



جامعة الحمدانية / كلية التربية

قسم علوم الحاسوب

Fourth Class

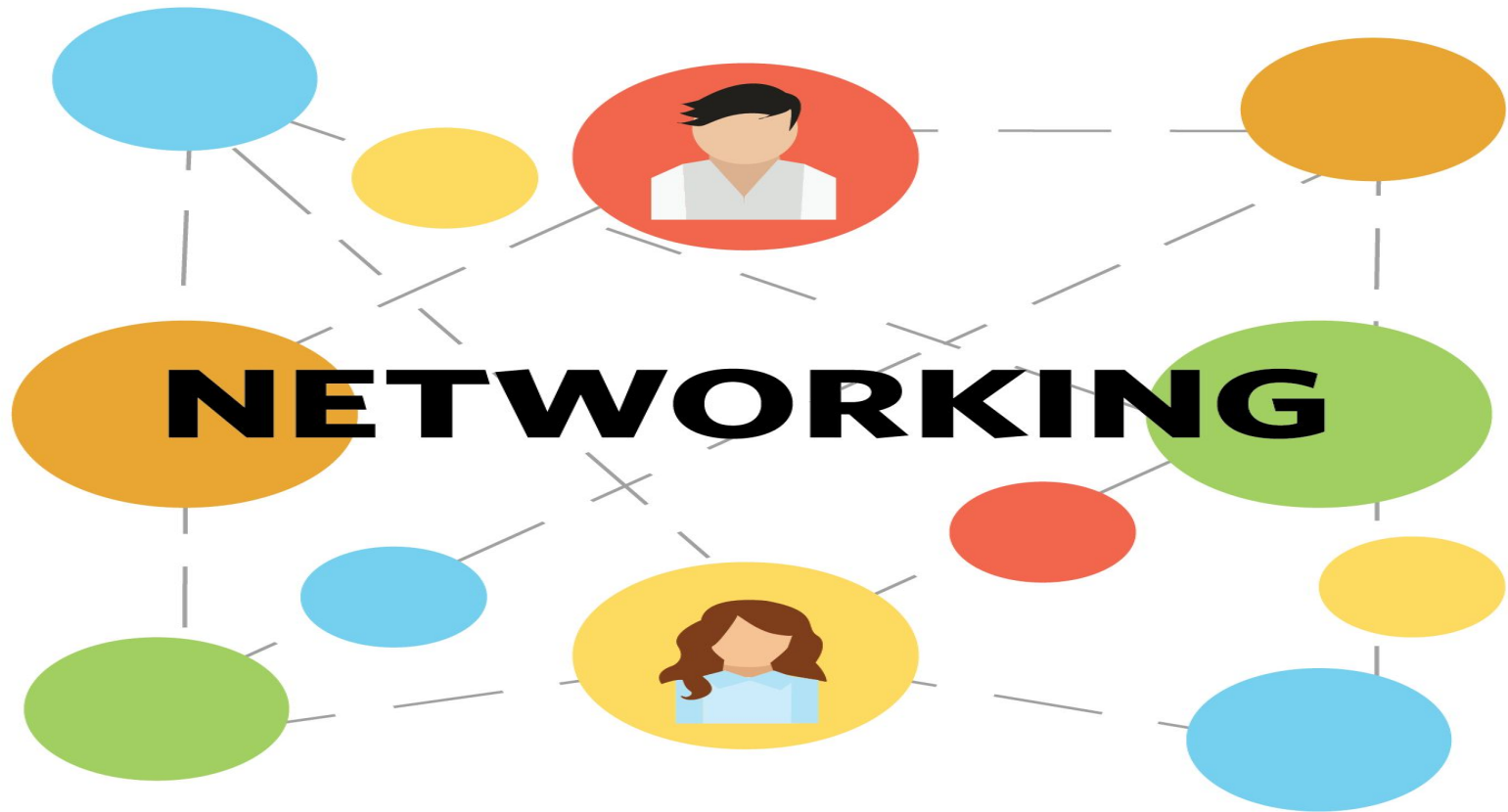
Data Security



أستاذ المادة:

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Networking Simple Principle



CONTENTS

- **What Is Networking?**
- **Networking principle**
- **COMPONENTS OF COMPUTER NETWORK**
- **NETWORK BENEFITS**
- **DISDAVATAGES OF NETWORKS**
- **CLASSIFICATION OF AREA BY THEIR GEOGRAPHY**

● What Is Networking?

