

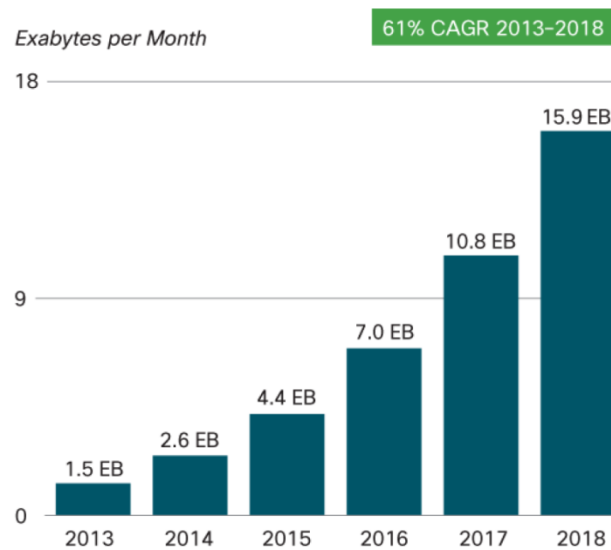
LTE in Unlicensed Bands

Amit Jain
VP, Marketing & Product Management
SpiderCloud Wireless



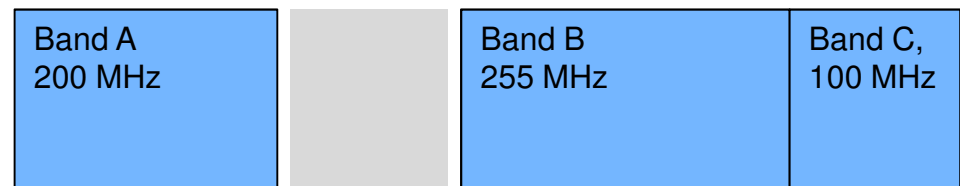
Mobile Operators Are Motivated to Use Unlicensed Spectrum

