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Networking Project CS-461

05/06/2020

**Networking Project CS 461**

1. Since we have a class C network from an ISP, which the first octet range is 192-223 and the maximum hosts is 254.

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| --- | --- | --- | --- | --- | --- | --- |
| SL# | Location of Uses | Subnet | Subnet Mask | 1st IP address | Last IP address | Broadcast Address |
| 1 | NY | 193.20.5.0 | 255.255.255.192 | 193.20.5.1 | 193.20.5.62 | 193.20.5.63 |
| 2 | Dallas | 193.20.5.64 | 255.255.255.192 | 193.20.5.65 | 193.20.5.126 | 193.20.5.127 |
| 3 | Los Angeles | 193.20.5.128 | 255.255.255.192 | 193.20.5.129 | 193.20.5.190 | 193.20.5.191 |
| 4 | P2P Connection | 193.20.5.192 | 255.255.255.192 | 193.20.5.193 | 193.20.5.254 | 193.20.5.255 |

Fourth subnet, I broke into four more subnets again.

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| --- | --- | --- | --- | --- | --- | --- |
| SL# | Location of Uses | Subnet | Subnet Mask | 1st IP address | Last IP address | Broadcast Address |
| 1 | DS-LA | 193.20.5.192 | 255.255.255.192 | 193.20.5.193 | 193.20.5.62 | 193.20.5.63 |
| 2 | DS-NY | 193.20.5.208 | 255.255.255.192 | 193.20.5.65 | 193.20.5.126 | 193.20.5.127 |
| 3 | LA-NY | 193.20.5.224 | 255.255.255.192 | 193.20.5.129 | 193.20.5.190 | 193.20.5.191 |
| 4 | NY-ISP | 193.20.5.240 | 255.255.255.192 | 193.20.5.193 | 193.20.5.254 | 193.20.5.255 |

The interface IP address scheme is shown below.

|  |  |  |  |
| --- | --- | --- | --- |
| Router | Interface | IP Address | Subnet Mask |
| NY | Gig0/0/1 | 193.20.5.1 | 255.255.255.192 |
| Dallas | Gig0/0/1 | 193.20.5.65 | 255.255.255.192 |
| Los Angeles | Gig0/0/1 | 193.20.5.129 | 255.255.255.192 |
| Dallas | Gig0/0/2 | 193.20.5.193 | 255.255.255.240 |
| Los Angeles | Gig0/0/2 | 193.20.5.194 | 255.255.255.240 |
| Los Angeles | Gig0/0/0 | 193.20.5.209 | 255.255.255.240 |
| NY | Gig0/0/0 | 193.20.5.210 | 255.255.255.240 |
| Los Angeles | Se0/1/1 | 193.20.5.225 | 255.255.255.240 |
| NY | Se0/1/1 | 193.20.5.226 | 255.255.255.240 |
| NY | Se0/1/0 | 193.20.5.241 | 255.255.255.240 |
| ISP | Se0/1/0 | 193.20.5.242 | 255.255.255.240 |

PC IP addressing scheme and DNS Address is given by ISP.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Location | PC Name | IP Address | Subnet Mask | Default Gateway | DNS Address |
| NY | PC0 | 193.20.5.2 | 255.255.255.192 | 193.20.5.1 | 172.15.1.2 |
| NY | PC1 | 193.20.5.3 | 255.255.255.192 | 193.20.5.1 | 172.15.1.2 |
| Dallas | PC2 | 193.20.5.66 | 255.255.255.192 | 193.20.5.65 | 172.15.1.2 |
| Dallas | PC3 | 193.20.5.67 | 255.255.255.192 | 193.20.5.65 | 172.15.1.2 |
| Los Angeles | PC4 | 193.20.5.226 | 255.255.255.192 | 193.20.5.225 | 172.15.1.2 |
| Los Angeles | PC5 | 193.20.5.227 | 255.255.255.192 | 193.20.5.225 | 172.15.1.2 |