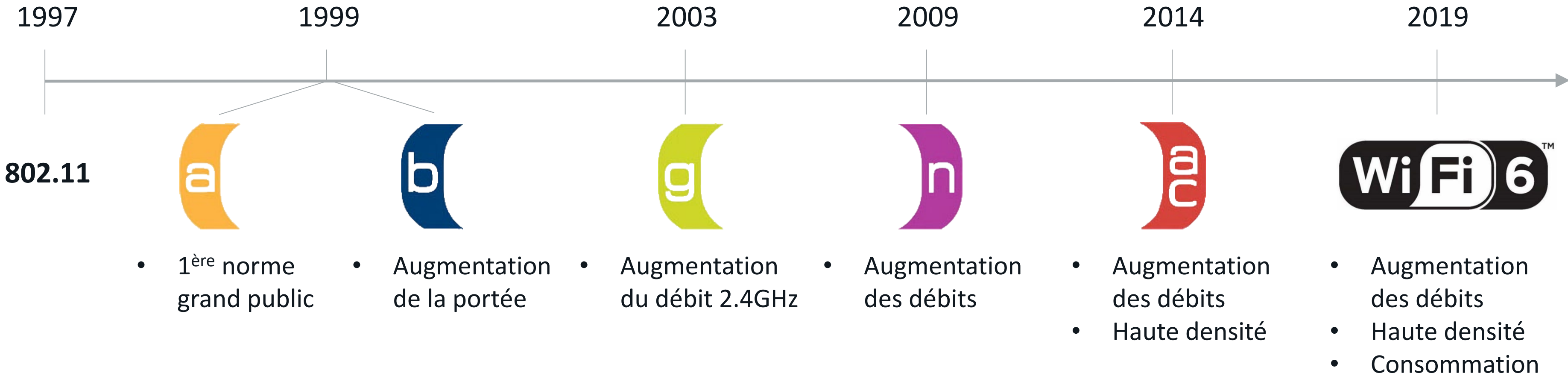


Agenda

- WiFi 6
- Bande Passante
- Haute Densité
- BSS Coloring
- Gestion de la consommation

WiFi 6

802.11ax = WiFi 6



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Bande passante

Quelle bande passante ?



450 Mbps



1.7 Gbps



4.8 > 9.6 Gbps

	20 MHz	40 MHz
2SS	72	300
3SS	144	450
4SS	217	600
8SS		

	80 MHz	160 MHz
	867	1733*
	1300	2340
	1733*	3467
	2167	6933

	80 MHz	160 MHz
	1201	2402
	1801	3603
	2402	4804
	4804	9608*

* Wave 2

Et dans le monde réel ?

- On divise en général la vitesse de modulation annoncée par 2 afin d'obtenir la bande passante TCP
 - Signalisation 802.11
 - Retransmissions
 - En-têtes TCP/IP
- Même en wave 2, peu de clients disposeront de 8 antennes
- L'interêt principal se situe ailleurs

Impact sur le câblage

Compatibilité Smart Rate suffisante (2.5 ou 5 Gbps)

Mode	Cable type	Cable length
2.5Gbps Available when link partner is either 802.3bz-compliant, HPE Smart Rate, or NBASE-T compliant.	CAT5e/Class D or better	Up to 100 meters
5Gbps Available when link partner is either 802.3bz-compliant, HPE Smart Rate, or NBASE-T compliant.	CAT5e/Class D	Up to 55 meters in a high Alien noise environment Up to 100 meters in a low Alien noise environment
	Shielded CAT5e/Class D	Up to 100 meters
	CAT6/Class E or better	Up to 100 meters



