**Final Project**

CIS 3347-1

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by

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Tables and Descriptions

Table 1

IPv4 Subnet Result for 172.16.0.0

|  |  |
| --- | --- |
| Network Address | 172.16.0.0 |
| Usable Host IP Range | 172.16.0.0 – 172.16.63.254 |
| Broadcast Address | 172.16.31.255 |
| Total Number of Hosts | 16,834 |
| Number of Usable Hosts | 16,832 |
| Subnet Mask | 255.255.255.0/24 |
| Binary Subnet Mask | 11111111.11111111.11111111.0 |
| IP Class | B |
| CIDR Notation | /18 |
| IP Type | Private |

Table 2

All Possible Networks for 172.16.x.x

|  |  |  |
| --- | --- | --- |
| Network Address | Usable Host Range | Broadcast Address |
| 172.16.0.0 | 172.16.0.1 – 172.16.31.254 | 172.16.31.255 |
| 172.16.32.0 | 172.16.33.1 – 172.16.63.254 | 172.16.63.255 |
| 172.16.64.0 | 172.16.64.1 – 172.16.127.254 | 172.16.127.255 |
| 172.16.128.0 | 172.16.128.1 – 172.16.239.254 | 172.16.239.255 |
| 172.16.240.0 | 172.16.240.0 – 172.16.255.254 | 172.16.255.255 |

Table 3

Hardware Components

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Hardware | IP | Subnet | Type | Location |
| West Wing Router | 172.16.0.1 | 255.255.255.0/24 | Network | MDF 1st Floor |
| East Wing Router | 172.16.0.2 | 255.255.255.0/24 | Network | MDF 1st Floor |
| North Wing Router | 172.16.64.1 | 255.255.255.0/24 | Network | MDF 2nd Floor |
| South Wing Router | 172.16.64.2 | 255.255.255.0/24 | Network | MDF 2nd Floor |
| Switch 1 | 172.16.128.1 | 255.255.255.0/24 | Network | MDF |
| Switch 2 | 172.16.0.128.2 | 255.255.255.0/24 | Network | MDF |
| Public Switch | 172.16.0.100 | 255.255.255.0/24 | Network | MDF |
| Firewall | 172.16.0.0 | 255.255.255.0/24 | Network | MDF |
| AP 10 GHZ | 172.16.0.240 | 255.255.255.0/24 | Network | 3rd Floor |
| AP 5GHZ | 172.16.0.120 | 255.255.255.0/24 | Network | All Floors |
| AP 2.4 GHZ | 172.16.0.02 | 255.255.255.0/24 | Network | All Floors |
| Active Directory 1 | 172.16.128.12 | 255.255.255.0/24 | Server | MDF |
| Active Directory 2 | 172.16.128.13 | 255.255.255.0/24 | Server | MDF |
| Printer Server | 172.16.64.1 | 255.255.255.0/24 | Server | MDF |
| Intranet Server | 172.16.64.2 | 255.255.255.0/24 | Server | MDF |
| Security Cameras | 172.16.240.2-86 | 255.255.255.0/24 | Network | MDF |
| Email Servers | 172.16.128.30-32 | 255.255.255.0/24 | Server | MDF |
| File Servers | 172.16.128.34-36 | 255.255.255.0/24 | Server | MDF |
| Backup Servers | 172.16.128.20-23 | 255.255.255.0/24 | Server | MDF |
| Database Servers | 172.16.128.30-32 | 255.255.255.0/24 | Server | MDF |
| Virtual Servers | 172.16.64.158-206 | 255.255.255.0/24 | Server | MDF |
| DNS Servers | 172.16.128.45-46 | 255.255.255.0/24 | Server | MDF |

Table 4

All Possible DHCP Range for 172.16.x.x

|  |  |
| --- | --- |
| Network Component | Host Range |
| Wired Network | 172.16.16.1 – 172.16.32.254 |
| Employees and Residents | 172.16.64.1 – 172.16.127.254 |
| Wi-Fi | 172.128.1- 172.16.239.254 |
| Security Cameras | 172.16.240.2 – 172.16.240.86 |