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Objectives

1. Establish and configure two (2) sub-networks serving across the Silang Bldg. and the Otto Hahn Bldg. connected by a Fiber Optic cable.
2. Configure connectivity between the different offices and laboratories located in the buildings.
   a. S428 – Silang Bldg.
   b. S422 – Silang Bldg.
   c. S421 – Silang Bldg
   d. SAS Dean's Office – Silang Bldg.
   e. SAS Faculty Room – Silang Bldg.
   f. H421 – Hahn Bldg.
   g. H521 – Hahn Bldg.
   h. SEA Dean's Office – Hahn Bldg.
   i. SEA Faculty Room – Hahn Bldg.
3. Configure and verify basic device configurations
4. Verify end-to-end connectivity

Equipment

- Two 2811 Routers - one for each subnet. Let us call them Silang and Hahn subnetworks.
- An NM-1FE-FX Module for fiber optic connectivity between the routers.
- Two 2950-24 Switches
- Nine PC – PT devices to illustrate the different rooms or laboratories

Task 1. Configure the routers with the following simple IP plan.

1. Silang Network: 192.168.0.0 255.255.255.0
   Router: Silang, Fa0/0, IP 192.168.0.254 Mask: 255.255.255.0
   PC-A1, IP: 192.168.0.1 Mask: 255.255.255.0, Gateway: 192.168.0.254
   PC-A2, IP: 192.168.0.2 Mask: 255.255.255.0, Gateway: 192.168.0.254
   PC-A3, IP: 192.168.0.3 Mask: 255.255.255.0, Gateway: 192.168.0.254
   PC-A4, IP: 192.168.0.4 Mask: 255.255.255.0, Gateway: 192.168.0.254
   PC-A5, IP: 192.168.0.5 Mask: 255.255.255.0, Gateway: 192.168.0.254

2. Hahn Network: 192.168.1.0 255.255.255.0
   Router: Hahn, Fa0/0, IP 192.168.1.254 Mask: 255.255.255.0
   PC-B1, IP: 192.168.1.1 Mask: 255.255.255.0, Gateway: 192.168.1.254
   PC-B2, IP: 192.168.1.2 Mask: 255.255.255.0, Gateway: 192.168.1.254

PC-B3, IP: 192.168.1.3 Mask: 255.255.255.0, Gateway: 192.168.1.254

PC-B4, IP: 192.168.1.4 Mask: 255.255.255.0, Gateway: 192.168.1.254

3. Routers-Link Network, connected by the fiber optic: 192.168.3.0 255.255.255.0

Silang, Fa1/0, IP 192.168.3.254 Mask: 255.255.255.0

Hahn, Fa1/0, IP 192.168.3.253 Mask: 255.255.255.0

Silang Router's Configuration

Fa0/0

- Router>enable
- Router#configure terminal
- Router(config)#hostname Silang
- Silang(config)#interface Fa0/0
- Silang(config-if)#ip address 192.168.0.254 255.255.255.0
- Silang(config-if)#no shutdown
- Silang(config-if)#exit
- Silang(config)#exit
- Silang#copy run start
- Destination filename [startup-config]?
- Building configuration…
- [OK]
- Silang#

Fa1/0

- Silang#configure terminal
- Silang(config)#interface Fa1/0
- Silang(config-if)#ip address 192.168.3.254 255.255.255.0
- Silang(config-if)#no shutdown
- Silang(config-if)#exit
- Silang(config)#exit
- Silang#copy run start
- Destination filename [startup-config]?
- Building configuration…
- [OK]
- Silang#

Task 2. Configure Hahn's Fa0/0 and Fa1/0 interfaces based on the IP plan discussed above.

Task 3. Configure a routing protocol such as RIP (Routing Information Protocol) on Hahn.

- Hahn>enable
- Hahn#conf ter
- Enter configuration commands, one per line. End with CNTL/Z.
- Hahn(config)#router rip
- Hahn(config-router)#version 2
- Hahn(config-router)#network 192.168.1.0
- Hahn(config-router)#network 192.168.3.0
- Hahn(config-router)#exit

- Hahn(config)#exit
- %SYS-5-CONFIG_I: Configured from console by console
- Hahn#copy run start
- Destination filename [startup-config]?
- Building configuration…
- [OK]
- Hahn#

Task 4. Likewise, configure a routing protocol on Silang.

Task 5. Verify connectivity between the different routers and PC.

Task 6. Perform a ping using the table below:

Source	Destination	Result
PC-A1	PC-A2	
PC-A1	PC-A3	
PC-A1	PC-A4	
PC-A1	PC-A5	
PC-A1	PC-B1	
PC-B1	PC-A5	
PC-B3	PC-A3	
Silang Router	Hahn Router	

Task 7. Save the Topology

- Format : <Lastname_Class code>_Laboratory 13
- *Make sure to strictly follow the naming convention*
- *For students with the same Lastname, kindly use the format: <LastnameInitial_Class code>_Laboratory 13*

Task 8: Upload your exercise file.

- Use a cloud storage service, upload your file. We will be collecting activity files per Term.

Task 9: Kindly write down your configuration for each PC-PT

Host	Gateway	MAC Address	IP Address	Subnet Mask
PC-A1				
PC-A2				
PC-A3				
PC-A4				
PC-A5				
PC-B1				
PC-B2				
PC-B3				
PC-B4				