3810 Series



2930M Series

Agenda

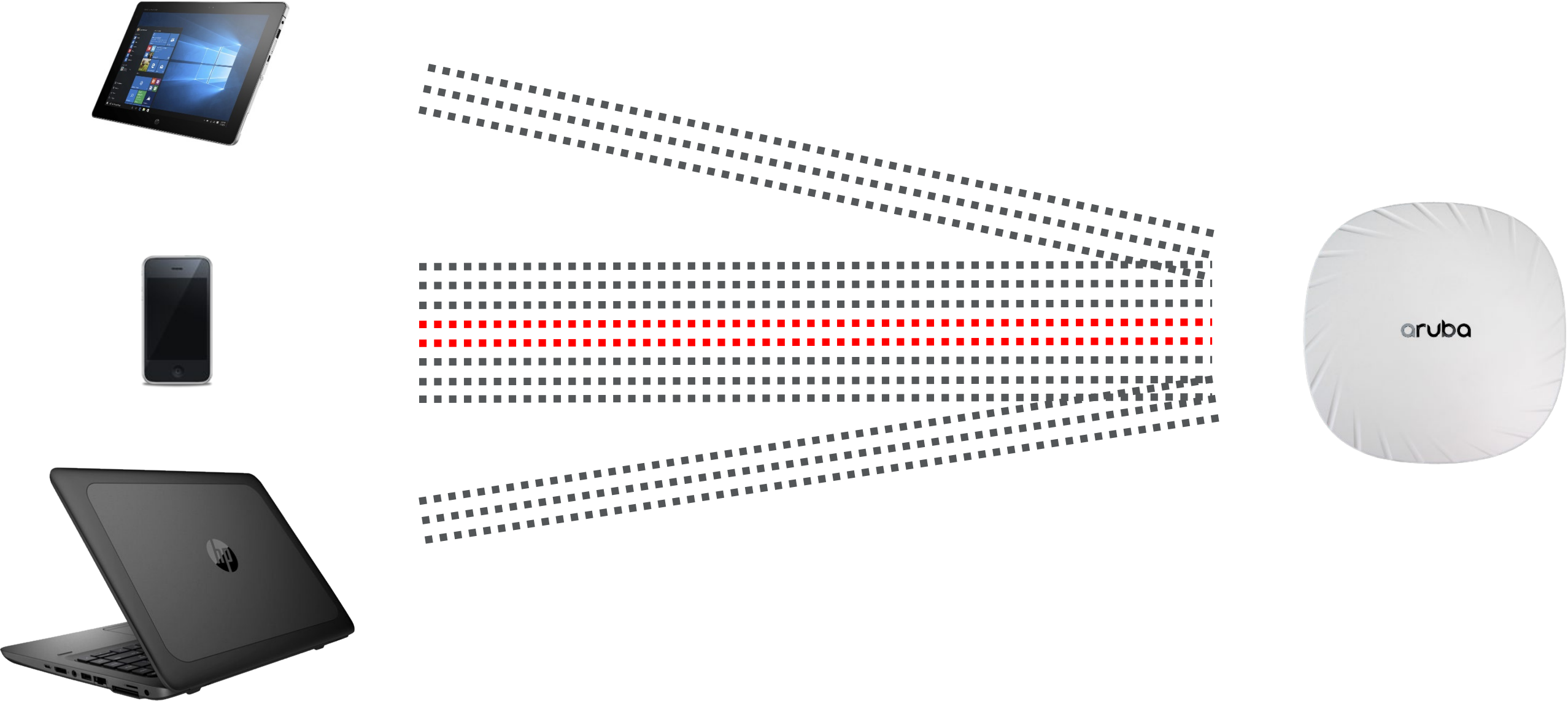
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Haute densité

