Computer Networking Project (CSE421)
Group ID:609

Topic:06 (**The Northern War**)

Section:06

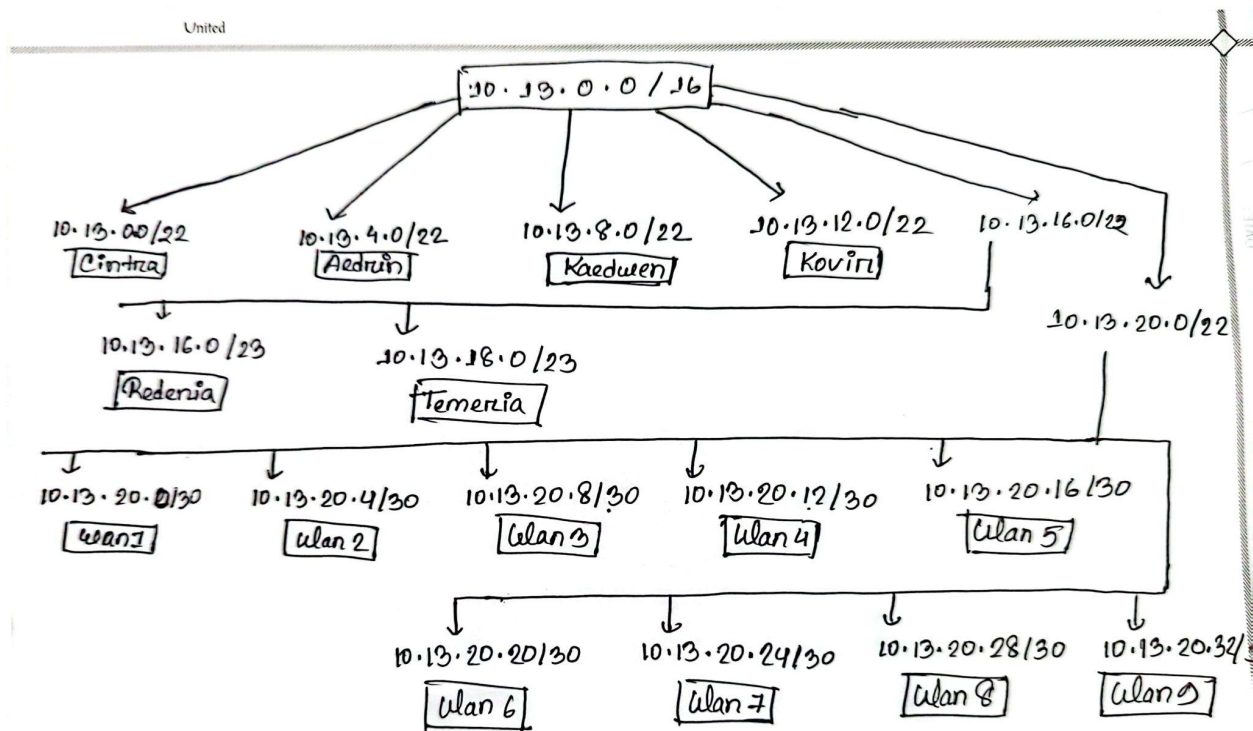| Name	ID
MD. Shafiul Alam	20301262
Shaira Wajiha	19301018
ASM Tareq Mahmood	20101073
Abdullah Al Fahim	18201099
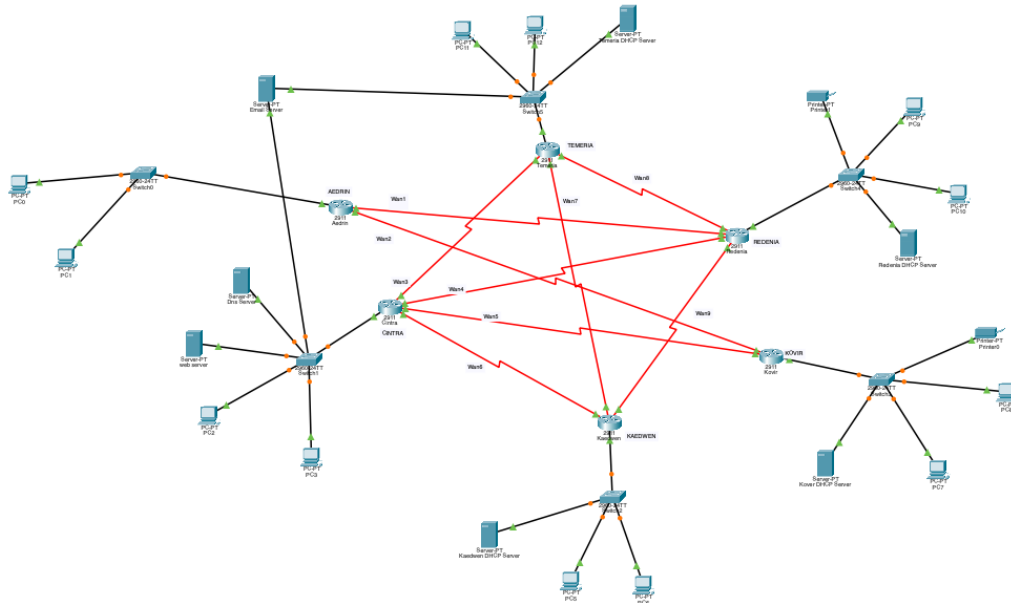
IP: 10.13.67.132/16
Network address: 10.13.0.0/16
Musk:255.255.0.0

