

IPv6 Support for Generic Routing Encapsulation (GRE)

IETF 92

draft-ietf-intarea-gre-ipv6-02

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Activity Since Last IETF

- Adopted as WG item
- Many comments from Fred Templin, Joe Touch, Lucy Yong and Tom Herbert
- A few changes

Checksum Text

- When the delivery protocol is IPv6, the GRE ingress router SHOULD set the Checksum Present field to zero.
- GRE egress routers MUST accept either a value of zero or one in this field.
 - If the GRE egress router receives a value of one, it MUST use that information to calculate the GRE header length.
 - However, the GRE ingress router is not required to use the checksum to verify packet integrity.

MTU Text

- When the GRE ingress receives an IPv6 payload packet whose length is less than or equal to the GMTU the GRE ingress router **MUST NOT** fragment the payload or delivery packets.
- When the GRE ingress receives an IPv6 payload packet whose length is greater than the GMTU, and the GMTU is greater than or equal to 1280 octets, the GRE ingress router **MUST**
 - discard the IPv6 payload packet
 - send an ICMPv6 Packet Too Big (PTB) [RFC4443] message to the IPv6
 - payload packet source. The MTU field in the ICMPv6 PTB message is
 - set to the GMTU.

MTU Text (continued)

- The GRE ingress router **MUST** support a configuration option that determines how the GRE ingress behaves when it receives an IPv6 payload packet whose length is greater than the GMTU, and the GMTU is less than 1280 octets. In its default configuration, the GRE ingress router **MUST**:
 - discard the IPv6 packet
 - send an ICMPv6 Packet Too Big (PTB) [RFC4443] message to the IPv6 packet source. The MTU field in the ICMPv6 PTB message is set to the GMTU
- However, in an alternative configuration, the GRE ingress **MAY**:
 - encapsulate the entire IPv6 packet in a single GRE header and IP delivery header
 - fragment the delivery header, so that it can be reassembled by the GRE egress

Next Steps

- WG last call

Backup Slide

Old Checksum Text

- When the delivery protocol is IPv6, the GRE ingress router SHOULD set the Checksum Present field to zero.
- GRE egress routers MUST accept either a value of zero or one in this field.
 - If the GRE egress router receives a value of one, it MUST use that information to calculate the GRE header length.
 - However, the GRE ingress router MUST NOT use the checksum to verify packet integrity.