

### CIDR Notation

VPC1 - 10.0.0.0 / 22 - 1024 IP Addresses

Total no of bits in IPV4 - 32

Bits in CIDR IP address - 22

$32 - 22 = 10$  ,  $2^{10} = 1024$  IP Addresses

/16 - 65536

/23 - 512

/17 - 32768

/24 - 256

/18 - 16384

/25 - 128

/19 - 8192

/26 - 64

/20 - 4096

/27 - 32

/21 - 2048

/28 - 16

/22 - 1024

Ex-1 VPC1 - 10.0.0.0/24 - 256 IP Addresses

Total no of bits in IPv4 - 32

Bits in CIDR IP Address - 24

$32 - 24 = 8$ ,  $2^8 = 256$  IP Addresses

10.0.0.0, 10.0.0.1, 10.0.0.2, ..., 10.0.0.255

Ex-2 VPC-2 - 10.0.0.0/23 - 512 IP Addresses

Total no of bits in IPv4 - 32

Bits in CIDR IP Address - 23

$32 - 23 = 9$ ,  $2^9 = 512$  IP Addresses

10.0.0.0, 10.0.0.1, 10.0.0.2, ..., 10.0.0.255

to

10.0.1.0, 10.0.1.1, 10.0.1.2, ..., 10.0.1.255

VPC-3 - 10.0.0.0/22 - 1024 IP Addresses

Total no of bits in IPv4 = 32

Bits in CIDR = 22

$32 - 22 = 10$ ,  $2^{10} = 1024$  IP Addresses

10.0.0.0, 10.0.0.1, ..., 10.0.0.255 } 256

10.0.1.0, 10.0.1.1, ..., 10.0.1.255 } 256

10.0.2.0, 10.0.2.1, ..., 10.0.2.255 } 256

10.0.3.0, 10.0.3.1, ..., 10.0.3.255 } 256

VPC4 - 10.0.0.0/28 - 16 IP Addresses

Total bits = 32

Bits in CIDR = 28

$$32 - 28 = 4 = 2^4 = 16$$

10.0.0.0, 10.0.0.1, 10.0.0.2, ..., 10.0.0.15

VPC5 - 10.0.0.0/27 - 32 IP Addresses

10.0.0.0, 10.0.0.1, ..., 10.0.0.31

VPC6 - 10.0.0.0/26 - 64 IP Addresses

10.0.0.0, 10.0.0.1, ..., 10.0.0.63

VPC7 - 10.0.0.0/25 - 128 IP Addresses

10.0.0.0, 10.0.0.1, ..., 10.0.0.127

VPC8 - 10.0.0.0/21 - 2048 IP Addresses

10.0.0.0, 10.0.0.1, ..., 10.0.0.255

10.0.1.0, 10.0.1.1, ..., 10.0.1.255

⋮

10.0.7.0, 10.0.7.1, ..., 10.0.7.255

VPC9 - 10.0.0.0/20 - 4096 IP Addresses

10.0.0.0, ..., 10.0.0.255

10.0.15.0, ..., 10.0.15.255



$$\begin{array}{r} 255 \\ \times 30 \\ \hline 7650 \\ \hline \end{array}$$

21.0.21.00 - 0.0.21.00  
22.0.21.00 - 0.0.21.00

225.0.21.06  
28 6 --- 256  
27 - 1 --- 25632  
26 - 1 --- 25632

$$\begin{array}{r}
 25 - 1 - 127 \\
 24 - 1 - 255 \\
 \quad 1.0 - 255 \\
 23 - 3.0 - 255 \\
 22 - 7.0 - 255 \\
 21 - 15.0 - 255 \\
 20 - 31.0 - 255 \\
 19 - 63.0 - 255 \\
 18 - 127.0 - 255 \\
 17 - 255.0 - 255
 \end{array}$$

VPC-2 - 20.15.0.0/23

225-18-21-05 0-0-21-05  
1984 225-18-21-05 0-0-21-05

$10 \cdot 12 \cdot 0 \cdot 0 \cdot 17 \rightarrow 35188 \mid 328 = 152$   
 $50 \cdot 12 \cdot 0 \cdot 0 \cdot 20 \rightarrow 5012 \cdot 21 \cdot 06$