Subnet Name	Needed Size	Allocated Size	Address	Mask	Dec Mask	Assignable Range	Broadcast
Cintra	1000	1022	10.13.0.0	/22	255.255.252.0	10.13.0.1 - 10.13.3.254	10.13.3.255
Aedrin	800	1022	10.13.4.0	/22	255.255.252.0	10.13.4.1 - 10.13.7.254	10.13.7.255
Kaedwen	784	1022	10.13.8.0	/22	255.255.252.0	10.13.8.1 - 10.13.11.254	10.13.11.255
Kovir	519	1022	10.13.12.0	/22	255.255.252.0	10.13.12.1 - 10.13.15.254	10.13.15.255
Redenia	401	510	10.13.16.0	/23	255.255.254.0	10.13.16.1 - 10.13.17.254	10.13.17.255
Temeria	302	510	10.13.18.0	/23	255.255.254.0	10.13.18.1 - 10.13.19.254	10.13.19.255

Device	Interface	IPv4 address	Subnet mask	

Cintra	g0/0 s0/0/0 s0/0/1 s0/1/0 s0/1/1	10.13.0.1 10.13.20.13 10.13.20.17 10.13.20.21 10.13.20.9	255.255.252.0 255.255.255.252 255.255.255.252 255.255.255.252 255.255.255.252	
Aedrin	g0/0 s0/0/0 s0/0/1	10.13.4.1 10.13.20.5 10.13.20.1	255.255.252.0 255.255.255.252 255.255.255.252	
Kaedwen	g0/0 s0/0/0 s0/0/1 s0/1/0	10.13.8.1 10.13.20.34 10.13.20.22 10.13.20.26	255.255.252.0 255.255.255.252 255.255.255.252 255.255.255.252	
Kovir	g0/0 s0/0/0 s0/0/1	10.13.12.1 10.13.20.18 10.13.20.6	255.255.252.0 255.255.255.252 255.255.255.252	
Redenia	g0/0 s0/0/0 s0/0/1 s0/1/0 s0/1/1	10.13.16.1 10.13.20.2 10.13.20.14 10.13.20.33 10.13.20.30	255.255.254.0 255.255.255.252 255.255.255.252 255.255.255.252 255.255.255.252	
Temeria	g0/0 s0/0/0 s0/0/1 s0/1/0	10.13.18.1 10.13.20.29 10.13.20.10 10.13.20.25	255.255.254.0 255.255.255.252 255.255.255.252 255.255.255.252	