Rapidly Increasing Demand for Mobile Data



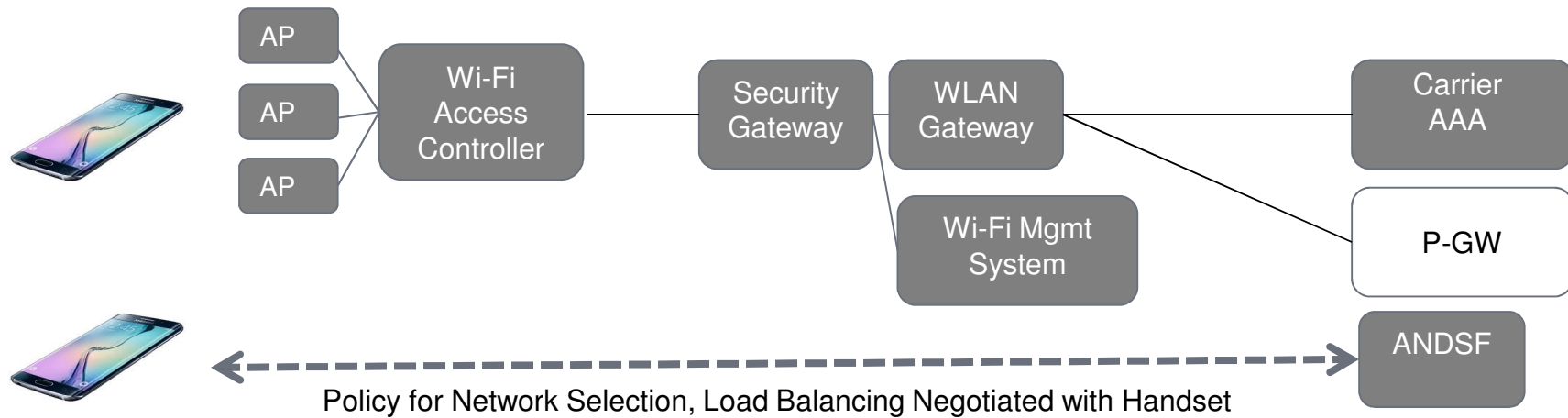
Source: Cisco VNI Mobile, 2014

Over 500 MHz of Unlicensed Spectrum in 5 GHz



Wi-Fi is an option, but has two problems

From Backhaul to Gateways, Carrier Wi-Fi is expensive to build



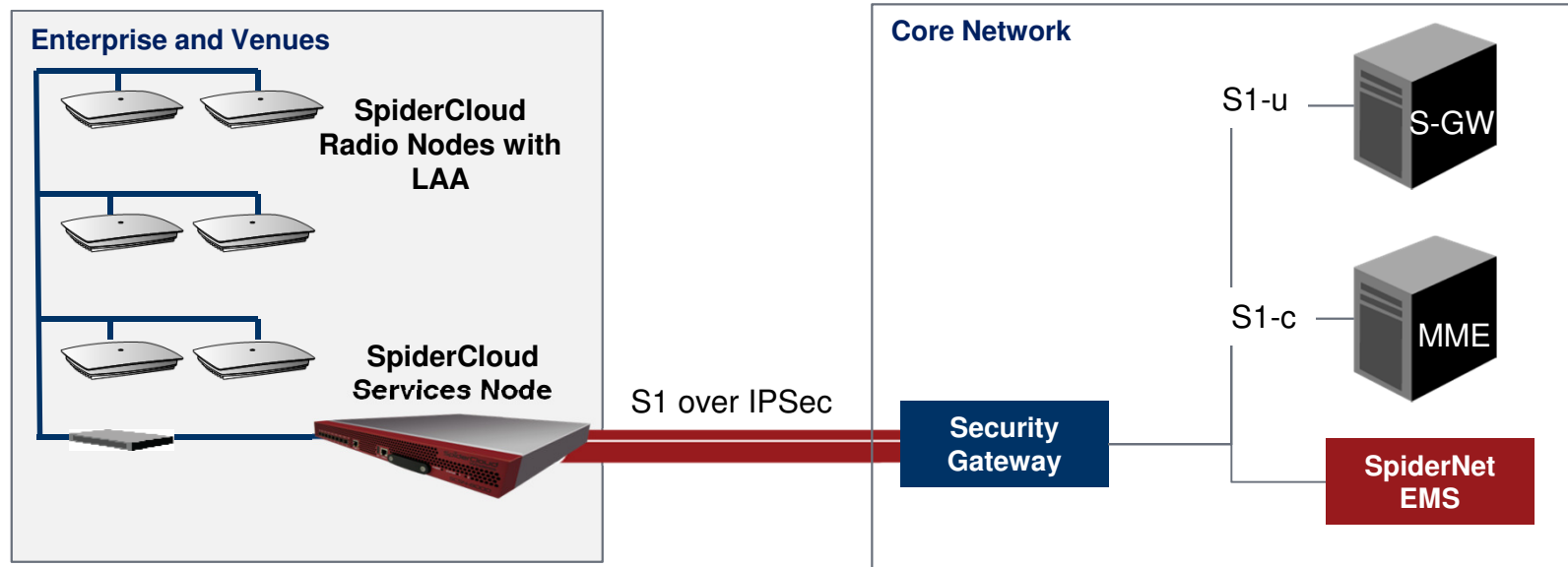
\$\$ New Network Elements Introduced

Yet, Subscribers expect Wi-Fi to be “Free”

Others (from small coffee shops to mighty Google) have better means to monetize Wi-Fi than mobile operators – driving price of Wi-Fi access to zero



The LTE-U/LTE-LAA Alternative



- LTE supports carrier aggregation; unlicensed becomes just another carrier
- LTE small cells decide how traffic is balanced between licensed/unlicensed
- No additional network integration required
- Straightforward to monetize