

# IP Address Block Size Equivalents in Classful Addressing, IPv4, and IPv6

CIDR	Classful		IPv4		IPv6*	
	unused since 1993		deployed in 1981		deployed in 1999	
/1			2 <sup>31</sup>	2,147,483,648	2 <sup>127</sup>	170,141,183,460,469,000,000,000,000,000,000,000
/2			2 <sup>30</sup>	1,073,741,824	2 <sup>126</sup>	85,070,591,730,234,600,000,000,000,000,000,000
/3			2 <sup>29</sup>	536,870,912	2 <sup>125</sup>	42,535,295,865,117,300,000,000,000,000,000,000
/4			2 <sup>28</sup>	268,435,456	2 <sup>124</sup>	21,267,647,932,558,700,000,000,000,000,000,000
/5			2 <sup>27</sup>	134,217,728	2 <sup>123</sup>	10,633,823,966,279,300,000,000,000,000,000,000
/6			2 <sup>26</sup>	67,108,864	2 <sup>122</sup>	5,316,911,983,139,660,000,000,000,000,000,000
/7			2 <sup>25</sup>	33,554,432	2 <sup>121</sup>	2,658,455,991,569,830,000,000,000,000,000,000
/8	A	16,777,216	2 <sup>24</sup>	16,777,216	2 <sup>120</sup>	1,329,227,995,784,920,000,000,000,000,000,000
/9			2 <sup>23</sup>	8,388,608	2 <sup>119</sup>	664,613,997,892,458,000,000,000,000,000,000
/10			2 <sup>22</sup>	4,194,304	2 <sup>118</sup>	332,306,998,946,229,000,000,000,000,000,000
/11			2 <sup>21</sup>	2,097,152	2 <sup>117</sup>	166,153,499,473,114,000,000,000,000,000,000
/12			2 <sup>20</sup>	1,048,576	2 <sup>116</sup>	83,076,749,736,557,200,000,000,000,000,000
/13			2 <sup>19</sup>	524,288	2 <sup>115</sup>	41,538,374,868,278,600,000,000,000,000,000
/14			2 <sup>18</sup>	262,144	2 <sup>114</sup>	20,769,187,434,139,300,000,000,000,000,000
/15			2 <sup>17</sup>	131,072	2 <sup>113</sup>	10,384,593,717,069,700,000,000,000,000,000
/16	B	65,536	2 <sup>16</sup>	65,536	2 <sup>112</sup>	5,192,296,858,534,830,000,000,000,000,000
/17			2 <sup>15</sup>	32,768	2 <sup>111</sup>	2,596,148,429,267,410,000,000,000,000,000
/18			2 <sup>14</sup>	16,384	2 <sup>110</sup>	1,298,074,214,633,710,000,000,000,000,000
/19			2 <sup>13</sup>	8,192	2 <sup>109</sup>	649,037,107,316,853,000,000,000,000,000
/20			2 <sup>12</sup>	<b>4,096</b>	2 <sup>108</sup>	324,518,553,658,427,000,000,000,000,000
/21			2 <sup>11</sup>	<b>2,048</b>	2 <sup>107</sup>	162,259,276,829,213,000,000,000,000,000
/22			2 <sup>10</sup>	<b>1,024</b>	2 <sup>106</sup>	81,129,638,414,606,700,000,000,000,000
/23			2 <sup>9</sup>	512	2 <sup>105</sup>	40,564,819,207,303,300,000,000,000,000
/24	C	256	2 <sup>8</sup>	256	2 <sup>104</sup>	20,282,409,603,651,700,000,000,000,000
/25			2 <sup>7</sup>	128	2 <sup>103</sup>	10,141,204,801,825,800,000,000,000,000
/26			2 <sup>6</sup>	64	2 <sup>102</sup>	5,070,602,400,912,920,000,000,000,000
/27			2 <sup>5</sup>	32	2 <sup>101</sup>	2,535,301,200,456,460,000,000,000,000
/28			2 <sup>4</sup>	16	2 <sup>100</sup>	1,267,650,600,228,230,000,000,000,000
/29			2 <sup>3</sup>	8	2 <sup>99</sup>	633,825,300,114,115,000,000,000,000
/30			2 <sup>2</sup>	4	2 <sup>98</sup>	316,912,650,057,057,000,000,000,000
/31			2 <sup>1</sup>	2	2 <sup>97</sup>	158,456,325,028,529,000,000,000,000
/32			2 <sup>0</sup>	1	2 <sup>96</sup>	<b>79,228,162,514,264,300,000,000,000</b>
/33					2 <sup>95</sup>	39,614,081,257,132,200,000,000,000
/34					2 <sup>94</sup>	19,807,040,628,566,100,000,000,000
/35					2 <sup>93</sup>	9,903,520,314,283,040,000,000,000
/36					2 <sup>92</sup>	4,951,760,157,141,520,000,000,000
/37					2 <sup>91</sup>	2,475,880,078,570,760,000,000,000
/38					2 <sup>90</sup>	1,237,940,039,285,380,000,000,000
/39					2 <sup>89</sup>	618,970,019,642,690,000,000,000
/40					2 <sup>88</sup>	309,485,009,821,345,000,000,000
/41					2 <sup>87</sup>	154,742,504,910,673,000,000,000
/42					2 <sup>86</sup>	77,371,252,455,336,300,000,000