VLSM TREE :

United

10.13.0.0/16

10.13.0.0/22 [Cintra]   10.13.4.0/22 [Aedrin]   10.13.8.0/22 [Kaedwen]   10.13.12.0/22 [Koviri]   10.13.16.0/22

10.13.20.0/22

10.13.16.0/23 [Redenia]   10.13.18.0/23 [Temeria]

10.13.20.0/30 [wan1]   10.13.20.4/30 [Wan 2]   10.13.20.8/30 [Wlan 3]   10.13.20.12/30 [Wlan 4]   10.13.20.16/30 [Wlan 5]

10.13.20.20/30 [Wlan 6]   10.13.20.24/30 [Wlan 7]   10.13.20.28/30 [Wlan 8]   10.13.20.32/ [Wlan 9]

Aedrin

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 10.13.20.1 255.255.255.0
Router(config-if)#ip address 10.13.20.1 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#no ip address
Router(config-if)#ip address 10.13.20.5 255.255.255.252
Router(config-if)#ip address 10.13.20.5 255.255.255.252
Router(config-if)#exit
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.4.1 255.255.255.252
Router(config-if)#ip helper-address 10.13.16.3
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#router rip
```

```
Router(config-router)#version 2
Router(config-router)#passive-interface g0/0
Router(config-router)#network 10.13.20.0
Router(config-router)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
Router#

Router#en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.4.1 255.255.255.252
Router(config-if)#ip helper-address 10.13.12.3
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#roter rip
            ^
% Invalid input detected at '^' marker.

Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#passive-interface g0/0
Router(config-router)#network 10.13.20.4
Router(config-router)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
Router#en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.4.1 255.255.255.252
Router(config-if)#ip helper-address 10.13.16.1
Router(config-if)#ip address 10.13.4.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.16.1
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.4.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.12.1
Router(config-if)#no shutdown
```

```
Router(config-if)#exit
Router(config)#
```

Cintra

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/1/1
Router(config-if)#ip address 10.13.20.9 255.255.255.0
Router(config-if)#ip address 10.13.20.9 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#no ip address
Router(config-if)#ip address 10.13.20.13 255.255.255.252
Router(config-if)#ip address 10.13.20.13 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#no ip address
Router(config-if)#ip address 10.13.20.17 255.255.255.252
Router(config-if)#ip address 10.13.20.17 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#no ip address
Router(config-if)#ip address 10.13.20.21 255.255.255.252
Router(config-if)#ip address 10.13.20.21 255.255.255.252
Router(config-if)#exit
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.0.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.18.3
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.0.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.16.3
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.0.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.12.3
Router(config-if)#no shutdown
Router(config-if)#exit
```

```
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.0.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.8.3
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#passive-interface g0/0
Router(config-router)#no auto-summary
Router(config-router)#network 10.13.20.8
Router(config-router)#network 10.13.20.12
Router(config-router)#network 10.13.20.16
Router(config-router)#network 10.13.20.20
Router(config-router)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
run copy start
        ^


Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 10.13.20.21 255.255.255.252
Router(config-if)#
```

Redenia

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0
Router(config-if)#

Router>enable
```

```
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/1
Router(config-if)#no ip address
Router(config-if)#ip address 10.13.20.14 255.255.255.252
Router(config-if)#ip address 10.13.20.14 255.255.255.252
Router(config-if)#

Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 10.13.0.1 255.255.252.0 s0/0/1
%Default route without gateway, if not a point-to-point interface, may impact performance
%Inconsistent address and mask
Router(config)#
Router(config)#interface Serial0/1/1
Router(config-if)#ip address 30.30.20.9 255.255.255.252
Router(config-if)#ip address 10.13.20.30 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 20.20.30.9 255.255.0.0
Router(config-if)#ip address 20.20.30.9 255.255.255.252
Router(config-if)#ip address 10.13.20.33 255.255.255.252
Router(config-if)#exit
Router(config)#ip route 10.13.18.0 255.255.254.0 s0/1/1
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#ip router 10.13.8.0 255.255.252.0 s0/1/0
                    ^
% Invalid input detected at '^' marker.

