# Fundamentals of networks

# Session 2 – Participant Led Activities

**Network Types & Hardware**

**Activity 1:**

What are the scenarios when each of the following network types would be used?

List some advantages and disadvantages

|  |  |  |  |
| --- | --- | --- | --- |
| **Network** | **Examples / characteristics** | **Advantages** | **Disadvantages** |
| **PAN** | Wireless Bluetooth  keyboard  Very short  range | Can use on the move  No additional Hardware | Short range, only really usable in the same room  Single user |
| **LAN** | Small geographical area  Single site  Owned by organisation | Cheaper than a WAN  Local management | Can become expensive for larger organisations |
| **WAN** | Large geographical area  Hired infrastructure  The internet | Reliable  Comprehensive | Less secure than a LAN |

## Activity 2:

## Hubs vs. Switches

Examine the diagrams below, describe the difference between a hub and a switch. Consider the impact upon performance of different sized networks when using either device.

**Hub:**

|  |  |
| --- | --- |
| **Diagram** | **Description of how the device functions:** |
| A close up of a map  Description automatically generated |  |
| How will the device respond when communicating over a small network of 2 computers? | How will the device respond when communicating over a large network of 50+ computers? |

**Switch:**

|  |  |
| --- | --- |
| **Diagram** | **Description of how the device functions:** |
| A close up of a device  Description automatically generated |  |
| How will the device respond when communicating over a small network of 2 computers? | How will the device respond when communicating over a large network of 50+ computers? |