Name: John Francis  
Date: 3/19/2023  
Professor: Shaun Gray

**Wireless Architecture and Application**

**Write a paragraph** (minimum five college-level sentences) below that summarizes what was accomplished in this activity, what you learned by performing it and just as important, how you feel it will benefit you in your academic and professional career. (6 points)

In this lesson we learned about wireless principles, including wireless communication, wireless channels, service set identifiers or SSID, radio frequency. We also learned about different topologies or architectures that all access points to be networked together for a company. In Exercise 3 we learned about Physical infrastructure connections of WLAN In Exercise 6 we learned about wireless security protocols. These tools will help my in my academic and professional career by learning the terminology and functionality of how wireless networks work.

Read and Review the **Wireless Architecture and Application** activity and answer the questions below.

**Wireless Architecture and Application**

**Exercise 1, Question 1:**  Why is Wi-Fi channel selection important when designing and installing a WLAN with multiple APs in an ESS? Explain. (9 points)

Channels can overlap and cause interference, for this reason Channels 1, 6, and 11 are most commonly used.

**Exercise 2, Question 2:** What are the advantages of a controller architecture over an infrastructure network with autonomous APs? (9 points)

You have ‘Light weight’ Access points that typically do not require to be configured. Configurations are usually received from a wireless LAN controller.

**Exercise 2, Question 3:**  What are the special-purpose modes an AP can operate in when configured for lightweight mode? (9 points)

Local mode: default mode for an indoor access point. Used mainly when AP and WLC are in the same building.

FlexConnect: Forwads traffic locally and performs local authentication, used when AP and WLC are located in different locations.  
Rogue detector:Used to allow Networkd admins to monitor and eliminate rogue devices in the network.

Monitor Mode: doesn’t function like a normal AP. It monitos channels fo malicious activity switching channels every 12 seconds.

Sniffer mode: Acts like a wireless traffic sniffer like a packet capture device.

Bridge mode: Used to link different locations.

**Exercise 3, Question 4**: What technique is usedto prevent the link from the switch to the WLC from becoming overwhelmed by increases in APs and clients added to the WLAN? How does it function? (9 points) Lan Agrregation is used by having 2 connections going from the switch to WLC these 2 links are combined to create on virtual link.

**Exercise 6, Question 5:** Explain the difference between WPA2 personal, WPA2 enterprise. (9 points)

WPA2 enterprise performs its verifications through a central server which meand every has to connect through this server. The ser maintains a list of valid users and devices. The WPA2 Personal is is used in home of office and works entirely on the password.

**Exercise 6 Question 6:** What improvements does WPA3 offer over WPA2? (9 points)

Limits how often you can guess a password. Provides individualized encryption. SPA3 will have stronger encryption and allows you use Near Field communication with your mobile phone to certify with another device, allowing you connectivity to headless devices easier to happen.

**Congratulations! You are done with Module 4 graded practice activities!**