

IPv4 vs IPv6 (part 1)

In many ways, the IPv6 is not more than a conservative enhancement of the IPv4. Most Transport -and Application- protocols need very little or no changes to work over IPv6; the exceptions are the application protocols that integrate network layer addresses like FTP or NTP.

The IPv6 specifies a new packet format, designed to minimize the packet header processing. Due to IPv4 Packets and IPv6 headers significant differences, both protocols are not interoperable.

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Version II	Type of Service	Total Length			Version	Traffic Class	Flov	Flow Label	
Identification		Flags	Fragment Offset		Payload Length		Next Header	Hop Limit	
Time to Live	Protocol	Header Checksum							
Source Address					Source Address				
Destination Address									
Options			Padding						
Legend Field names kept from IPv4 to IPv6 Fields not kept in IPv6 Name & position changed in IPv6 New field in IPv6					Destination Address				

Several differences							
IP address number of bits	32	128					
Short namingmethod	no	Example: 0:0:0:0:0:FFFF:129:144:52:30 ::FFFF:129:144:52:38					
Sub-Network Mask	Yes	No					
How to ping	Ping xxx.xxx.xxx	Ping6					
Addressing capacity	4300 x 10 ⁶	3.4×10 ³⁸					
Format	Decimal	Hex					
Loopback Address	127.0.0.1	0:0:0:0:0:0:0:1					