- *Networking is the exchange of information and ideas among people with a common profession or special interest*
- *The term **computer networking** refers to linking multiple devices so that they can readily share information and software resources.*

Networking principle

- Good network design should create a user experience that the network is transparent, resilient and ubiquitous, with the right balance of quality, speed, security, control and cost. These principles help designers deliver this experience for their users when designing networks.



APPLICATIONS:

- Sharing of resources such as printers
- Sharing of expensive software's and database
- Communication from one computer to another computer
- Exchange of data and information among users via network
- Sharing of information over geographically wide areas



COMPONENTS OF COMPUTER NETWORK

- Two or more computers
- □ Cables as links between the computers
- □ A network interfacing card(NIC) on each computer
- □ Switches
- □ Software called operating system(OS)

NETWORK BENEFITS

- □ The network provided to the users can be divided into two categories:
 - i. Sharing
 - ii. Connectivity

BENEFITS OF COMPUTER NETWORK



● o Increased speed

o Reduced cost

● o Improved security

o Centralized software managements

● o Electronic mail

o Flexible access

DISADVANTAGES OF NETWORKS



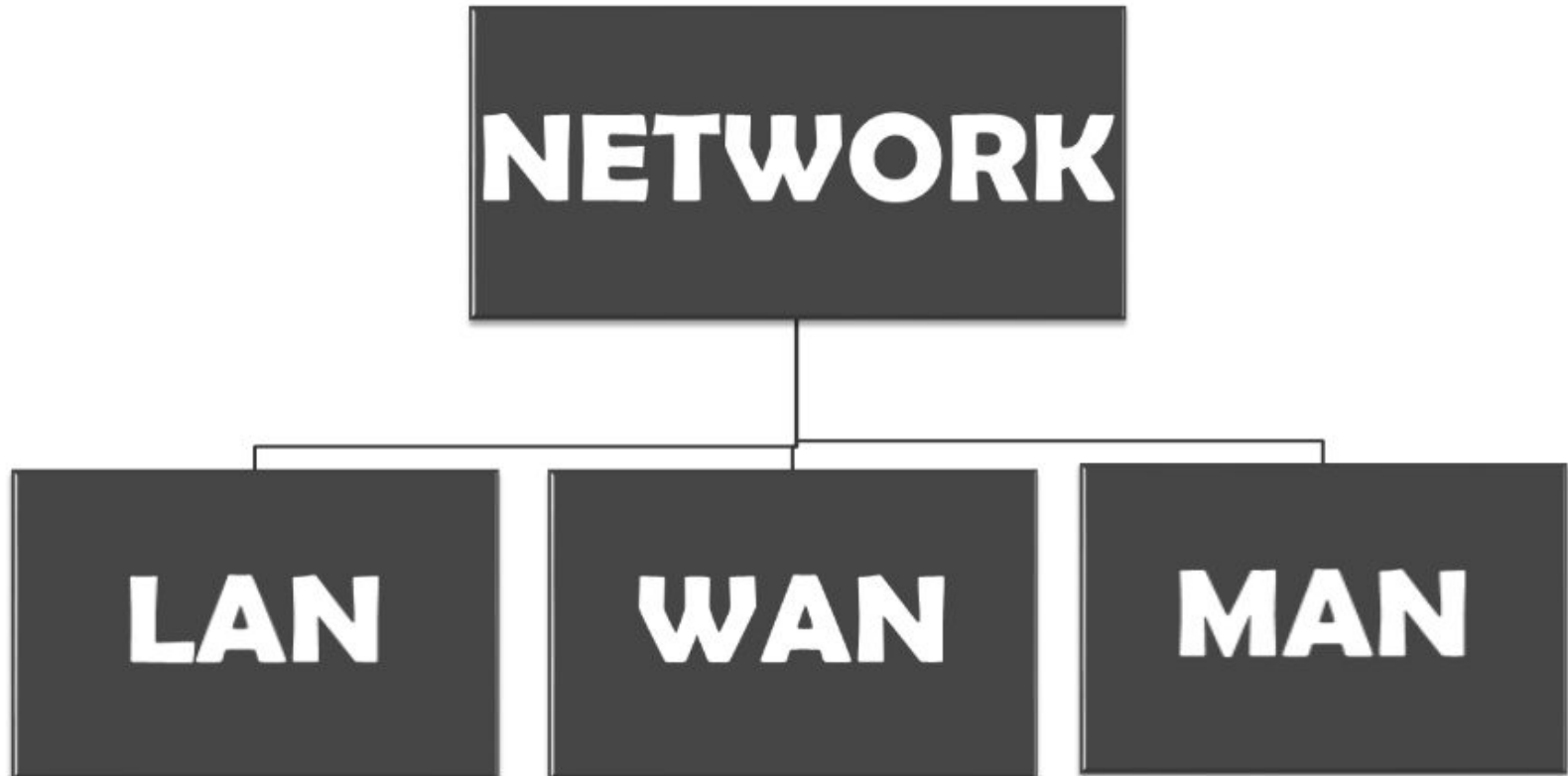
- o High cost of installation
- o Requires time for administration
- o Failure of server
- o Cable faults

