

## 11- Networks

(Unit 28, task 1)

Let's begin by talking about small networks, which are called local area networks, or LANs. These are groups of computers within a small physical area, like a home or an office building.

In this diagram, we see a **mixed** wired and wireless LAN, a typical solution for small businesses that already have a wired LAN and decide to expand it with wireless technologies to accommodate new needs.

In the existing fixed, wired, LAN, **the central computer** is a **file server** with a large hard drive used to store common files and application programs. The computers, acting as clients, are connected to the file server and to a printer via Ethernet cables.

In the wireless part of the network, several devices, including desktops, laptops, PDAs and a gaming console, are connected to each other without **cables**. This part is controlled by a wireless access point – also called a **wireless router**. This access point is like a base station that transmits and receives radio frequencies from wireless-enabled devices. Each device that operates over the network is equipped with a wireless card or adapter.

Many wireless LANs use Wi-Fi, a wireless technology that uses radio waves to enable communication between devices in a limited area. This gives users flexibility and mobility. Another popular technology is Bluetooth, used for short distances.

The whole network is linked to the Internet via a **broadband modem**. This modem is plugged into a **router**, or HUB, which splits the internet connection into parts and allows all users to access email and web resources. With appropriate networking software, users on the wireless LAN can share files and the printer located on the wired LAN.