

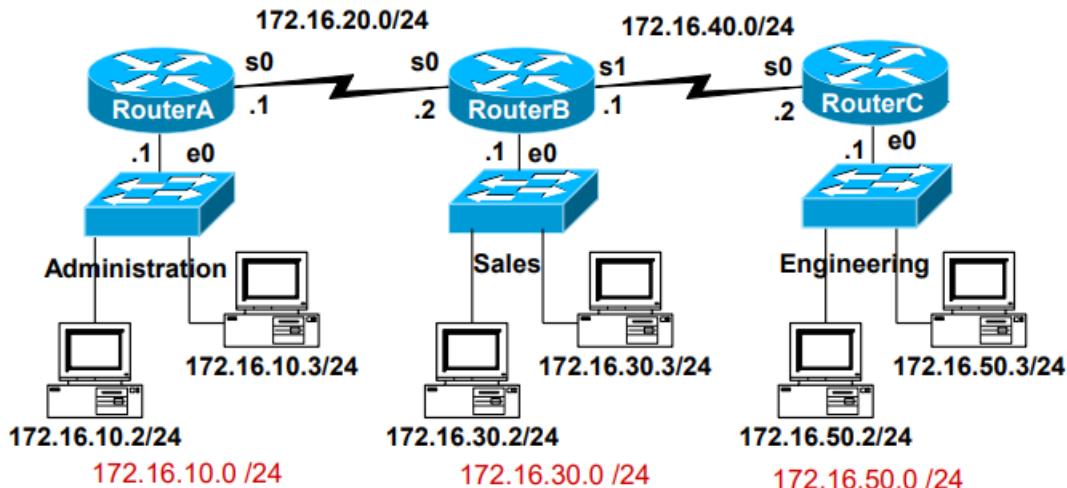


Computer Engineering Department  
Computer Networks 2 (10636455)  
Access Lists – Assignment 1  
Fall 2025-26

**Description:**

In this assignment you will write Access Lists for the Network Shown In the Following Figure. You will also answer some questions related to Networking and Access Lists.

**Important Note:** Part1 and Part2 are NOT relate



**Part 1:**

1. Write Named Standard Access List with the name “**RouterBP1**” for Router B to achieve the following:

- a. For traffic coming from the **Engineering** network and going to the **Sales**
- Allow hosts in the range **172.16.50.64 ---- 172.16.50.127** with the following exceptions

Deny hosts in the range **172.16.50.80 – 172.16.50.95** except hosts **172.16.50.90, 172.16.50.91** which should be allowed.

- Allow hosts in the range **172.16.50.16 – 172.16.50.31**, except **172.16.50.20** which should be denied
  - Deny all other hosts in the remaining range **172.16.50.0 --- 172.16.50.127**
  - Remaining hosts Engineering should be **allowed** except hosts in the range **172.16.50.224---172.16.50.231** which should be **denied**
- b. For traffic coming from the **Administration** network and going to the **Sales Network**
- Deny the traffic from hosts that can be described **172.16.10.32/27** except the host **172.16.10.38** which should be **allowed**
  - Deny the traffic from **172.16.10.128/25** with the exception of the sub-range **172.16.10.192 /29** which should be allowed
  - All other traffic from **Sales** should be **allowed**.
- c. Traffic going from Administration to Engineering and vice versa should NOT be affected

2. Assign the Standard List written in 1 to the correct interface (or interfaces) at Router B  
Explain why do we have to put it at this/these interface(s)

### Part 2:

1. Write Named Extended Access List for **Router A** with the Name "**RouterAP2**" to control the Traffic coming from **Sales** and **Engineering** going to **Administration**.

Assign the List to Router A to the Best Interface

#### **UDP:**

- Allow UDP traffic from **172.16.30.0 –172.16.30.63** in Sales network except host **172.16.30.40** if the destination is in the range **172.16.10.8 – 172.16.10.16** (inclusive). Pay attention to the host **172.16.10.16**
- Allow UDP from the net **172.16.50.0/25** to any destination if the **source port** number is greater than or equal to 5000
- DNS traffic coming from either Sales or Engineering should be allowed if the destination is the DNS server **172.16.10.8**
- All other UDP traffic from Sales or Engineering should be denied.

#### **TCP:**

- Allow Only **Secured WEB** from any source if the destination is the Web Server **172.16.10.2**. Unsecured web should be denied.
- Deny TCP from the hosts from either **172.16.30.0/24** or **172.16.50.0/24** if the destination is in the range **172.16.10.0/26**.
- Allow **email** from the Engineering Network if the destination is the email server **172.16.10.7** But deny it if it is from sales network
- Allow other TCP traffic from Sales or Engineering

#### **ICMP:**

Allow **ICMP** traffic from Sales and Engineering to any destination

Deny any other traffic from **Sales** and **Engineering**

## 2. Improving the performance of the whole Network

To improve the performance, we will control the traffic going to the Administration from Sales or from Engineering at the sources.

- Rewrite the List that you wrote in **1 of Part 2** and split to **two lists**. Assign one list to **Router B** and the other to **Router C**. The two Lists should satisfy all what is described in item 1 of Part2.
- The List at Router B should control the traffic from Sales going to Administration.
- The List at Router C should control the traffic from Engineering going to Administration
- Add to the list at Router B a statement that allows any traffic from Sales to Engineering
- **Add to the list at Router C a statement that allows any traffic from Engineering to sales**
- Assign the List at Router B to the Best Interface. Also, the List at Router C to the Best Interface.

### Important Notes:

1. You can work in groups of **2 or 1**.
2. **Each Partner must submit the assignment. If one partner submits and the other does not submit, the one does not submit will get zero grade.**