

IPv4 Cheat Sheet

CIDR	Subnet Mask	Wildcard Mask	# of Addresses
/0	0.0.0.0	255.255.255.255	4,294,967,296
/1	128.0.0.0	127.255.255.255	2,147,483,648
/2	192.0.0.0	63.255.255.255	1,073,741,824
/3	224.0.0.0	31.255.255.255	536,870,912
/4	240.0.0.0	15.255.255.255	268,435,456
/5	248.0.0.0	7.255.255.255	134,217,728
/6	252.0.0.0	3.255.255.255	67,108,864
/7	254.0.0.0	1.255.255.255	33,554,432
/8	255.0.0.0	0.255.255.255	16,777,216
/9	255.128.0.0	0.127.255.255	8,388,608
/10	255.192.0.0	0.63.255.255	4,194,304
/11	255.224.0.0	0.31.255.255	2,097,152
/12	255.240.0.0	0.15.255.255	1,048,576
/13	255.248.0.0	0.7.255.255	524,288
/14	255.252.0.0	0.3.255.255	262,144
/15	255.254.0.0	0.1.255.255	131,072
/16	255.255.0.0	0.0.255.255	65,536
/17	255.255.128.0	0.0.127.255	32,768
/18	255.255.192.0	0.0.63.255	16,384
/19	255.255.224.0	0.0.31.255	8,192
/20	255.255.240.0	0.0.15.255	4,096
/21	255.255.248.0	0.0.7.255	2,048
/22	255.255.252.0	0.0.3.255	1,024
/23	255.255.254.0	0.0.1.255	512
/24	255.255.255.0	0.0.0.255	256
/25	255.255.255.128	0.0.0.127	128
/26	255.255.255.192	0.0.0.63	64
/27	255.255.255.224	0.0.0.31	32
/28	255.255.255.248	0.0.0.15	16
/29	255.255.255.248	0.0.0.7	8
/30	255.255.255.252	0.0.0.3	4
/31	255.255.255.254	0.0.0.1	2
/32	255.255.255.255	0.0.0.0	1

Notable IP Subnets	
Note	IP Range
RFC 1918	10.0.0.0/8
RFC 1918	172.16.0.0/12
RFC 1918	192.168.0.0/16
Loopback	127.0.0.0/8
Link Local	169.254.0.0/16
CG-NAT	100.64.0.0/10
Documentation	192.0.2.0/24
Documentation	198.51.100.0/24
Documentation	203.0.113.0/24

Notable Multicast Addresses	
OSPF All Routers	224.0.0.5
OSPF Designated	224.0.0.6
RIP 2 Routers	224.0.0.9
EIGRP Routers	224.0.0.10
VRRP	224.0.0.18
HSRP / GLBP	224.0.0.102

Encapsulation Overhead	
Protocol	Bytes
GRE	24
6 in 4	20
4 in 6	40
IP-IP	20
MPLS (per label in stack)	4
802.1Q	4
Q in Q	8
VXLAN	50
OTV	42
LISP (IPv4)	36
LISP (IPv6)	56
NVGRE	42



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