$220 \cdot 751 \cdot 21 \cdot 05 \dots 0 \cdot 0 \cdot 21 \cdot 05$   
 $220 \cdot 751 \cdot 21 \cdot 05 \leftarrow 0 \cdot 0 \cdot 21 \cdot 05$

VPC 6 20.15.0.0/27

20.15.0.0 . . . . . 20.15.0.31

VPC 7 20.15.0.0/28

20.15.0.0 . . . . . 20.15.0.15

VPC 8 - 20.15.0.0/22

$$\rightarrow 1024/256 = 4$$

20.15.0.0 . . . . . 20.15.0.255

20.15.3.0 . . . . . 20.15.3.255

VPC 9 - 20.15.0.0/21  $\rightarrow 2048/256 = 8$

20.15.0.0 . . . . . 20.15.7.255

VPC-10 20.15.0.0/20  $\rightarrow 4096/256 = 16$

20.15.0.0 . . . . . 20.15.15.255

VPC-11 20.15.0.0/19  $\rightarrow 8192/256 = 32$

20.15.0.0 . . . . . 20.15.31.255

VPC 12 20.15.0.0/18  $\rightarrow 16384/256 = 64$

20.15.0.0 . . . . . 20.15.63.255

VPC 13 20.15.0.0/17  $\rightarrow 32768/256 = 128$

20.15.0.0 . . . . . 20.15.127.255

VPC 14 20.15.0.0/16  $\rightarrow 65536/256 = 256$

20.15.0.0 . . . . . 20.15.255.255

Eg 1: VPC1 - 20.15.0.0/22  
 Subnet 1 - 256 IPs - 20.15.0.0/24  
 2 - 256 IPs - 20.15.1.0/24  
 3 - 256 IPs - 20.15.2.0/24  
 4 - 256 IPs - 20.15.3.0/24

Ex 2 VPC2 - 20.15.0.0/21  
 Subnet 1 - 512 IPs - 20.15.0.0/23  
 2 - 512 IPs - 20.15.2.0/23  
 3 - 512 IPs - 20.15.4.0/23  
 4 - 512 IPs - 20.15.6.0/23

VPC3 - 20.15.0.0/20  
 Subnet 1 - 1024 IPs - 20.15.0.0/22  
 2 - 1024 IPs - 20.15.4.0/22  
 3 - 1024 IPs - 20.15.8.0/22  
 4 - 1024 IPs - 20.15.12.0/22

VPC4 - 20.15.0.0/19  
 Subnet 1 - 2048 IPs - 20.15.0.0/21  
 2 - 2048 IPs - 20.15.8.0/21  
 3 - 2048 IPs - 20.15.16.0/21  
 4 - 2048 IPs - 20.15.24.0/21

VPC5 - 20.15.0.0/18  
 Subnet 1 - 4096 IPs - 20.15.0.0/20  
 2 - 4096 IPs - 20.15.16.0/20  
 3 - 4096 IPs - 20.15.32.0/20  
 4 - 4096 IPs - 20.15.48.0/20

VPC1 - 20.15.0.0/22  
 Subnet 1 - 256 IPs - 20.15.0.0/24  
 2 - 256 IPs - 20.15.1.0/24  
 3 - 256 IPs - 20.15.2.0/24  
 4 - 256 IPs - 20.15.3.0/24

VPC2 - 20.15.0.0/21  
 Subnet 1 - 512 IPs - 20.15.0.0/23  
 2 - 512 IPs - 20.15.2.0/23  
 3 - 512 IPs - 20.15.4.0/23  
 4 - 512 IPs - 20.15.6.0/23

~~VPC3 - 20.15.0.0/20  
 Subnet 1 - 1024 IPs - 20.15.0.0/22  
 2 - 1024 IPs - 20.15.4.0/22  
 3 - 1024 IPs - 20.15.8.0/22  
 4 - 1024 IPs - 20.15.12.0/22~~

VPC4 - 20.15.0.0/19  
 Subnet 1 - 2048 IPs - 20.15.0.0/21  
 2 - 2048 IPs - 20.15.8.0/21  
 3 - 2048 IPs - 20.15.16.0/21  
 4 - 2048 IPs - 20.15.24.0/21