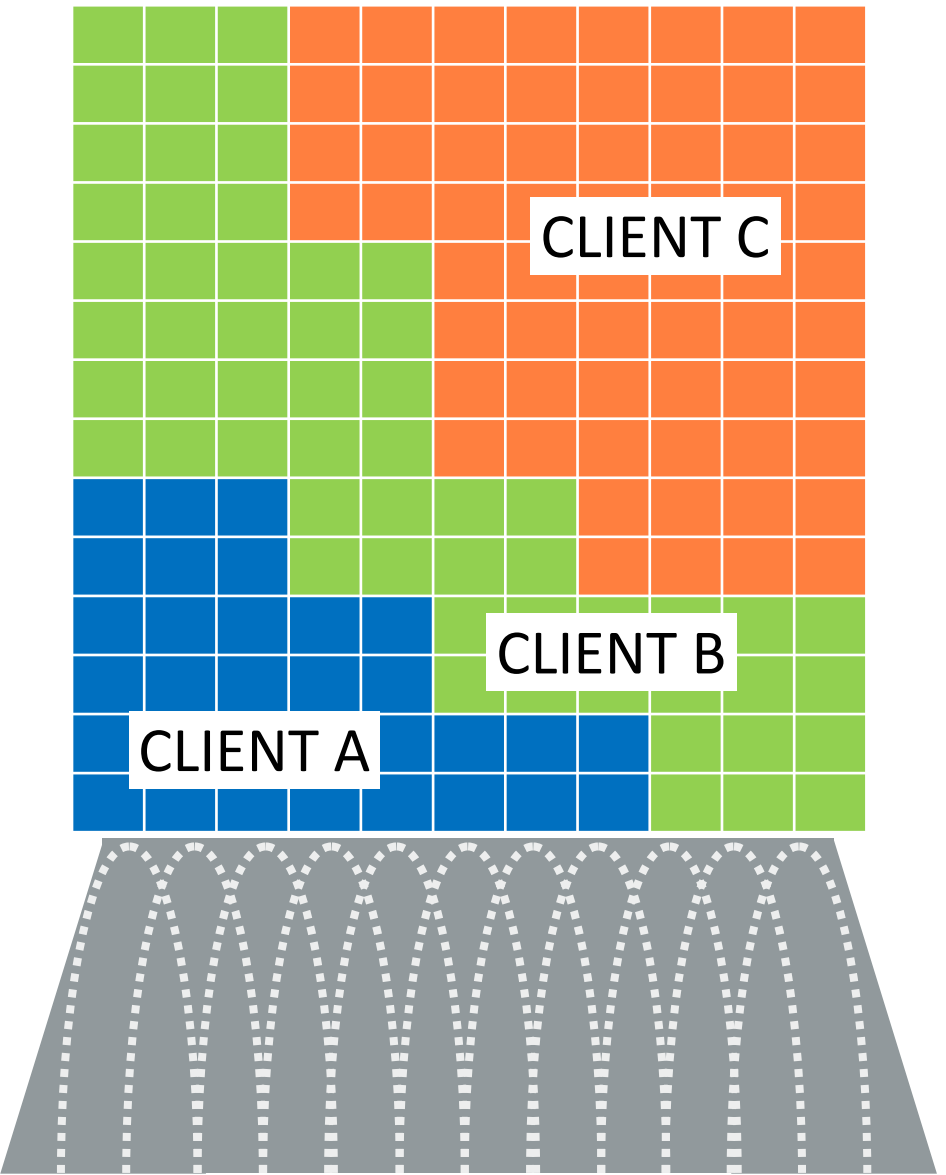
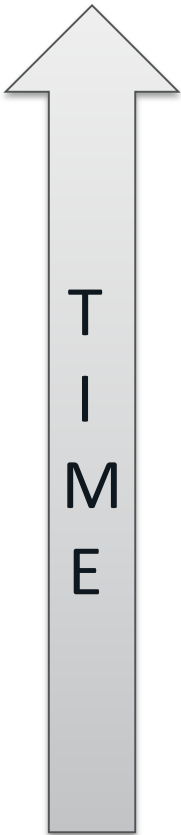
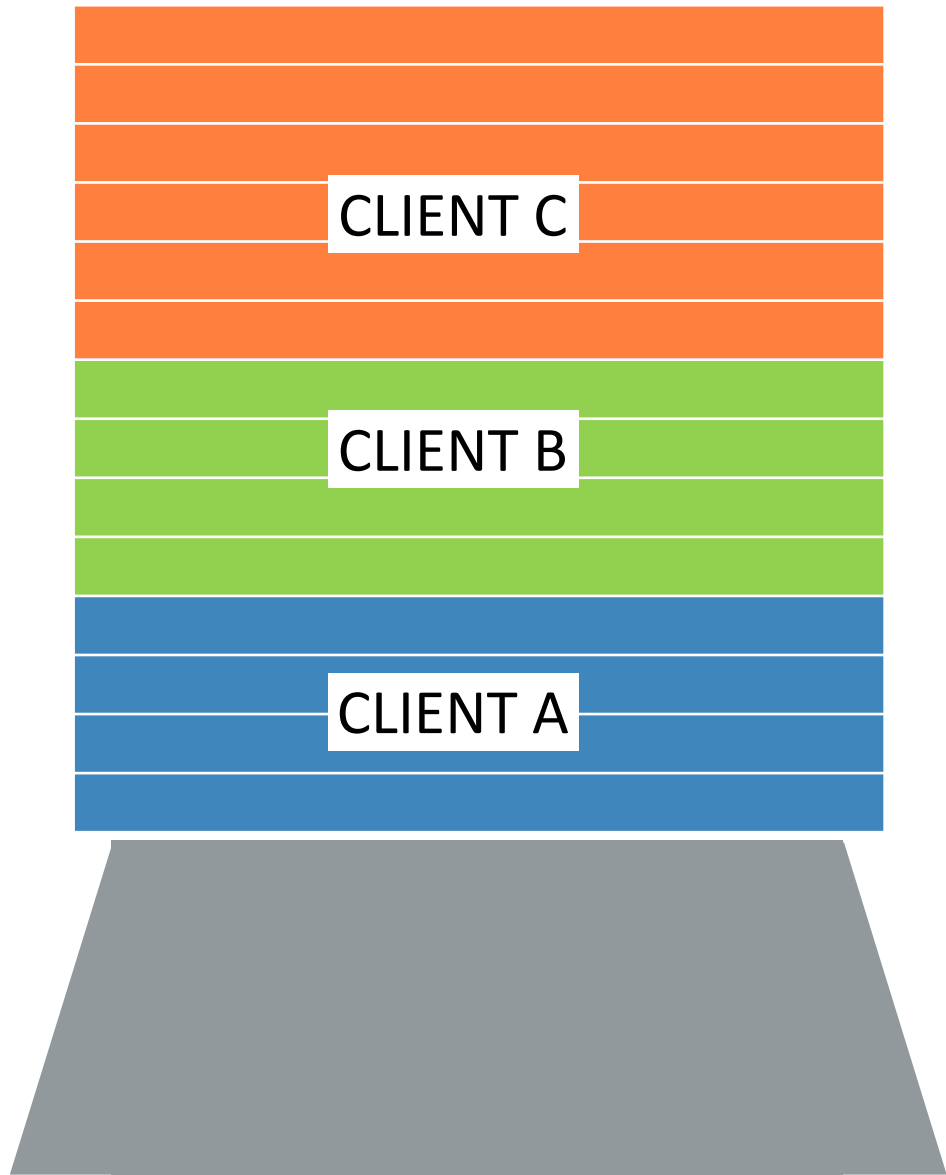
MU-MIMO