SHARING RESOURCES

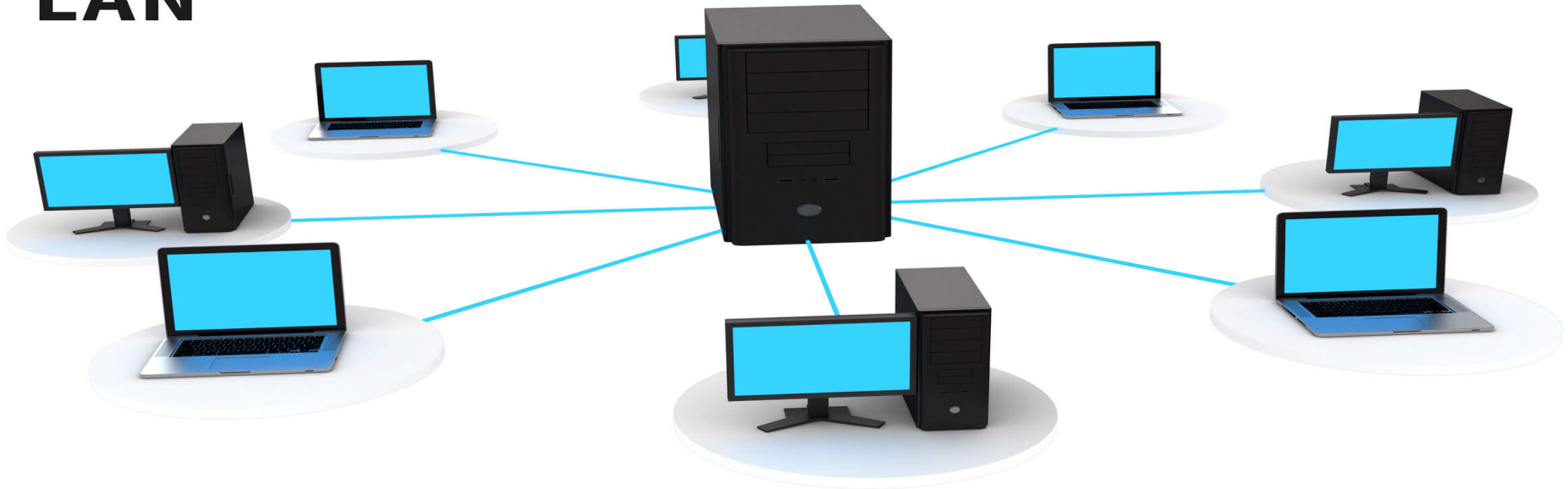
Types of resources are:

- 1. **Hardware:** A network allows users to share many hardware devices such as printers , modems, fax machines, CD ROM, players, etc.
- 2. **Software:** sharing software resources reduces the cost of software installation, saves space on hard disk.