VPC 6 - 20.15.0.0/17

- Subnet 1 - 8192 IPs - 20.15.0.0/19
- 2 - 8192 IPs - 20.15.32.0/19
- 3 - 8192 IPs - 20.15.64.0/19
- 4 - 8192 IPs - 20.15.96.0/19

VPC 7 - 20.15.0.0/16

- Subnet 1 - 16384 IPs - 20.15.0.0/18
- 2 - 16384 IPs - 20.15.64.0/18
- 3 - 16384 IPs - 20.15.128.0/18
- 4 - 16384 IPs - 20.15.192.0/18

~~VPC 8 - 20.15.0.0/15~~

- ~~Subnet 1 - 32768 IPs - 20.15.0.0/17~~
- ~~2 - 32768 IPs - 20.15.128.0/17~~
- ~~3 - 32768 IPs -~~
- ~~4 - 32768 IPs -~~

VPC 8 - 20.16.0.0/18

- Subnet 1 - 4096 IPs - 20.15.0.0/20
- 2 - 2048 IPs - 20.15.16.0/21
- 3 - 1024 IPs - 20.15.24.0/22
- 4 - 2048 IPs - 20.15.28.0/21
- 5 - 1024 IPs - 20.15.36.0/22
- 6 - 2048 IPs - 20.15.40.0/21
- 7 - 4096 IPs - 20.15.48.0/20

EC2/0.0.0.0-20.0.0.0 - 1  
EC2/0.0.0.0-20.0.0.0 - 2  
EC2/0.0.0.0-20.0.0.0 - 3  
EC2/0.0.0.0-20.0.0.0 - 4  
EC2/0.0.0.0-20.0.0.0 - 5

EC2/0.0.0.0-20.0.0.0 - 6  
EC2/0.0.0.0-20.0.0.0 - 7  
EC2/0.0.0.0-20.0.0.0 - 8  
EC2/0.0.0.0-20.0.0.0 - 9  
EC2/0.0.0.0-20.0.0.0 - 10

EC2/0.0.0.0-20.0.0.0 - 11  
EC2/0.0.0.0-20.0.0.0 - 12  
EC2/0.0.0.0-20.0.0.0 - 13  
EC2/0.0.0.0-20.0.0.0 - 14  
EC2/0.0.0.0-20.0.0.0 - 15

EC2/0.0.0.0-20.0.0.0 - 16  
EC2/0.0.0.0-20.0.0.0 - 17  
EC2/0.0.0.0-20.0.0.0 - 18  
EC2/0.0.0.0-20.0.0.0 - 19  
EC2/0.0.0.0-20.0.0.0 - 20

EC2/0.0.0.0-20.0.0.0 - 21  
EC2/0.0.0.0-20.0.0.0 - 22  
EC2/0.0.0.0-20.0.0.0 - 23  
EC2/0.0.0.0-20.0.0.0 - 24  
EC2/0.0.0.0-20.0.0.0 - 25

VPC 9 - 20.15.0.0/16

- Subnet 1 - 4096 IPs - 20.15.0.0/20  
2 - 16384 IPs - 20.15.16.0/18  
3 - 4096 IPs - 20.15.80.0/20  
4 - 2048 IPs - 20.15.96.0/21  
5 - 1024 IPs - 20.15.104.0/22  
6 - 8192 IPs - 20.15.108.0/19  
7 - 4096 IPs - 20.15.140.0/20

VPC-10 20.15.0.0/17

- Subnet 1 - 2048 IPs - 20.15.0.0/21  
2 - 8192 IPs - 20.15.8.0/19  
3 - 2048 IPs - 20.15.40.0/21  
4 - 1024 IPs - 20.15.48.0/22  
5 - 512 IPs - 20.15.52.0/23  
6 - 4096 IPs - 20.15.54.0/20  
7 - 512 IPs - 20.15.70.0/23  
8 - 2048 IPs - 20.15.72.0/21

VPC-11 20.15.0.0/8 -

- Subnet 1 - 2048 IPs - 20.15.0.0/21  
2 - 4096 IPs - 20.15.8.0/20  
3 - 512 IPs - 20.15.24.0/23  
4 - 1024 IPs - 20.15.26.0/22  
5 - 512 IPs - 20.15.30.0/23  
6 - 4096 IPs - 20.15.32.0/20  
7 - 1024 IPs - 20.15.48.0/22  
8 - 2048 IPs - 20.15.52.0/21