

NA Assignment 3

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1. Wireless transceivers can't send and receive on the same channel at the same time, so they can't detect collisions. This is due to the fact that there's an incredible difference between send power (generally around 100mw) and receive sensitivity (commonly around 0.01 to 0.0001mw). The sending would cover up any possible chance of receiving a foreign signal, no chance of "Collision Detection". For this reason Collision Avoidance with Control Messages is necessary.

On most wired networks the (like Ethernet) the voltage is around 1 to 2.5v; both sending and receiving are roughly the same voltage. So if you're sending a 2.5v signal, and someone else collides with a -2.5v signal, the "Detection" parts will see a signal somewhere around 0v and know a collision occurred.

2. Laptop:

description: Wireless interface

product: Wireless 3160

vendor: Intel Corporation

physical id: 0

bus info: pci@0000:08:00.0

logical name: wlo1

version: 83

serial: f4:06:69:43:f4:cc

width: 64 bits

clock: 33MHz

capabilities: pm msi pciexpress bus_master cap_list ethernet physical wireless

configuration: broadcast=yes driver=iwlwifi driverversion=4.4.0-47-generic
firmware=17.352738.0 ip=192.168.57.55 latency=0 link=yes multicast=yes
wireless=IEEE 802.11abgn

resources: irq:53 memory:c6100000-c6101fff

Phone:

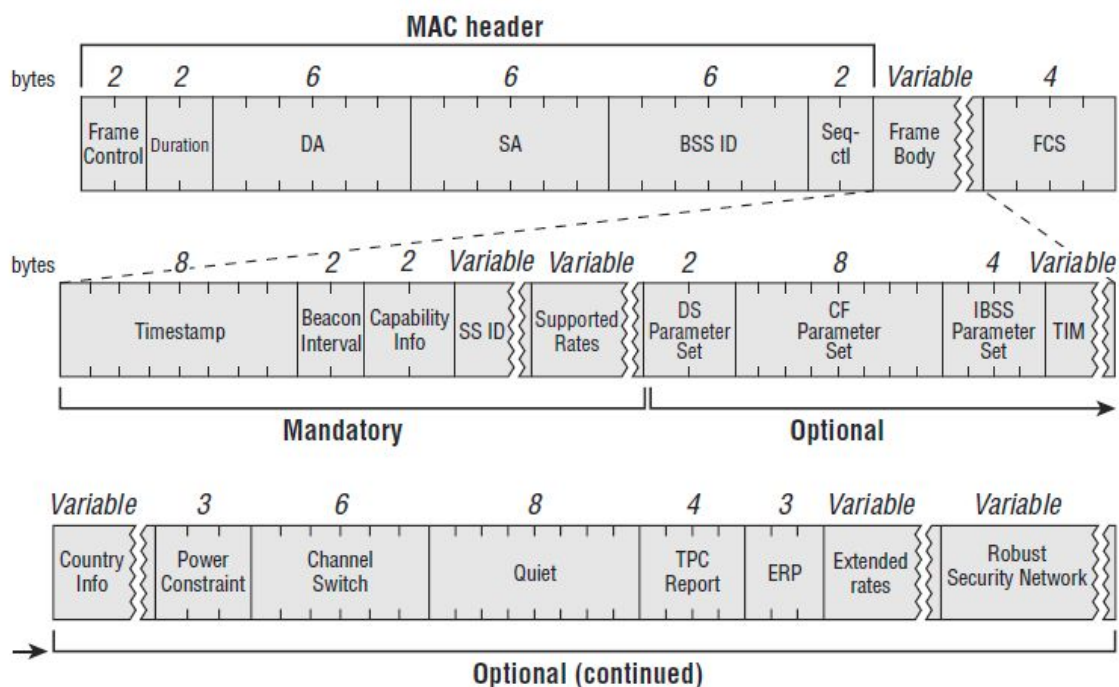
IEEE standard: 802.11a/b/n/g/ac

P2P support: WiFi - direct

DLNA and hotspot are supported.

- Every compliant Access Point (AP) periodically sends out management frames called beacon frames. The purpose of beacon frames is to advertise the presence of an AP in an area, its capabilities, and some configuration and security information to the client devices. The time interval between two consecutive beacon frames is called the beacon interval. The beacon interval is measured in Time Units (TUs), where each TU equals 1024 microseconds, so the default period between beacons is approximately 100 milliseconds. Beacon interval is a configurable parameter on Cisco APs, but changing this value is not recommended without careful consideration.

FIGURE 4.5 Beacon frame structure



Below shows a beacon frame capture. In the frame body section there are few mandatory fields & few optional fields. Here are the mandatory fields in a Beacon frame.

1. Timestamp (8 byte)
2. Beacon Interval (2 byte)
3. Capability info (2 byte)
4. SSID (variable size)

5. Supported Rates (variable size)