Subnetting Networks



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Module Goals



Address Type Review
Breaking networks into smaller networks
Variable Length Subnet Masks

Additional Learning



Network IP Address



all binary 0's in host portion

Network IP Address



all binary 0's in host portion

Network IP Address

Broadcast IP Address



all binary 0's in host portion

Network IP Address

Broadcast IP Address

all binary 1's in host portion



all binary 0's in host portion

Network IP Address

Host IP Addresses

Broadcast IP Address

all binary 1's in host portion



10.0.0.0/8



16,777,214 Host Addresses!

10.0.0.0/8

10.0.0.0

255.0.0.0

10.0.0.0/8

10.0.0.0 255.0.0.0

10.0.0.0 - 10.255.255.255



10.0.0.0/8 10.0.0.0 - 10.255.255.255



```
10.0.0.0/8
10.0.0.0 - 10.255.255.255
```



10.0.0.0/8

10.0.0.0 - 10.255.255.255

B 00001010 11111111 1111111 1111111

10.0.0.0/8 10.0.0.0 - 10.255.255.25510.0.10.0

H 00001010 00000000 00001010 00000000

B 00001010 1111111 1111111 1111111

10.0.0.0/8

10.0.0.0 - 10.255.255.25510.0.10.0

H 00001010 00000000 00001010 00000000

B 00001010 11111111 11111111 11111111

10.0.0.0/8

10.0.0.0 - 10.255.255.25510.0.10.0

H 00001010 00000000 00001010 00000000



```
10.0.0.0/8
```

```
10.0.0.0 - 10.255.255.255
        10.0.10.0
```

/24

- N 00001010 00000000 00001010 00000000

```
10.0.0.0/8
```

```
10.0.0.0 - 10.255.255.255
```

10.0.10.0 /24

N 00001010 00000000 00001010 00000000



10.0.0.0 - 10.255.255.25510.0.10.0 /24

N 00001010 00000000 00001010 00000000

B 00001010 00000000 00001010 11111111



10.0.0.0 - 10.255.255.255

10.0.10.0 /24

10.0.10.0 - 10.0.10.255

N 00001010 00000000 00001010 00000000

B 00001010 00000000 00001010 11111111



10.0.0.0/8

10.0.0.0 - 10.255.255.255

10.0.10.0 /24

10.0.10.0 - 10.0.10.255



10.0.0.0/8

10.0.0.0 - 10.255.255.255

10.0.10.0 /24

10.0.10.0 - 10.0.10.255



10.0.0.0/8

10.0.0.0 - 10.255.255.255

10.0.10.0 /24

10.0.10.0 - 10.0.10.255



```
10.0.0.0/8
10.0.0.0/24 10.0.10.0/24 10.0.20.0/24
10.0.1.0/24 10.0.11.0/24 10.0.21.0/24
10.0.2.0/24 10.0.12.0/24 10.0.22.0/24
10.0.3.0/24 10.0.13.0/24 10.0.23.0/24
10.0.4.0/24 10.0.14.0/24 10.0.24.0/24
10.0.5.0/24 10.0.15.0/24 10.0.25.0/24
10.0.6.0/24 10.0.16.0/24 10.0.26.0/24
10.0.7.0/24 10.0.17.0/24 10.0.27.0/24
10.0.8.0/24 10.0.18.0/24 10.0.28.0/24
10.0.9.0/24 10.0.19.0/24 10.0.29.0/24
```

10.0.0.0/8		
	10.0.10.0/24	
	10.0.16.0/22	
	10.1.0.0/16	
	10.2.0.0/30	



Variable Length Subnet Masking VLSM

10.0.0.8		
	10.0.10.0/24	
	10.0.16.0/22	
	10.1.0.0/16	
	10.2.0.0/30	

Detailed Subneting

Network Layer Addressing and Subnetting



Summary



Address Type Review
Breaking networks into smaller networks
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Additional Learning

