

# Class A Addresses

## VLSM Chart 8-15 Bits (2nd octet)

/8 255.0.0.0 16,777,216 Hosts	/9 255.128.0.0 8,388,608 Hosts	/10 255.192.0.0 4,194,304 Hosts	/11 255.224.0.0 2,097,152 Hosts	/12 255.240.0.0 1,048,576 Hosts	/13 255.248.0.0 524,288 Hosts	/14 255.252.0.0 262,144 Hosts	/15 255.254.0.0 131,072 Hosts
0 - 255	0-127	0-63	0-31	0-15	0-7	0-3	0-1
					8-15	4-7	2-3
						8-11	4-5
						12-15	6-7
						16-19	8-9
						20-23	10-11
			16-31			24-27	12-13
						28-31	14-15
						32-35	16-17
						36-39	18-19
						40-43	20-21
						44-47	22-23
			32-63	32-47		48-51	24-25
						52-55	26-27
						56-59	28-29
						60-63	30-31
				48-63		64-67	32-33
						68-71	34-35
		64-127	64-95	64-79		72-75	36-37
						76-79	38-39
						80-83	40-41
						84-87	42-43
				80-95		88-91	44-45
						92-95	46-47
			96-127	96-111		96-99	48-49
						100-103	50-51
						104-107	52-53
						108-111	54-55
				112-127		112-115	56-57
						116-119	58-59
	128-255	128-191	128-159	128-143		120-123	60-61
						124-127	62-63
						128-131	64-65
						132-135	66-67
				144-159		136-139	68-69
						140-143	70-71
			160-191	160-175		144-147	72-73
						148-151	74-75
						152-155	76-77
						156-159	78-79
				176-191		160-163	80-81
						164-167	82-83
	192-255	192-223	192-207			168-171	84-85
						172-175	86-87
						176-179	88-89
						180-183	90-91
				184-191		184-187	92-93
						188-191	94-95
			208-223	192-199		192-195	96-97
						196-199	98-99
				200-207		200-203	100-101
						204-207	102-103
				208-215		208-211	104-105
						212-215	106-107
		224-255	224-239	216-223		216-219	108-109
						220-223	110-111
						224-227	112-113
				224-231		228-231	114-115
						232-235	116-117
				232-239		236-239	118-119
						240-243	120-121
			240-255	240-247		244-247	122-123
						248-251	124-125
				248-255		252-255	126-127
							128-129
							130-131
							132-133
							134-135
							136-137
							138-139
							140-141
							142-143
							144-145
							146-147
							148-149
							150-151
							152-153
							154-155
							156-157
							158-159
							160-161
							162-163
							164-165
							166-167
							168-169
							170-171
							172-173
							174-175
							176-177
							178-179
							180-181
							182-183
							184-185
							186-187
							188-189
							190-191
							192-193
							194-195
							196-197
							198-199
							200-201
							202-203
							204-205
							206-207
							208-209
							210-211
							212-213
							214-215
							216-217
							218-219
							220-221
							222-223
							224-225
							226-227
							228-229
							230-231
							232-233
							234-235
							236-237
							238-239
							240-241
							242-243
							244-245
							246-247
							248-249
							250-251
							252-253
							254-255

# Class B Addresses

## VLSM Chart 16-23 Bits (3rd octet)

/16 255.255.0.0 65,536 Hosts	/17 255.255.128.0 32,768 Hosts	/18 255.255.192.0 16,384 Hosts	/19 255.255.224.0 8,192 Hosts	/20 255.255.240.0 4,096 Hosts	/21 255.255.248.0 2,048 Hosts	/22 255.255.252.0 1,024 Hosts	/23 255.255.254.0 512 Hosts
0 - 255	0-127	0-63	0-31	0-15	0-7	0-3	0-1
					8-15	4-7	2-3
						8-11	4-5
						12-15	6-7
						16-19	8-9
						20-23	10-11
			16-31	16-31	16-23	16-19	12-13
					24-31	20-23	14-15
						24-27	16-17
						28-31	18-19
						32-35	20-21
						36-39	22-23
			32-63	32-47	32-39	32-35	24-25
					40-47	40-43	26-27
						44-47	28-29
						48-51	30-31
						52-55	32-33
						56-59	34-35
			48-63	48-55	56-63	60-63	36-37
						64-67	38-39
						68-71	40-41
						72-75	42-43
						76-79	44-45
						80-83	46-47
		64-127	64-95	64-79	84-87	88-91	48-49
					88-95	92-95	50-51
						96-99	52-53
						100-103	54-55
						104-107	56-57
						108-111	58-59
			96-127	96-111	112-115	116-119	60-61
					120-123	124-127	62-63
						128-131	64-65
						132-135	66-67
						136-139	68-69
						140-143	70-71
	128-255	128-191	128-159	128-143	144-147	148-151	72-73
					152-155	156-159	74-75
						160-163	76-77
						164-167	78-79
						168-171	80-81
						172-175	82-83
			160-191	160-175	176-179	180-183	84-85
					184-187	188-191	86-87
						192-195	88-89
						196-199	90-91
						200-203	92-93
						204-207	94-95
		192-255	192-223	192-207	208-211	212-215	96-97
					216-219	220-223	98-99
						224-227	100-101
						228-231	102-103
						232-235	104-105
						236-239	106-107
			224-255	224-239	240-243	244-247	108-109
					248-251	252-255	110-111
							112-113
							114-115
							116-117
							118-119

