## **IPv6 Extension Headers**

(RFC2460 IPv6 Spec)

An IPv6 packet can carry as many extension headers as it needs (Obviously within reason) Example are below:-

IPv6 Header Next Header = TCP	TCP Header + data	
IPv6 Header	Routing Header	TCP Header + data

Next Header = TCP

IPv6 Header	Routing Header	Fragment Header	TOD Header I date
Next Header = Routing	Next Header = Fragment	Next Header = TCP	TCP Header + data

## **Extension Header Order**

Next Header = Routing

The extension headers are not checked until it the destination identified. The following order is recommended in RFC 2460 and that they feature no more than once except for the destination options which can occur at most twice (once before a Routing header and once before the upper-layer header):

IPv6 header, Hop-by-Hop Options header, Destination Options header (note 1), Routing header, Fragment header then

Authentication header (note 2), Encapsulating Security Payload header (note 2), Destination Options header (note 3) and then upper-layer header

note 1: for options to be processed by the first destination that appears in the IPv6 Destination Address field plus subsequent destinations listed in the Routing header.	<b>note 2</b> : additional recommendations regarding the relative order of the Authentication and Encapsulating Security Payload headers are given in [RFC-2406].	<b>note 3</b> : for options to be processed only by the final destination of the packet.
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