Networking Fundamentals Lab 7

CIDR

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1. 193.1.0.0/16
2. 193.1.176.0/21
3. 158.2.0.0/17
4. 192.16.40.128/28
5. 142.16.12.0/26

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Example** | **Network Address** | **Valid Addresses** | **Broadcast Address** | **Block Size** |
| 1 | 193.1.0.0 | 193.1.0.1 – 193.1.0.254 | 193.1.0.255 | = 65534 |
| 2 | 193.1.176.0 | 193.1.183.1 - 193.1.183.254 | 193.1.183.255 | = 2046 |
| 3 | 158.2.0.0 | 158.2.127.1 - 158.2.127.2554 | 158.2.127.255 | = 32766 |
| 4 | 192.16.40.128 | 192.16.40.129 - 192.16.40.142 | 192.16.40.143 | = 14 |
| 5 | 142.16.12.0 | 142.16.12.1 - 142.16.12.62 | 142.16.12.63 | = 62 |

**Subnet Example**

**4 Subnets**

193.1.176.0 / 24

32 – 28 = 8 bits

Max Hosts:

Network Address: 193.1.176.0

Broadcast Address: 193.1.176.255

Valid Addresses: 193.1.176.1 - 193.1.176.254

Bits Borrowed: 2 bits ( = 4)

New Mask: /24 + /2 = /26

255.255.255.192

No of Subnets: 4

No of hosts per Subnet:

256 / 4 = 64

64 – 2 = **62**

**Or**

Total Addresses: **4 \* 62 = 248**

Network, Valid and Broadcast Address for each subnet:

|  |  |  |  |
| --- | --- | --- | --- |
| **Example** | **Network Address** | **Valid Addresses** | **Broadcast Address** |
| 1 | 193.1.176.0 | 193.1.176.1 - 193.1.176.62 | 193.1.176.63 |
| 2 | 193.1.176.64 | 193.1.176.65 - 193.1.176.126 | 193.1.176.127 |
| 3 | 193.1.176.128 | 193.1.176.129- 193.1.176.190 | 193.1.176.191 |
| 4 | 193.1.176.192 | 193.1.176.193 - 193.1.176.254 | 193.1.176.255 |