

University of Diyala

# **Telecom Switching Systems**

## **Lecture 9**

4th Stage

Communication department / Engineering collage

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# Basics of a Switching System

There are different components and terms used in switching systems.

## Inlets and Outlets

- The set of input circuits of an exchange are called **Inlets** and they are indicated by **N**.
- The set of output circuits are called the **Outlets** and they are indicated by **M**.

The primary function of a switching system is to establish an electrical path between a given inlet-outlet pair. So, a switching network has **N** inlets and **M** outlets.

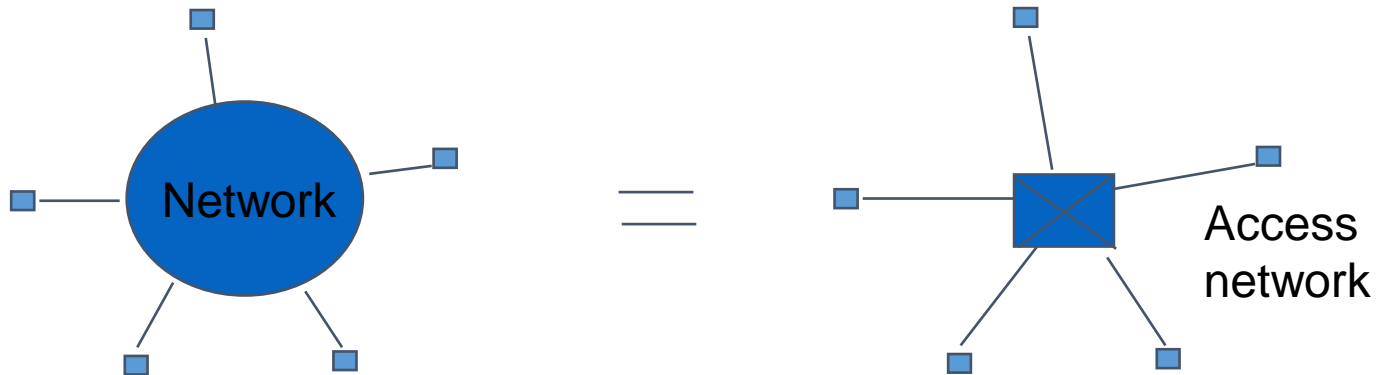
# Switching Matrix

The hardware used to establish connection between inlets and outlets is called the **Switching Matrix** or the **Switching Network**.

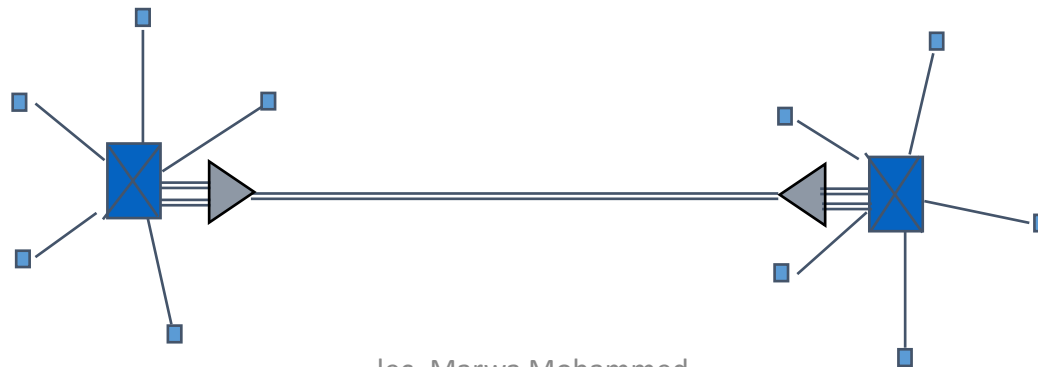
This switching network is the group of connections formed in the process of connecting inlets and outlets.

# How a network grows

(a) A switch provides the network to a cluster of users, e.g., a telephone switch connects a local community

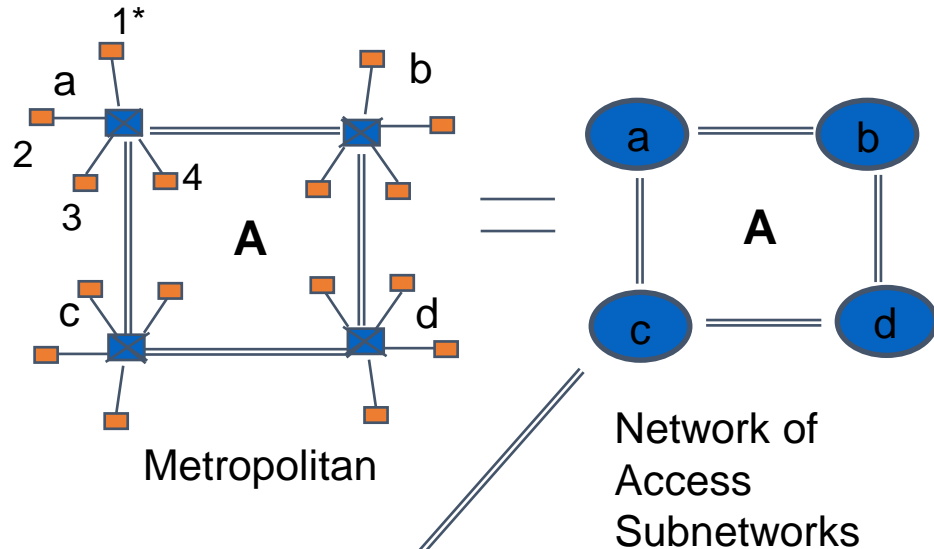


(b) A multiplexer connects two access networks, e.g., a high speed line connects two switches



# A Network Keeps Growing

(a) Metropolitan network **A** viewed as Network **A** of Access Subnetworks



(b) National network viewed as Network of Regional Subnetworks (including **A**)

Very high-speed lines

