Some Networking info

Subnetting Class C Addresses

What is the subnet, broadcast address, and valid host range that this host IP address is a part of:

192.168.10.33 = Host address

255.255.255.224 = Subnet mask

First, determine the subnet and broadcast address of this IP address. You can do this by:

1. **256** (maximum amount possible) **– 224** (what you currently have as last 3 digits in subnet mask 255.255.255.224) **= 32**
2. Now start at zero: 0, 32, 64 - the address of 33 falls between the two subnets of 32 and 64 and must be part of the 192.168.10.32 subnet
3. The next subnet is 64, so the broadcast address of the 32 subnet is 63. (Remember that the broadcast address of a subnet is always the number right before the next subnet)
4. The valid host range is 33–62 (the numbers between the subnet and broadcast address)

So, we get:

SUBNET	**192.168.10.32**
BROADCAST ADDRESS	**198.168.10.63**
VALID HOST RANGE	**198.168.10.33 – 198.168.10.62**

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/25

■ 128 mask

■ 1 bit on and 7 bits off (10000000)

■ Block size of 128

■ 2 subnets, each with 126 hosts

/26

■ 192 mask

■ 2 bits on and 6 bits off (11000000)

■ Block size of 64

■ 4 subnets, each with 62 hosts248

/27

■ 224 mask

■ 3 bits on and 5 bits off (11100000)

■ Block size of 32

■ 8 subnets, each with 30 hosts

/28

■ 240 mask

■ 4 bits on and 4 bits off

■ Block size of 16

■ 16 subnets, each with 14 hosts

/29

■ 248 mask

■ 5 bits on and 3 bits off

■ Block size of 8

■ 32 subnets, each with 6 hosts

/30

■ 252 mask

■ 6 bits on and 2 bits off

■ Block size of 4

■ 64 subnets, each with 2 hosts

Regardless of whether you have a Class A, Class B, or Class C address, the /30 mask
will provide you with only two hosts.

This mask is suited for use on point-to-point links.