CLASSIFICATION OF AREA BY THEIR GEOGRAPHY

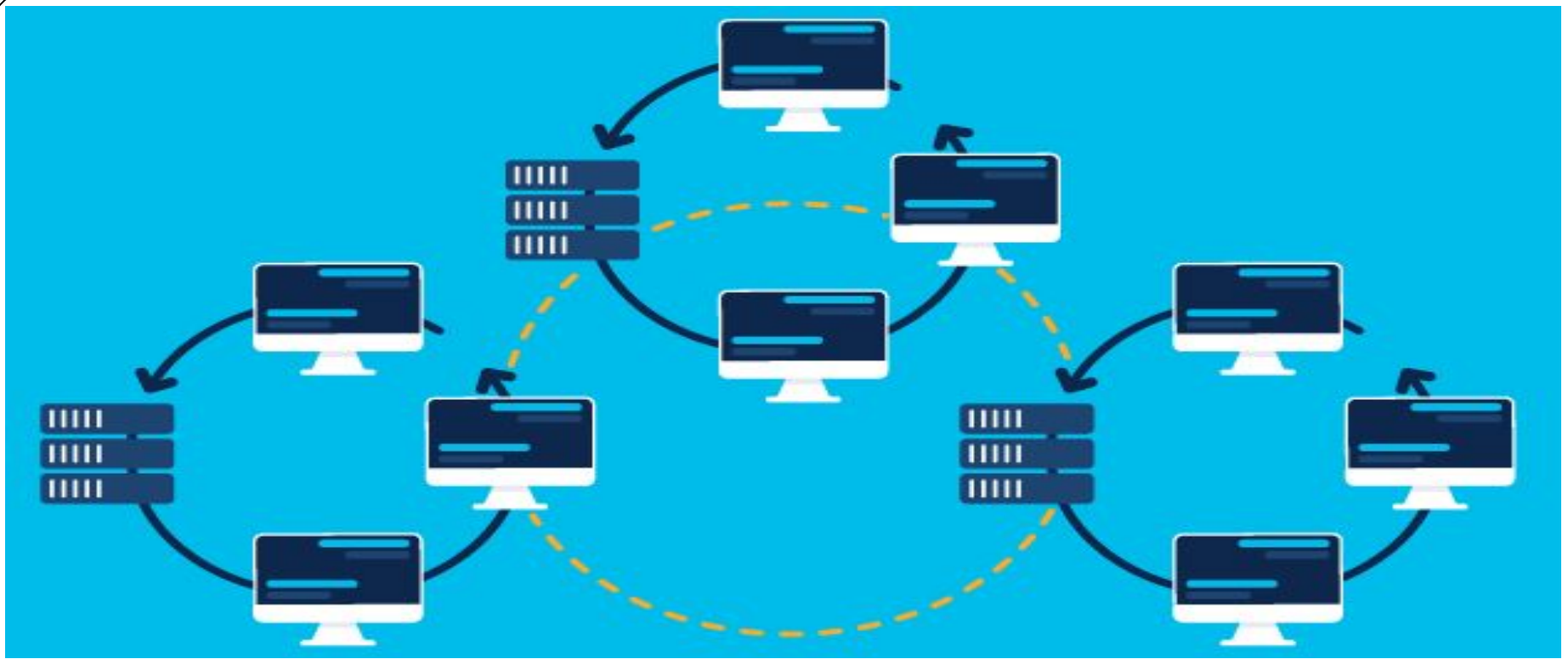


LAN



TechTerms.com

- **LAN is a network which is designed to operate over a small physical area such as an office, factory or a group of buildings.**
- **In LAN all machines are connected to a single cable.**
- **Exchange of information and sharing of resources becomes easy because of LAN.**
- **It is usually a privately owned network.**



- When network spans over a large distance or when the computers to be connected to each other are at widely separated locations . A wide area network(WAN) is installed.
- Most WAN networks are used to transfer large blocks of data between its users.



MAN

**METROPOLITAN
AREA
NETWORK**



- It is in between LAN & WAN technology that covers the entire city.
- It uses similar technology as LAN.
- It can be a measure of connecting a number of LAN's o a large network so that resources can be shared LAN to LAN

Next lecture

Steps to Better Security

THANKS FOR YOUR LISTENING!