

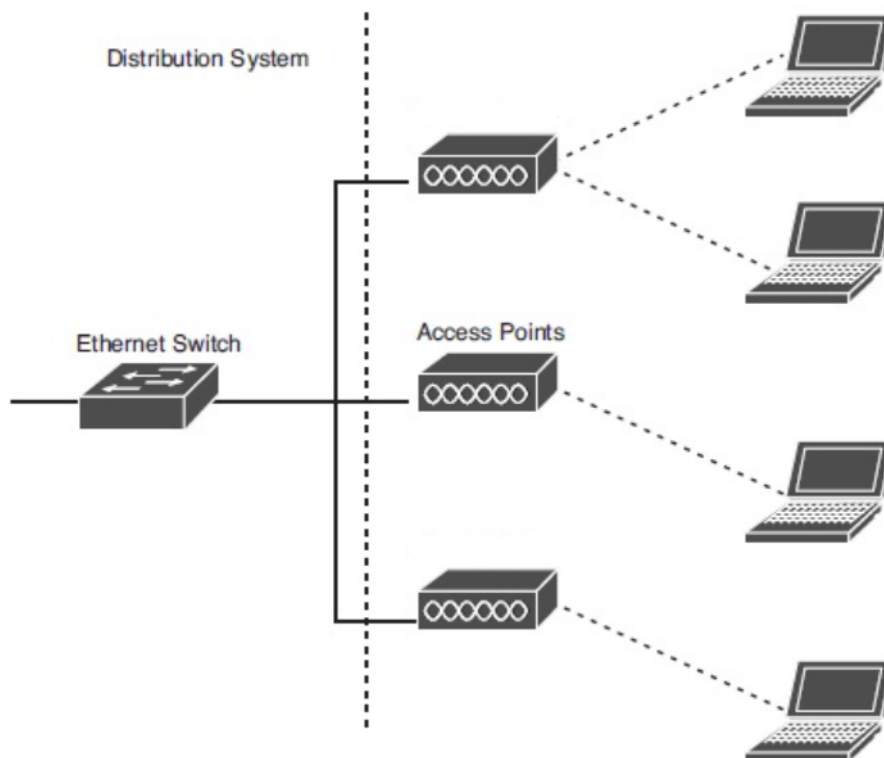
Infrastructure based WLAN

Most companies, public hotspots, and homeowners implement infrastructure WLANs. An infrastructure WLAN, offers a means to extend a wired network.

In infrastructure mode, the WLAN network is composed of stations as well as one or more access points(APs). The device access point is like a base station used in cellular systems. All the communications between stations will go through an access point.

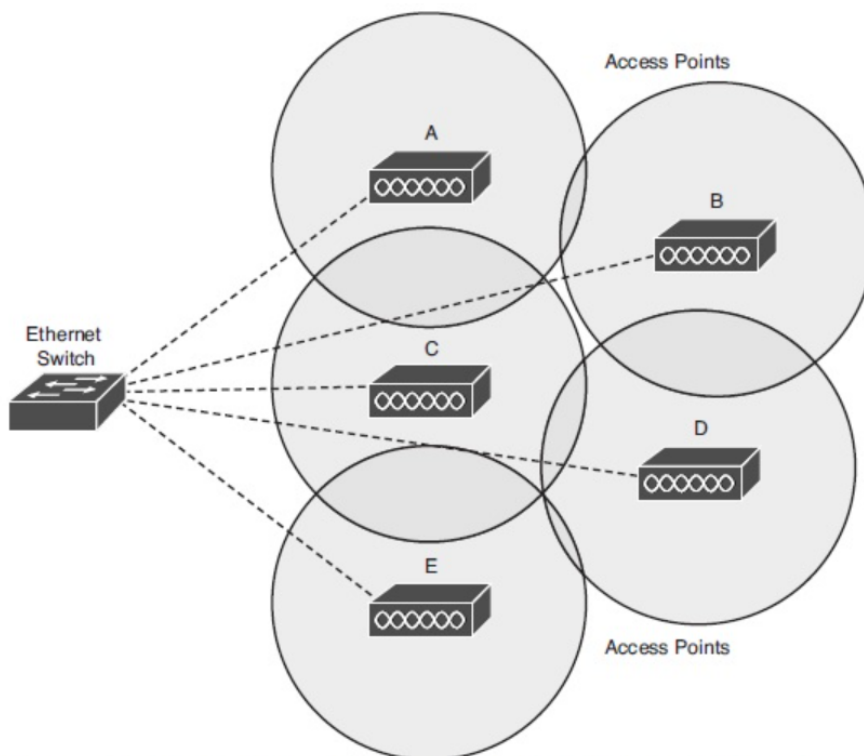
Each access point forms a radio cell, also called a basic service set (BSS), which enables wireless users located within the cell to connect to the access point. This allows users to communicate with other wireless users, as well as with servers and network applications connecting to the distribution system.

