

Assignment 2

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Solution: In the IPv4 header's Options field, you would typically encounter:

Option Data: This contains the primary data specific to the given options.

Option Code: Indicates the type of options being utilized.

Option Length: Represents the total size or length of the data associated with options.

Common Options in the IPv4 Options Field include:

Padding: Primarily employed to ensure the header size is a multiple of 32 bits. Padding is added when the Options Field length is not a multiple of 32 bits.

Authentication (Security): Implements enhanced security mechanisms for data protection.

Route Record: Enables routers to monitor their IP addresses in the packet, indicating the route the packet takes through the network.

Strict/Loose Source Routing: Specifies a defined path for the packet to follow based on the specified route.