MU-MIMO



OFDMA



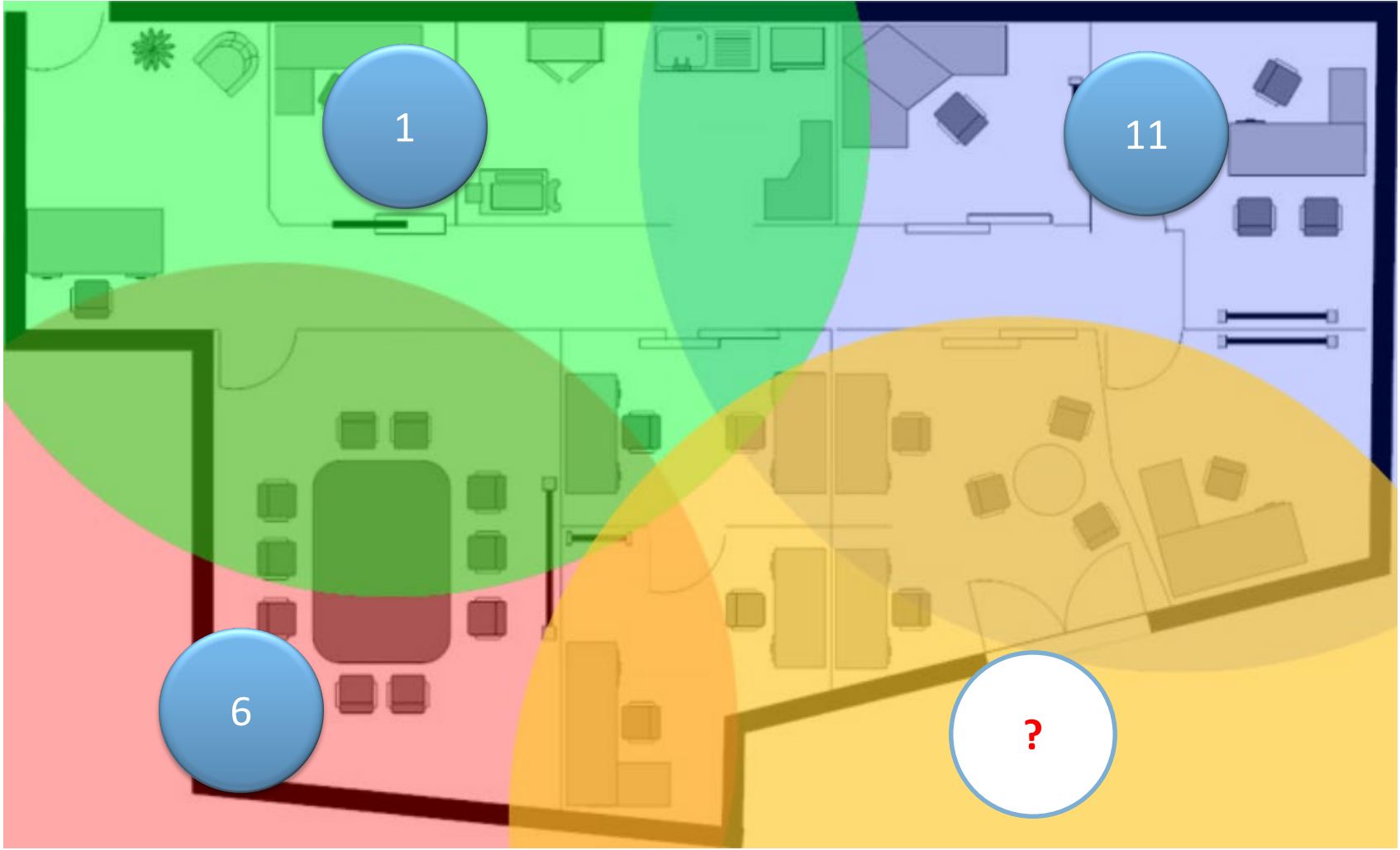
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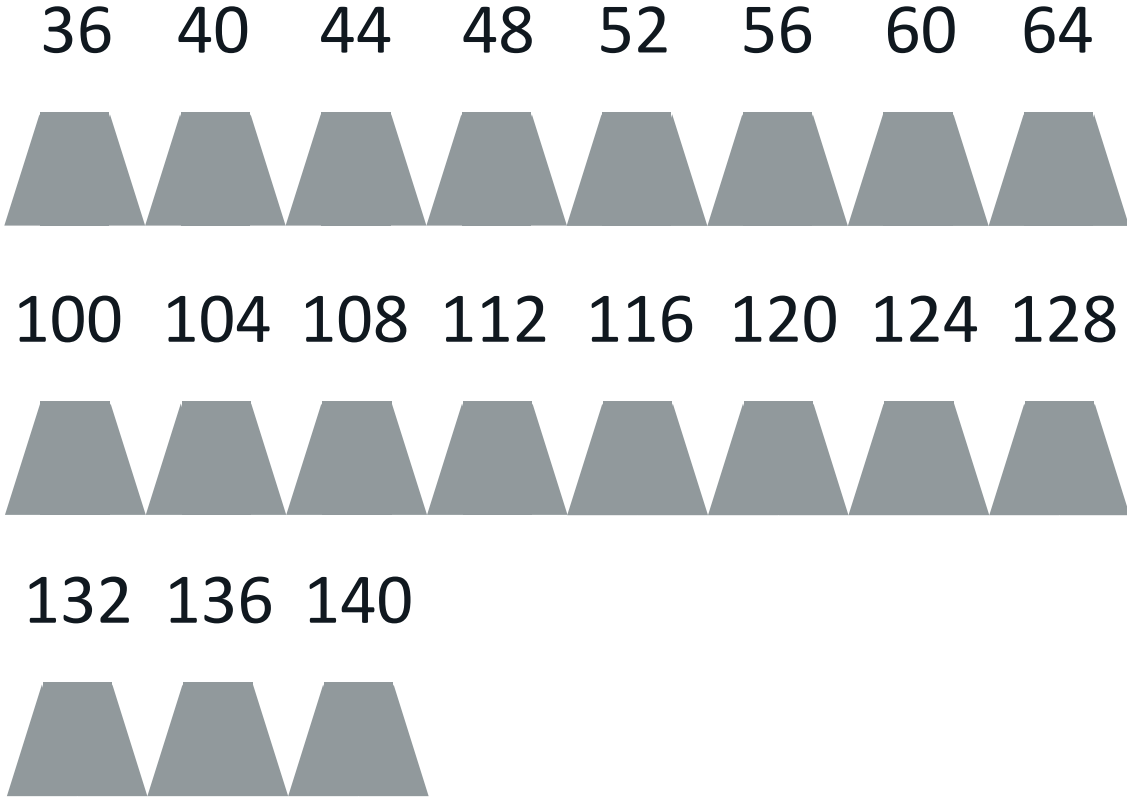
BSS Coloring