The wireless WLAN network with one AP is referred to as BSS(Basic Service Set). When more than one APs are available in a network to form a sub-network, it is referred as ESS(Extended Service Set).



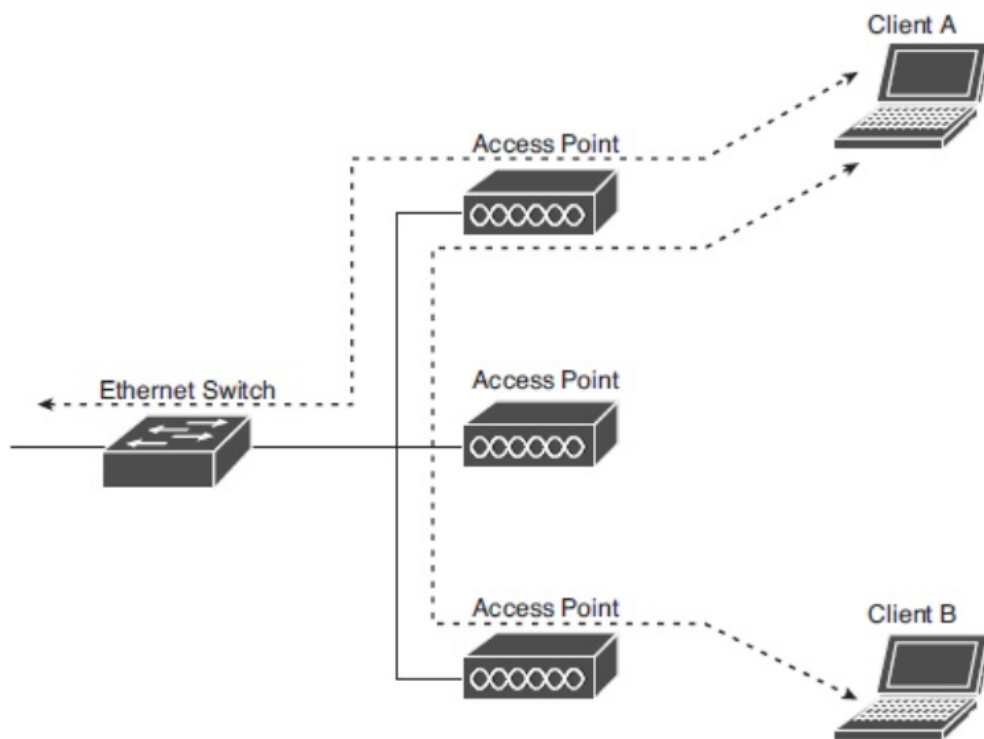
An Infrastructure Wireless LAN Interfaces Client Devices to a Wired Distribution System and Extends Coverage Through Use of Access Points

If access points with overlapping radio cells are installed, as shown in figure below , then users can roam throughout the facility without any noticeable loss of connectivity. The radio card within the user's mobile device will automatically re-associate with access points having stronger signals. For example, a user might begin downloading a file when associated with access point A. As the user walks out of range of access point A and within range of access point B, the client radio automatically re-associates the user to access point B and continues the downloading of the file through access point B. The user generally does not experience any noticeable delays, but voice over WLAN phones might drop connections if the roaming delay exceeds 150 milliseconds.



Multicell Wireless LAN with Overlapping Cells Supports Roaming

In infrastructure WLANs, data transmissions do not occur directly between the wireless clients. Data traffic going from one wireless user to another user must travel through an access point as shown in below figure. The access point receives the data traffic going from client A to client B, for example, and retransmits the data to client B. As a result, significant data traffic between wireless users decreases throughput because of the access point needing to relay the data to the destination user. If the source wireless user is sending data to a node on the distribution system, then the access point does not need to retransmit the data to other wireless users.



Typical Flow of Data Through an Infrastructure Wireless LAN