

An Offset Indicating Option for IPv6

**draft-zhang-6man-offset-option
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Introduction

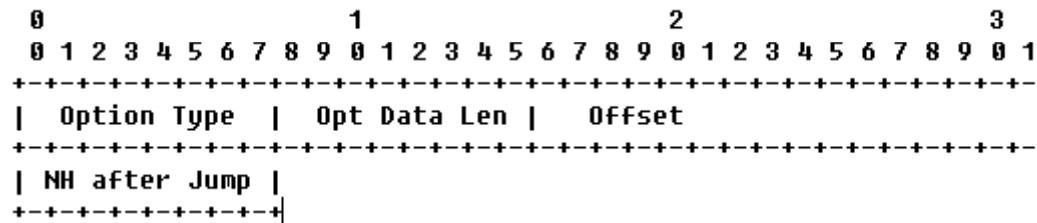
- According to [[RFC2460](#)], when a node intends to access the payload of an IPv6 packet, it needs to parse the extension headers one by one until it reaches the end of the header chain
- This approach may be inefficient for nodes which have no interest in the extension headers and intend to quickly access the payload of IPv6 packets
 - It may be more efficient for the equipment behind a firewall, such as a host or a deep packet inspection device, to skip over the extension headers of the IP packets it receives and access the payload directly

Approach

- This document addresses this issue by introducing an Offset Indicating option (OI option for short) which indicates the end of the IPv6 header chain
- The option is transferred in an IPv6 Options header
 - If there is an existing Hop-by-Hop Options header, the OI option will be in it. Otherwise, it will be in a Destination Options header

Option Format

- Option Type: 8 bits
- Opt Data Len: as defined in [[RFC2460](#)]
- Offset: 16 bits. Indicates the distance (in octets) from the end of the option to the end of the header chain
- NH (Next Header) after Jump: 8 bits. Indicates the type of the transport header or other protocol data unit after the header chain. This MUST equal the Next Header value in the last Extension Header in the packet



Security Considerations

- The skipping of extension headers will not impact the security verification performed by transport layer security protocols
 - Transport layer security protocols do not cover extension headers
 - The information in the IPv6 header is sufficient to generate the pseudo-header for upper layer protocols
- A IPSec implementation **MUST NOT** skip to the end of the header chain under the instruction of the OI option

Questions?

Thank You!