Router(config)#ip route 10.13.8.0 255.255.252.0 s0/1/0
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#ip route 10.13.0.0 255.255.252.0 s0/0/1
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#ip route 10.13.4.0 255.255.252.0 s0/0/0
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#

Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.16.1 255.255.254.0
Router(config-if)#ip helper-address 10.13.18.3
Router(config-if)#no shutdown
Router(config-if)#exit
```

```
Router(config)#
Router(config)#interface Serial0/1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
```

Kaedwen

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 30.30.40.13 255.255.255.252
Router(config-if)#ip address 10.13.20.22 255.255.255.252
Router(config-if)#

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 20.20.30.13 255.255.255.252
Router(config-if)#ip address 10.13.20.26 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 40.40.30.13 255.255.255.252
Router(config-if)#ip address 10.13.20.34 255.255.255.252
Router(config-if)#exit
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.8.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.20.21
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.8.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.18.3
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.8.1 255.255.252.0
Router(config-if)#ip helper-address 10.13.16.3
Router(config-if)#no shutdown
Router(config-if)#exit
```

```
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#passive-interface g0/0
Router(config-router)#no auto-summary
Router(config-router)#network 10.13.20.20
Router(config-router)#network 10.13.20.24
Router(config-router)#network 10.13.20.32
Router(config-router)#end
Router#
%SYS-5-CONFIG_I: Configured from console by console
copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
```

Temeria

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 10.13.20.10 255.255.255.0
Router(config-if)#ip address 10.13.20.10 255.255.255.252
Router(config-if)#

Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 10.13.0.1 255.255.252.0 s0/0/1
%Default route without gateway, if not a point-to-point interface, may impact performance
%Inconsistent address and mask
Router(config)#
Router(config)#interface Serial0/0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#no ip address
Router(config-if)#ip address  255.255.255.252
% Incomplete command.
Router(config-if)#ip address 10.13.20.25 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#ip address
% Incomplete command.
Router(config-if)#ip address  255.255.255.252
```

```
% Incomplete command.
Router(config-if)#no ip address
Router(config-if)#ip address  255.255.255.252
% Incomplete command.
Router(config-if)#ip address 10.13.20.29 255.255.255.252
Router(config-if)#exit
Router(config)#ip route 10.13.8.0 255.255.255.252 s0/1/0
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#ip route 10.13.16.0 255.255.254.0 s0/0/0
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#ip route 10.13.0.0  255.255.252.0 s0/0/1
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#

Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface g0/0
Router(config-if)#ip address 10.13.18.1 255.255.254.0
Router(config-if)#ip helper-address 10.13.16.3
Router(config-if)#no shutdown
Router(config-if)#exit
Router(config)#
Router(config)#interface Serial0/1/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 40.40.30.11 255.255.0.0
Router(config-if)#no ip address
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#ip address
% Incomplete command.
Router(config-if)#ip address
% Incomplete command.
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address  255.255.255.252
% Incomplete command.
Router(config-if)#ip address 10.13.20.29 255.255.255.252
Router(config-if)#
```

Kovir

```
Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 10.13.4.0 255.255.252.0 s0/0/1
%Default route without gateway, if not a point-to-point interface, may impact performance
Router(config)#
Router(config)#interface Serial0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 10.13.20.6 255.255.255.0
Router(config-if)#ip address 10.13.20.6 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface GigabitEthernet0/2
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#

Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 40.40.30.5 255.255.0.0
Router(config-if)#ip address 40.40.30.5 255.255.255.252
Router(config-if)#ip address 10.13.20.18 255.255.255.252
Router(config-if)#

Router>en
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 10.13.0.1 255.255.252.0 s0/0/0
%Default route without gateway, if not a point-to-point interface, may impact performance
```

```
%Inconsistent address and mask
Router(config)#
```