# Class C Addresses

## VLSM Chart 24-30 Bits (4th octet)

/24	/25	/26	/27	/28	/29	/30
255.255.255.0 256 Hosts	255.255.255.128 128 Hosts	255.255.255.192 64 Hosts	255.255.255.224 32 Hosts	255.255.255.240 16 Hosts	255.255.255.248 8 Hosts	255.255.255.252 4 Hosts
0 - 255	0-127	0-63	0-31	0-15	0-7	0-3
					4-7	4-7
					8-15	8-11
					12-15	12-15
				16-31	16-23	16-19
					20-23	20-23
					24-31	24-27
					28-31	28-31
			32-63	32-47	32-39	32-35
					36-39	36-39
					40-47	40-43
					44-47	44-47
				48-63	48-55	48-51
					52-55	52-55
					56-63	56-59
					60-63	60-63
		64-127	64-95	64-79	64-71	64-67
					68-71	68-71
					72-79	72-75
					76-79	76-79
				80-95	80-87	80-83
					84-87	84-87
					88-95	88-91
					92-95	92-95
			96-127	96-111	96-103	96-99
					100-103	100-103
					104-111	104-107
					108-111	108-111
				112-127	112-119	112-115
					116-119	116-119
					120-123	120-123
					124-127	124-127
	128-255	128-191	128-159	128-143	128-135	128-131
					132-135	132-135
					136-143	136-139
					140-143	140-143
				144-159	144-151	144-147
					148-151	148-151
					152-155	152-155
					156-159	156-159
			160-191	160-175	160-167	160-163
					164-167	164-167
					168-175	168-171
					172-175	172-175
				176-191	176-183	176-179
					180-183	180-183
					184-191	184-187
					188-191	188-191
		192-255	192-223	192-207	192-199	192-195
					196-199	196-199
					200-207	200-203
					204-207	204-207
				208-223	208-215	208-211
					212-215	212-215
					216-223	216-219
					220-223	220-223
			224-255	224-239	224-231	224-227
					228-231	228-231
					232-239	232-235
					236-239	236-239
				240-255	240-247	240-243
					244-247	244-247
					248-251	248-251
					252-255	252-255

Class A Addressing Guide					
CIDR	# of Bits Borrowed	Subnet Mask	Total # of Subnets	Total # of Hosts	Usable # of Hosts
/8	0	255.0.0.0	1	16,777,216	16,777,214
/9	1	255.128.0.0	2	8,388,608	8,388,606
/10	2	255.192.0.0	4	4,194,304	4,194,302
/11	3	255.224.0.0	8	2,097,152	2,097,150
/12	4	255.240.0.0	16	1,048,576	1,048,574
/13	5	255.248.0.0	32	524,288	524,286
/14	6	255.252.0.0	64	262,144	262,142
/15	7	255.254.0.0	128	131,072	131,070
/16	8	255.255.0.0	256	65,536	65,534
/17	9	255.255.128.0	512	32,768	32,766
/18	10	255.255.192.0	1,024	16,384	16,382
/19	11	255.255.224.0	2,048	8,192	8,190
/20	12	255.255.240.0	4,096	4,096	4,094
/21	13	255.255.248.0	8,192	2,048	2,046
/22	14	255.255.252.0	16,384	1,024	1,022
/23	15	255.255.254.0	32,768	512	510
/24	16	255.255.255.0	65,536	256	254
/25	17	255.255.255.128	131,072	128	126
/26	18	255.255.255.192	262,144	64	62
/27	19	255.255.255.224	524,288	32	30
/28	20	255.255.255.240	1,048,576	16	14
/29	21	255.255.255.248	2,097,152	8	6
/30	22	255.255.255.252	4,194,304	4	2

Class B Addressing Guide					
CIDR	# of Bits Borrowed	Subnet Mask	Total # of Subnets	Total # of Hosts	Usable # of Hosts
/16	0	255.255.0.0	1	65,536	65,534
/17	1	255.255.128.0	2	32,768	32,766
/18	2	255.255.192.0	4	16,384	16,382
/19	3	255.255.224.0	8	8,192	8,190
/20	4	255.255.240.0	16	4,096	4,094
/21	5	255.255.248.0	32	2,048	2,046
/22	6	255.255.252.0	64	1,024	1,022
/23	7	255.255.254.0	128	512	510
/24	8	255.255.255.0	256	256	254
/25	9	255.255.255.128	512	128	126
/26	10	255.255.255.192	1,024	64	62
/27	11	255.255.255.224	2,048	32	30
/28	12	255.255.255.240	4,096	16	14
/29	13	255.255.255.248	8,192	8	6
/30	14	255.255.255.252	16,384	4	2

Class C Addressing Guide					
CIDR	# of Bits Borrowed	Subnet Mask	Total # of Subnets	Total # of Hosts	Usable # of Hosts
/24	0	255.255.255.0	1	256	254
/25	1	255.255.255.128	2	128	126
/26	2	255.255.255.192	4	64	62
/27	3	255.255.255.224	8	32	30
/28	4	255.255.255.240	16	16	14
/29	5	255.255.255.248	32	8	6
/30	6	255.255.255.252	64	4	2