Retour du 2.4 GHz

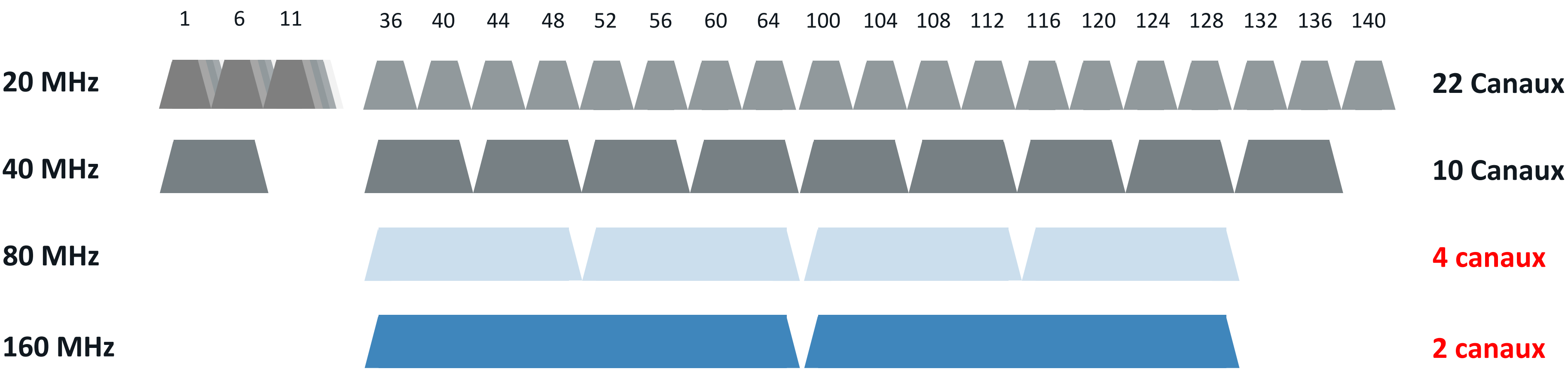
2.4 GHz Channels



5 GHz Channels

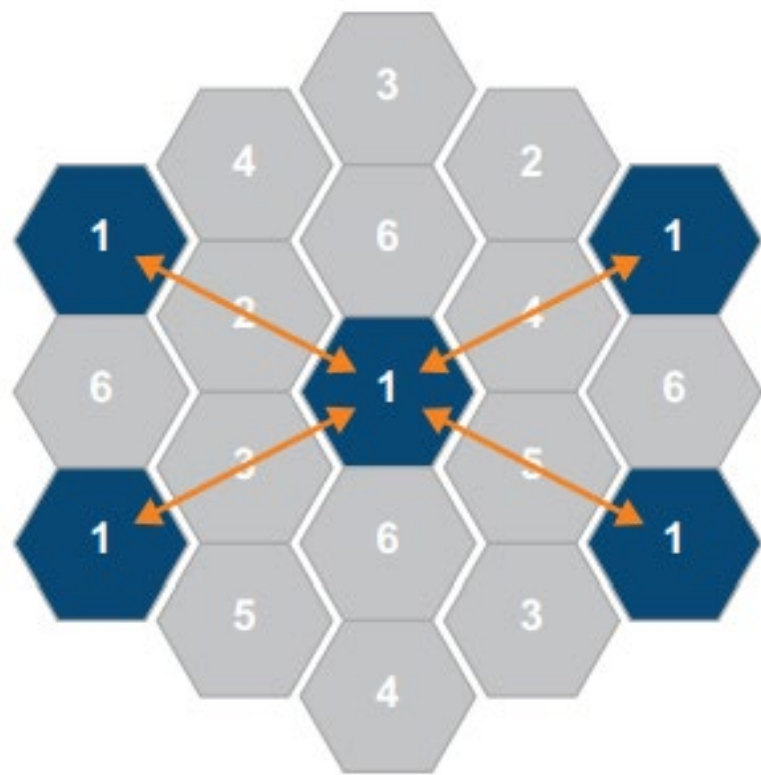


