



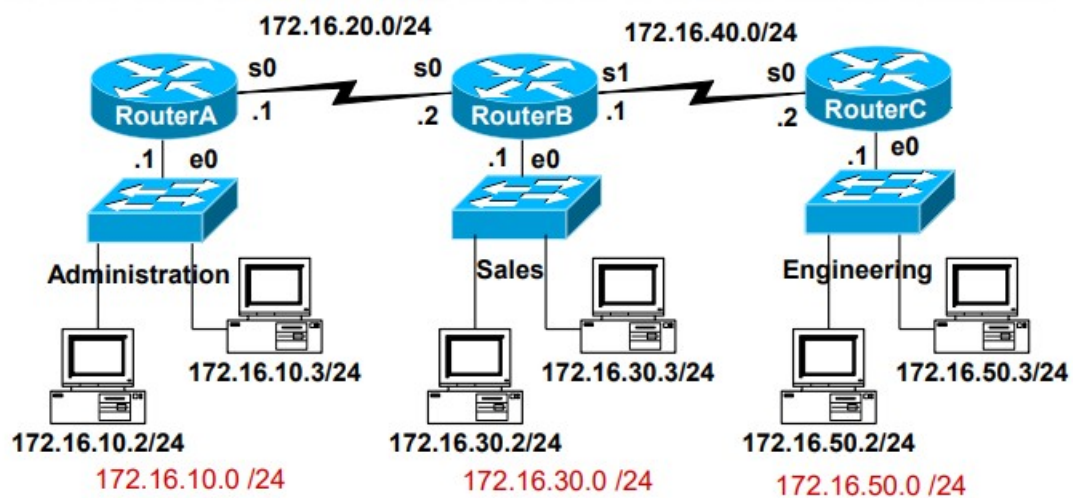
Computer Engineering Department
Computer Networks 2 (10636455)
Access Lists – Assignment 1
Summer 2024

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 related



Part 1:

Suppose that **Router C** is an old Router and supports only **Standard Access Lists**.

1. Write a standard Access List for Router C to achieve the following:

a. For traffic coming from **Administration** network and going to **Engineering** Network

- **Allow** hosts in the range **172.16.10.64 ---- 172.16.10.127** with the following exceptions
 Deny hosts in the range **172.16.10.80 – 172.16.10.95** except host **172.16.10.87** which should be allowed.
- **Allow** hosts in the range **172.16.10.32 – 172.16.10.47**, except hosts **172.16.10.40** and **172.16.10.41** which should be denied
- Remaining hosts in **Administration** should be allowed except hosts **172.16.10.2**, **172.16.10.3** which should be denied

b. Traffic going from **Sales** to **Engineering** should be allowed Except from the range in Sales described by 172.16.30.192/28.

2. Assign the Standard List written in 1 to the best interface at Router C.

And explain why do we have to put it at this interface

Part 2:

1. Write Named Extended Access List for Router B to control the Traffic coming from Engineering and Administration going to Sales
Assign the List to Router B to the Best Interface

UDP:

- **Allow** UDP traffic from **172.16.50.0 –172.16.50.15** in Engineering network except host **172.16.50.9** if the destination is in the range **172.16.30.8 – 172.16.30.16** (inclusive).
- Allow UDP from the net **172.16.10.0/25** to any destination if the port number is greater than or equal **2600**
- All other UDP traffic from **Administration or Engineering** should be denied.

TCP:

- Allow WEB from any source if the destination is the **Web server 172.16.30.5**.

- **Deny** TCP from the hosts from either **172.16.50.0/24** or **172.16.10.0/24** if the destination is in the range **172.16.30.128/26**.
- Allow **FTP** from the **Administration** Network if the destination is the **FTP** server **172.16.30.2** But deny it from Engineering network
- Allow other TCP traffic from Administration or Engineering

ICMP:

Allow ICMP traffic from Administration only to Any Destination.

Deny any other traffic from Administration or Engineering to Sales

2. Improving the performance of the whole Network

To improve the performance, we will control the traffic from [Administration](#) and [Engineering](#) at the sources.

- Rewrite the List that you wrote in part 1 *as two lists* and assign each list to **Router A** and **Router C**. The **two** Lists should satisfy all what is described in 1.
- The List at Router **A** should control the traffic from Administration going to Sales.
- The List at Router **C** should control the traffic from Engineering going to Sales
- Add to the list at Router A a statement to allow any traffic from Administration to Engineering. Similarly Add to Router C a statement to allow traffic from Engineering to [Administration](#).
- Assign the List at **Router A** to the Best Interface. Also, the List at **Router C** to the Best Interface.

Notes: You can work in groups of 2 or 1.