

Using the Flow Label for Transport Signaling

draft-donley-6man-
flowlabel-transport-sig-00

Chris Donley, CableLabs

Kirk Erichsen, Time

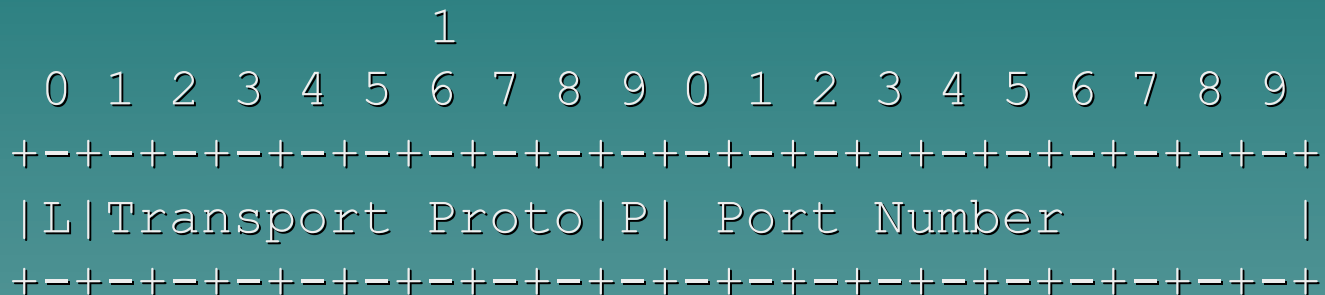
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Problem

- ◆ Port and protocol header information not in a fixed location within an IPv6 packet
 - Obscured behind one/more extension headers
 - Encapsulated in an IPv6 tunnel such as Dual-Stack Lite
- ◆ Creates a problem for home gateways and deep packet inspection devices
 - Can't classify traffic based on port/protocol
 - Can't perform special handling in hardware

Possible Solution

- ◆ Possible solution: include port/proto in the Flow Label



- ◆ L - Set to 1 to indicate that the flow label follows [I-D.carpenter-6man-flow-update], rather than [RFC3697] behavior.
- ◆ Protocol – 8 bit protocol
- ◆ P - Set to 0 to indicate Destination or 1 to indicate Source
- ◆ Port Number - the lower 10 bits of the 16-bit port number

Design Choices

- ◆ Separate Port and Protocol fields support masking
 - easier to use for classification
 - ◆ (e.g. “all SIP traffic”)
- ◆ 5-tuple hash in flow label not sufficient
 - Opaque, difficult to identify specific traffic types
- ◆ P-bit usage
 - Expect to use Well-known port and set P-bit accordingly
 - ◆ Using the WKP allows for easier classification at the gateway
 - ◆ Client sets P-bit=0 (destination port)
 - ◆ Server sets P-bit=1 (source port)

Request For Feedback

- ◆ Is this approach useful for your applications?