CIDR	Classful	IPv4	IPv6*	
	<i>unused since 1993</i>	<i>deployed in 1981</i>		<i>deployed in 1999</i>
/43			2^85	38,685,626,227,668,100,000,000,000
/44			2^84	19,342,813,113,834,100,000,000,000
/45			2^83	9,671,406,556,917,030,000,000,000
/46			2^82	4,835,703,278,458,520,000,000,000
/47			2^81	2,417,851,639,229,260,000,000,000
/48			2^80	<b>1,208,925,819,614,630,000,000,000</b>
/49			2^79	604,462,909,807,315,000,000,000
/50			2^78	302,231,454,903,657,000,000,000
/51			2^77	151,115,727,451,829,000,000,000
/52			2^76	75,557,863,725,914,300,000,000
/53			2^75	37,778,931,862,957,200,000,000
/54			2^74	18,889,465,931,478,600,000,000
/55			2^73	9,444,732,965,739,290,000,000
/56			2^72	4,722,366,482,869,650,000,000
/57			2^71	2,361,183,241,434,820,000,000
/58			2^70	1,180,591,620,717,410,000,000
/59			2^69	590,295,810,358,706,000,000
/60			2^68	295,147,905,179,353,000,000
/61			2^67	147,573,952,589,676,000,000
/62			2^66	73,786,976,294,838,200,000
/63			2^65	36,893,488,147,419,100,000
/64			2^64	18,446,744,073,709,600,000
/65			2^63	9,223,372,036,854,780,000
/66			2^62	4,611,686,018,427,390,000
/67			2^61	2,305,843,009,213,690,000
/68			2^60	1,152,921,504,606,850,000
/69			2^59	576,460,752,303,423,000
/70			2^58	288,230,376,151,712,000
/71			2^57	144,115,188,075,856,000
/72			2^56	72,057,594,037,927,900
/73			2^55	36,028,797,018,964,000
/74			2^54	18,014,398,509,482,000
/75			2^53	9,007,199,254,740,990
/76			2^52	4,503,599,627,370,500
/77			2^51	2,251,799,813,685,250
/78			2^50	1,125,899,906,842,620
/79			2^49	562,949,953,421,312
/80			2^48	281,474,976,710,656
/81			2^47	140,737,488,355,328
/82			2^46	70,368,744,177,664
/83			2^45	35,184,372,088,832
/84			2^44	17,592,186,044,416
/85			2^43	8,796,093,022,208
/86			2^42	4,398,046,511,104
/87			2^41	2,199,023,255,552
/88			2^40	1,099,511,627,776
/89			2^39	549,755,813,888

CIDR	Classful	IPv4	IPv6*	
	<i>unused since 1993</i>	<i>deployed in 1981</i>		<i>deployed in 1999</i>
/90			2 <sup>38</sup>	274,877,906,944
/91			2 <sup>37</sup>	137,438,953,472
/92			2 <sup>36</sup>	68,719,476,736
/93			2 <sup>35</sup>	34,359,738,368
/94			2 <sup>34</sup>	17,179,869,184
/95			2 <sup>33</sup>	8,589,934,592
/96			2 <sup>32</sup>	4,294,967,296
/97			2 <sup>31</sup>	2,147,483,648
/98			2 <sup>30</sup>	1,073,741,824
/99			2 <sup>29</sup>	536,870,912
/100			2 <sup>28</sup>	268,435,456
/101			2 <sup>27</sup>	134,217,728
/102			2 <sup>26</sup>	67,108,864
/103			2 <sup>25</sup>	33,554,432
/104			2 <sup>24</sup>	16,777,216
/105			2 <sup>23</sup>	8,388,608
/106			2 <sup>22</sup>	4,194,304
/107			2 <sup>21</sup>	2,097,152
/108			2 <sup>20</sup>	1,048,576
/109			2 <sup>19</sup>	524,288
/110			2 <sup>18</sup>	262,144
/111			2 <sup>17</sup>	131,072
/112			2 <sup>16</sup>	65,536
/113			2 <sup>15</sup>	32,768
/114			2 <sup>14</sup>	16,384
/115			2 <sup>13</sup>	8,192
/116			2 <sup>12</sup>	4,096
/117			2 <sup>11</sup>	2,048
/118			2 <sup>10</sup>	1,024
/119			2 <sup>9</sup>	512
/120			2 <sup>8</sup>	256
/121			2 <sup>7</sup>	128
/122			2 <sup>6</sup>	64
/123			2 <sup>5</sup>	32
/124			2 <sup>4</sup>	16
/125			2 <sup>3</sup>	8
/126			2 <sup>2</sup>	4
/127			2 <sup>1</sup>	2
/128			2 <sup>0</sup>	1

\* IPv6 numbers are rounded above /78.

CIDR prefixes in white are common distribution sizes.