

## IP Address Classifications

<b>Class</b>	<b>Bits in Network ID</b>	<b>Number of Networks</b>	<b>Bits in Host ID</b>	<b>Number of Hosts/ Network</b>	<b>Address Range</b>	<b>Subnet Mask</b>
<b>A</b>	8	126	24	4,000,000	1.0.0.0 to 126.255.255.255	255.0.0.0
<b>B</b>	16	16,384	16	65,536	128.0.0.0 to 191.255.255.255	255. 255.0.0
<b>C</b>	24	2,000,000	8	65,536	192.0.0.0 to 223.255.255.255	255. 255. 255.0
<b>D</b>	0	0	28	268,400,000	224.0.0.0 to 239.255.255.255	
<b>E</b>	<i>Class E addresses are reserved for future use (and Class D are usually used for testing only).</i>					

### Assigning Host IDs:

- a.b.c.1 through a.b.c.10 – usually routers and servers
- a.b.c.11 through a.b.c.204 – usually workstations
- a.b.c.241 through a.b.c.254 – usually UNIX (or Linux) hosts

### Intranet Network IDs:

- 10.0.0.0 through 10.255.255.255 – usually Internal networks
- 172.16.0.0 through 172.31.255.255 – usually Intranets not connected to the Internet
- 192.168.0.0 through 192.168.255.255 – usually networks connected to the Internet (and usually behind a firewall)

## Class A Subnet Masks

<b>Subnet Mask</b>	<b>Number of Bits in Mask</b>	<b>Number of Usable Subnets</b>	<b>Number of Hosts per Subnet</b>
255.0.0.0	8	1	16,777,214
255.192.0.0	10	2	4,194,302
255.240.0.0	12	14	1,048,574
255.255.0.0	16	254	65,634
255.255.128.0	17	510	32,766
255.255.240.0	20	4,094	4,094
255.255.255.128	25	131,070	126
255.255.255.240	28	1,048,574	14
255.255.255.252	30	4,192,302	2

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## Class B Subnet Masks

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<i>Subnet Mask</i>	<i>Number of Bits in Mask</i>	<i>Number of Usable Subnets</i>	<i>Number of Hosts per Subnet</i>
255.255.0.0	16	1	65,634
255.255.192.0	18	2	16,382
255.255.240.0	20	14	4,094
255.255.255.0	24	254	254
255.255.255.240	28	4,094	14
255.255.255.252	30	16,382	2

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## Class C Subnet Masks

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<i>Subnet Mask</i>	<i>Number of Bits in Mask</i>	<i>Number of Usable Subnets</i>	<i>Number of Hosts per Subnet</i>
255.255.255.0	24	1	254
255.255.255.192	26	2	62
255.255.255.224	27	6	30
255.255.255.240	28	14	14
255.255.255.248	29	30	6
255.255.255.252	30	62	2