

Internet Protocol version 6 (IPv6)



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Internet Protocol v6



IPv4

- IPv4 is 32-bit numbers
- 4.2 billion individual IP-addresses
- Depletion of Ipv4 addresses
- IPv4 and IPv6 are not interoperable

IPv4

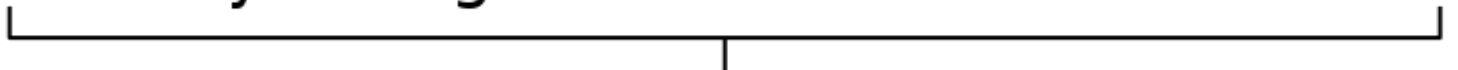
172 . 16 . 254 . 1



10101100 . 00010000 . 11111110 . 00000001



One byte = Eight bits



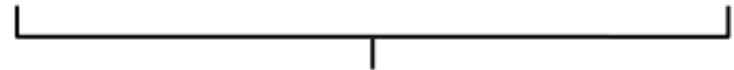
Thirty-two bits (4 x 8), or 4 bytes

IPv6

- $3.4E+38$ individual IP addresses
- transition to IPv6 is complicated
- the first 64 bits represent a subnet in the global network
- The last 64 bits of the IPv6 address represent a device in a subnet

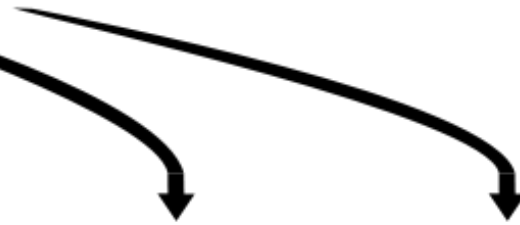
IPv6

2001:0DB8:AC10:FE01:0000:0000:0000:0000



2001:0DB8:AC10:FE01::

Zeroes can be omitted



0010000000000001:0000110110111000:1010110000010000:1111110000000001:

0000000000000000:0000000000000000:0000000000000000:0000000000000000

Thank you for attention