Problématique identique en 5GHz

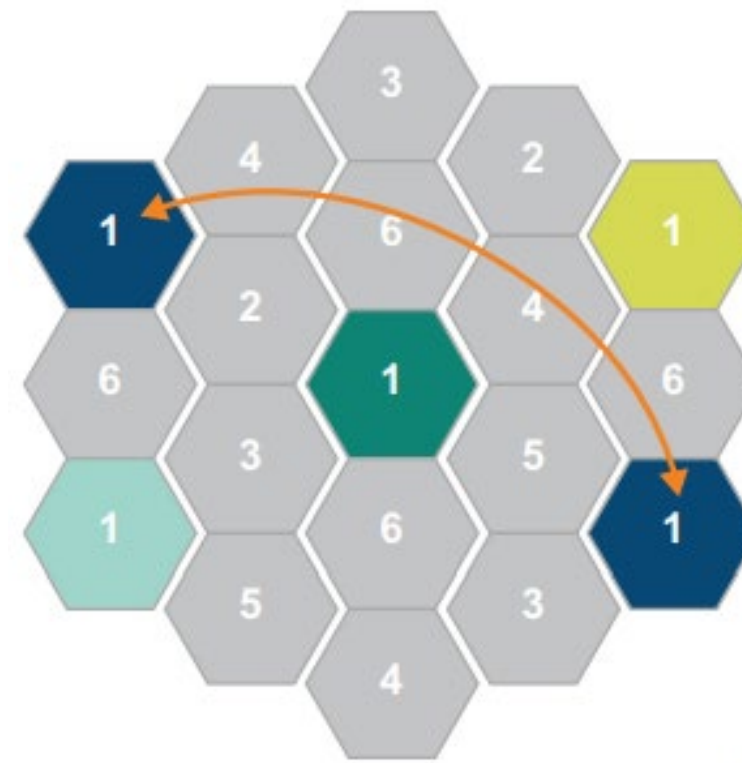
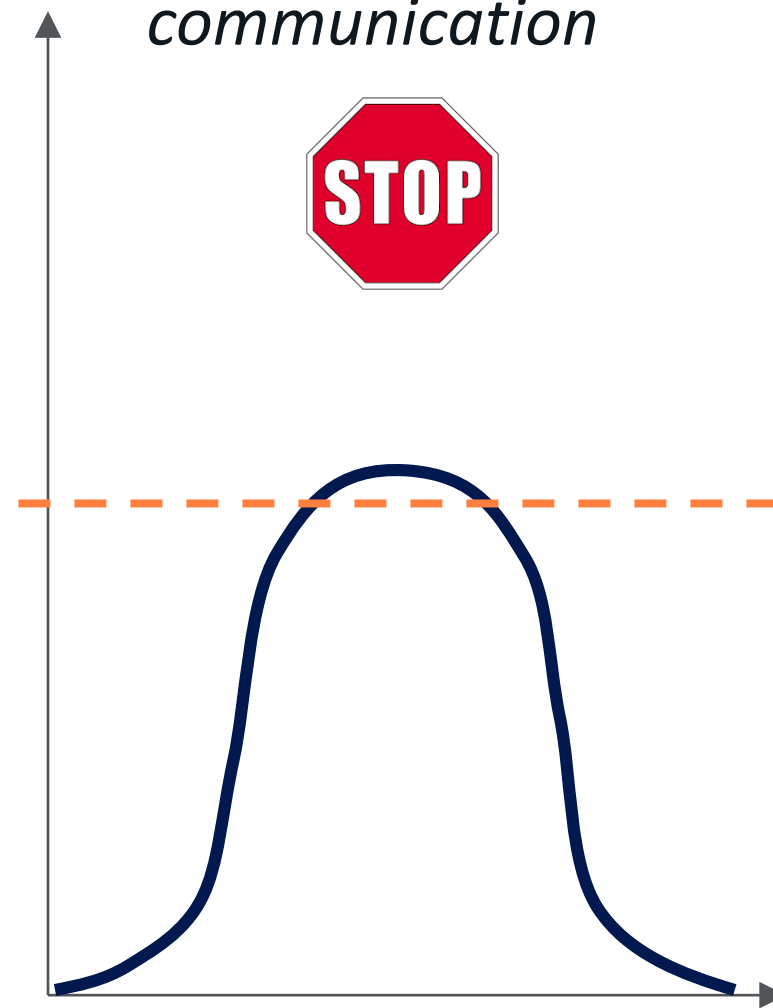


