

Refo Yudhanto

CS455

HW3

Chap 3

P1.a. H3 are forwarded through interface 3 so forwarding table will look like:

Destination	Interface
H3	Interface 3

b. Router A will only have 1 forwarding rule, so having 2 different route is not possible. So, router A can only have run through interface 3 or interface 4, but not both.

P5. A.

Prefix	Link Interface
11100000 00	0
11100000 01000000	1
1110000	2
otherwise	3

B.1st address = link interface 3

2nd address = link interface 2

3rd address = link interface 3

P8.

Subnet 2: 90 interface = 7bits w/128 addresses prefix=32-7=25 = 223.1.17.0-127/25

Subnet 1: 60 interface = 6 bits w/ 64 addresses prefix=32-6=26 = 223.1.17.128-191/26

Subnet 3: 12 interface = 4bits w/ 16 addresses prefix=32-4=28 = 223.1.17.192-207/28

P10.

Prefix	Link Interface
224.0.0.0/10	0
224.64.0.0/16	1
224.0.0.0/8	2
otherwise	3

P13.

WSU: Net Range = 216.186.59.128 - 216.186.59.255, CIDR = 216.186.59.128/25

UofI: Net Range = 129.101.0.0-129.101.255.255, CIDR = 129.101.0.0/16

IP Address	Country Code	Location	Postal Code	Approximate Coordinates*	Accuracy Radius (km)	ISP	Organization	
216.186.59.128	US	United States, North America		37.751, -97.822	1000	Washington State K-20 Telecommunications Network	Washington State K-20 Telecommunications Network	

IP Address	Country Code	Location	Postal Code	Approximate Coordinates*	Accuracy Radius (km)	ISP	Organization	Domain	Metro Code
129.101.119.250	US	Moscow, Idaho, United States, North America	83844	46.7324, -117.0002	5	University of Idaho	University of Idaho		881

Whols does not show geographical location, but you use maxmind to find it.

P16. A. Home = 192.168.1.1-3 and router = 192.168.1.4

B.

NAT translation table:

Global	Local
24.34.112.235, 4000	192.168.1.1, 3345
24.34.112.235, 4001	192.168.1.1, 3346
24.34.112.235, 4002	192.168.1.2, 3445
24.34.112.235, 4003	192.168.1.2, 3446
24.34.112.235, 4004	192.168.1.3, 3545
24.34.112.235, 4005	192.168.1.3, 3546

P22.

a)h1 and h6 to h3/h4

Source IP	Destination IP	Source Host	Destination Host	Interface	Action
10.1.0.2	Any	H2	any	Any	Block
10.3.0.5	any	H5	Any	Any	Block
10.1.0.1	10.2.0.3	H1	H3	2	Forwarded
10.1.0.1	10.2.0.4	H1	H4	2	Forwarded
10.3.0.6	10.2.0.3	H6	H3	1	Forwarded
10.3.0.6	10.2.0.4	H6	H4	1	Forwarded

b) only tcp allowed for h3 or h4, UDP blocked

				Protocol	
Any	10.2.0.3	Any	H3	TCP	Forwarded
Any	10.2.0.4	Any	H4	TCP	Forwarded
any	Any except both	any	Any except both	UDP	Block

c)only traffic for h3 is delivered, h4 is blocked

Any	10.2.0.3	any	H3	any	Forwarded
Any	10.2.0.4	any	H4	any	Block

d)only UDP from h1 to h3 is delivered, all other is blocked

10.1.0.1	10.2.0.3	H1	H3	UDP	Forwarded
Any except	Any except	Any except	Any except	Any except	Blocked

Chapter 5

P3.

Step	N'	D(t),p(t)	D(u),p(u)	D(v),p(v)	D(w),p(w)	D(y),p(y)	D(z),p(z)
0	X	∞	∞	3,x	6,x	6,x	8,x
1	Xv	7,v	6,v	3,x	6,x	6,x	8,x
2	Xvu	7,v	6,v	3,x	6,x	6,x	8,x
3	Xvuuv	7,v	6,v	3,x	6,x	6,x	8,x
4	Xvuuvy	7,v	6,v	3,x	6,x	6,x	8,x
5	Xvuuvyt	7,v	6,v	3,x	6,x	6,x	8,x
6	xvuuvytz	7,v	6,v	3,x	6,x	6,x	8,x

P12. BGP uses AS routing protocol. AS have 2 useful attributes which is AS-PATH and NEXT-HOP. Detection of loops in path is detected by using AS-PATH attribute.

P14.a. eBGP

b. iBGP

c. eBGP

d. iBGP

P.15. a. value of I will be equal to I1 for this matter since I1 is the least cost path with 2 hops from router 1d to 1c.

b. For this matter, I will be set to I2 as both have the same AS-PATH length but I2 has the closest NEXT-HOP router next.

c. I will be equal to I1 as I1 has the shortest AS-PATH.