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MC - Revision Test-3

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IES17CS016

Q1. Write about IEEE 802.11 architecture.

Q2. Hands off strategy.

A1.) ~ IEEE 802.11 standard specifies the most famous family of WLANs.

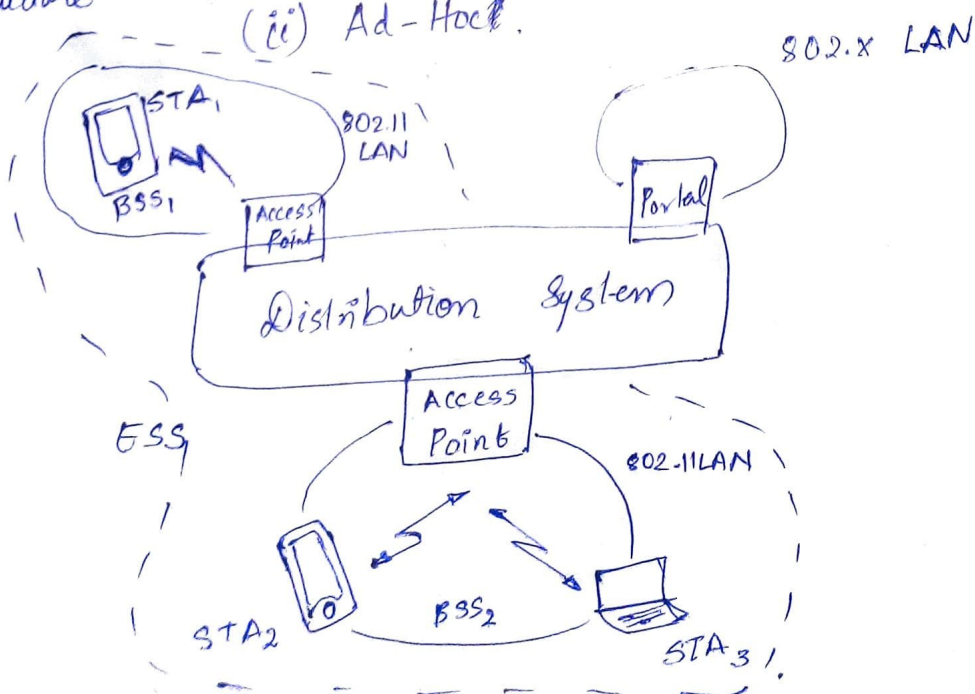
~ The simple and primary goal of this standard was the specification of a simple & robust WLAN which offers time-bound & asynchronous services.

~ Wireless networks exhibit two different basic system architecture:

(i) Infrastructure Based

(ii) Ad-Hoc.

Infrastructure Based



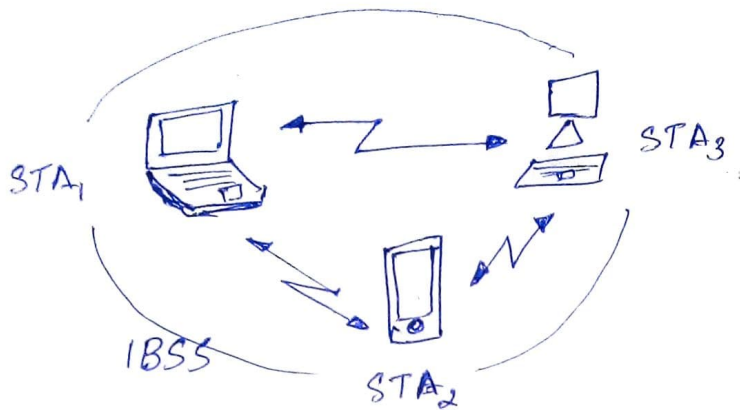
Architecture of Infrastructure based IEEE 802.11

- ~ Several nodes called, stations (STA;) are connected to the Access Points (AP)
- ~ These stations are devices (aka terminals) with access mechanisms to wireless medium, or radio contact to AP. eg:- ~~Mobile~~ Smartphones.
- ~ Basic Service Set (BSS) is formed by an AP and the stations (or nodes/terminals) within the same radio coverage.
- ~ A distribution system connects several BSSs via Access Points and thereby extending the network coverage.
- ~ Now, this newly formed network is called the Extended Service Set (ESS), and it has its own id called ESSID.
- ~ The distribution system connects the wireless network via the APs with a portal, which forms internetworking units to other LANs.

Ad-Hoc Network

- ~ IEEE 802.11 also allows the building of ad-hoc network between the stations (or nodes).

~ This forms an Independent Base Service Set (IBSS)



• Thus IBSS comprises of stations ~~with the~~ connected with the same radio frequency (eg: 2.4GHz Network)

~ This provides new and exciting features in technology as each station can communicate directly with the other.

eg:- Hotspot Network, Bluetooth Pairing.

A2.) Hand-off Strategy

~ A hand off refers to the process of transferring an active call or data session of one cell in a cellular network to another.

~ A well implemented hand-off or hand-over is important for uninterrupted service to a caller or data session user.

~ Hand offs are classified into two types:

◦ Hard Handoff:

- ~ There is an actual break in connection while switching from one cell or base station to another.
- ~ But switching is done very quickly & goes unnoticed by a user.
- ~ It is affordable but with a slight delay.

◦ Soft Handoff:

- ~ It entails two connection to the cell phone from two different base stations.
- ~ It is more costly but smoother.
- ~ There is no break in the ongoing service.