HALMSTAD UNIVERSITY
CNAP HALMSTAD – SWEDEN

CISCO SYSTEMS
NETWORKING ACADEMY

Lab Wireless Component and Media Identification

WLAN Networking Devices





Objective

The following objectives will be covered in this lab :

- **Identify the basic media characteristics of wireless LANs**
- **Identify the components of a Wireless LAN**
- **Describe the functions of the Wireless components**

Scenario

Wireless Local Area Networks (WLANs) have become a popular choice in network installations. Implementing a WLAN is simple because installation is generally limited to installing building mounted antennas and placing the access points (AP).

Local Area Networks (LANs) will quickly become a mixture of wired and wireless systems depending on the network needs and design constraints.

In larger enterprise networks, the core and distribution layers will continue as wired backbone systems. Enterprise systems are typically connected by fiber optics and unshielded twisted pair (UTP) cabling. Even in many smaller networks, there still remains a wired LAN at some level.

Preparation

The instructor will setup equipment:

Wireless	Wired
AP(s)	Hub or Switch
Bridge(s)	Fiber Optic, modem, WAN Switch
Client Adapter(s)	Wired Ethernet NIC
Antenna(s)	Ethernet Cable

The instructor will allow the students to examine the equipment and be able to compare the equipment to wired networking equipment. The following tools and resources will be required to complete the lab:

- A conventional PCI and PCMCIA Network Interface Card(s) for wired networking connections
- Physical media such as UTP
- A conventional wired network hub or switch
- Wireless course equipment

Safety

Do not handle any wireless devices while they are powered. A general rule is to not touch or come within several inches of any powered antenna. Also, make sure to power down any device before removing a PCI or PCMCIA card. Most important, do not remove antennas from a Wireless AP or Bridge while powered. This can damage the unit.

AP

b. What is the model of the AP? _____

c. What is the frequency range(s) of the AP provided? _____

d. Does the AP have a detachable antenna or is the antenna built in? _____

e. What wired ports are available? _____

f. What is the wired equivalent to the AP ? _____

g. What are the advantages and disadvantages of the wired and wireless access devices?

Device	Advantage	Disadvantage

WLAN Router Linksys

a. What is the model of the WLAN Router ?_____

c. What is the frequency range of the WLAN Router provided? _____

d. Does the WLAN Router have a detachable antenna or is the antenna built in? _____

e. What wired ports are available? _____

f. What is the wired equivalent to the WLAN Router ? _____

g. What are the advantages and disadvantages of the wired and wireless WLAN Router devices?

Device	**Advantage**	**Disadvantage**

Client adapters

a. What are the models of the client adapters? _____

b. Does the client adapter have a detachable antenna or is the antenna built in? _____

c What frequency range does the client adapter operate at? _____

d. What is the wired equivalent to the wireless client adapter?

e What are the advantages and disadvantages of the wired and wireless client adapter?

Device	Advantage	Disadvantage

WLAN Controller

a. What is the model of the controller? _____

b. What makes the controller in WLAN? _____

c. What is the difference between autonomous and lightweight AP?_____

d. What are the advantages to use lightweight AP ?

Device	Advantage	Disadvantage