BSS-Coloring

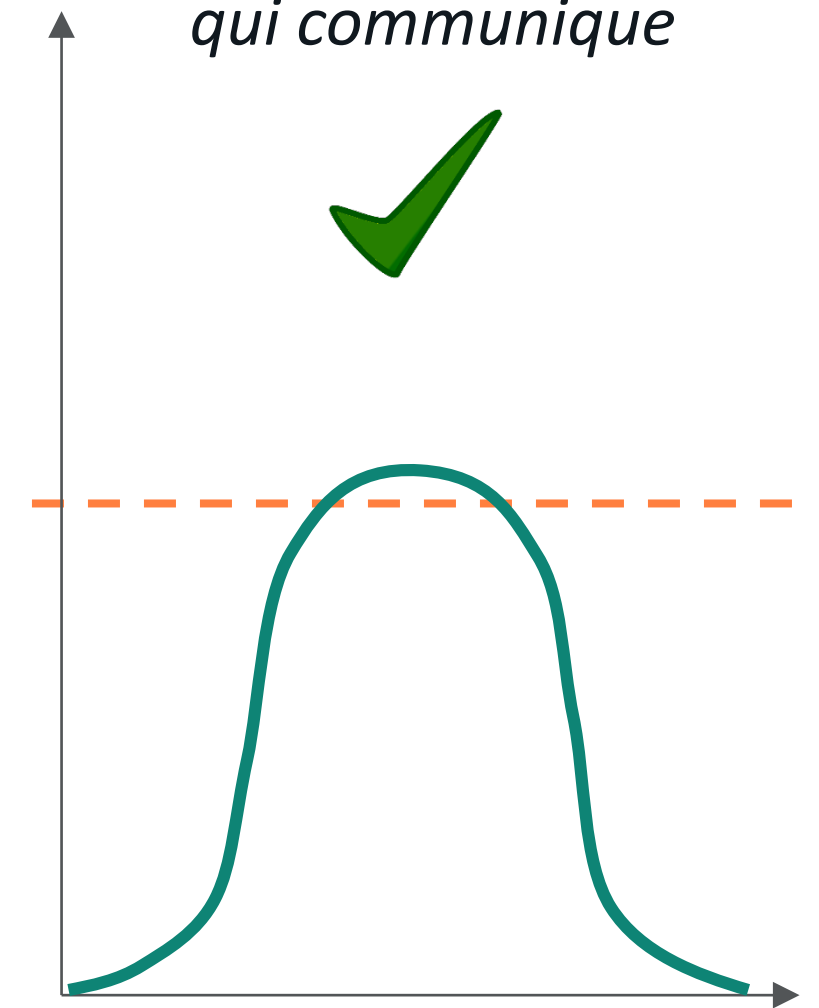
01.05.2015



Mon AP est déjà en communication



Ce n'est pas mon AP qui communique



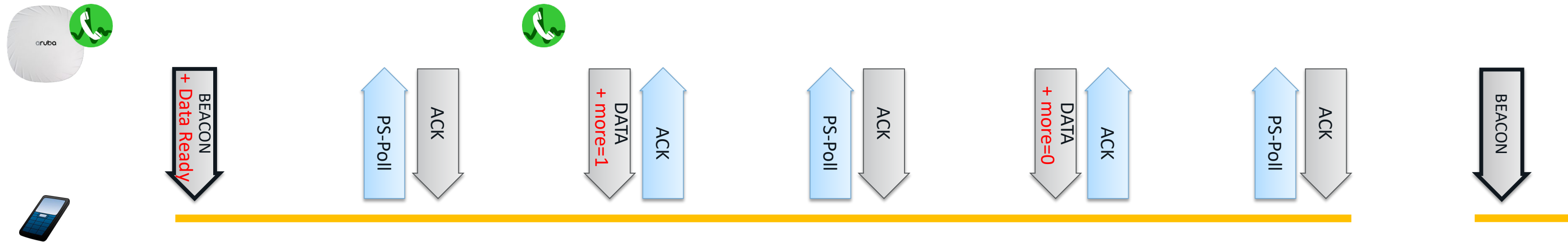
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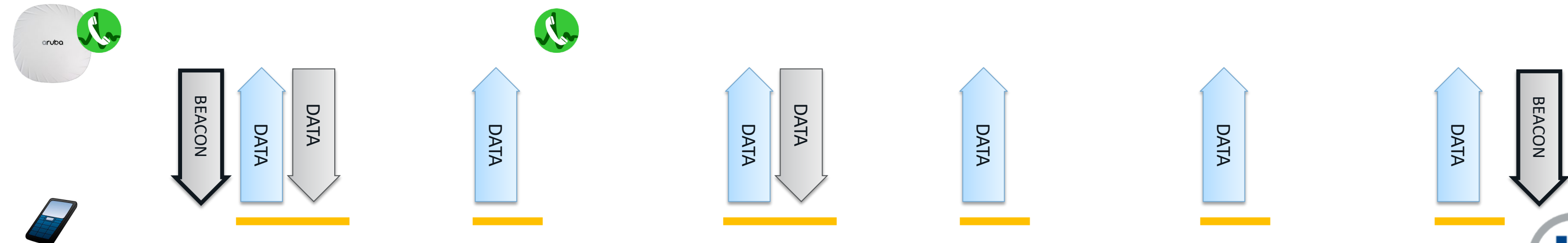
Gestion de la consommation

U-APSD

- Le 'legacy Power Saving' est utilisé depuis 802.11b

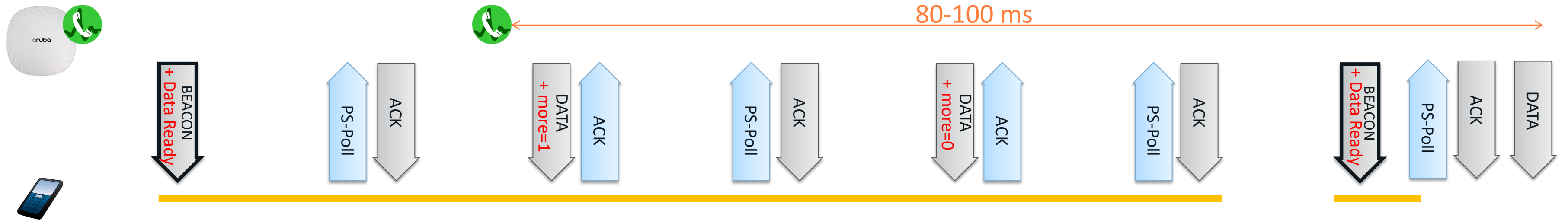


- U-APSD (Unscheduled Automatic Power Save Delivery) = WMM Power Save

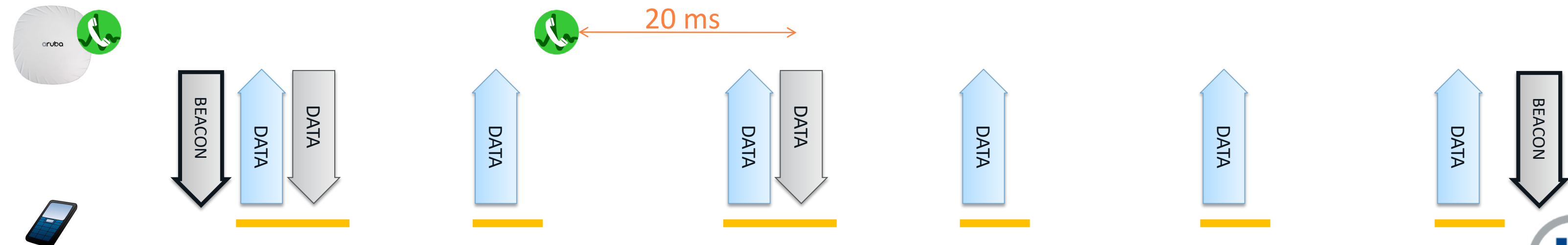


U-APSD

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En résumé

- Grande amélioration de la bande passante
- Bond en avant sur la haute densité
- (Re-)Prise en charge du 2.4 GHz grâce au BSS-Coloring
- Gestion de la consommation améliorée
- Pas besoin d'attendre la wave 2 pour obtenir ces bénéfices

- Plus d'informations :
 - https://www.arubanetworks.com/assets/wp/WP_80211acInDepth.pdf
 - https://www.arubanetworks.com/assets/so/ReferenceGuide_80211ax.pdf

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Merci

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