Fine Grained Labeling Backward Compatibility

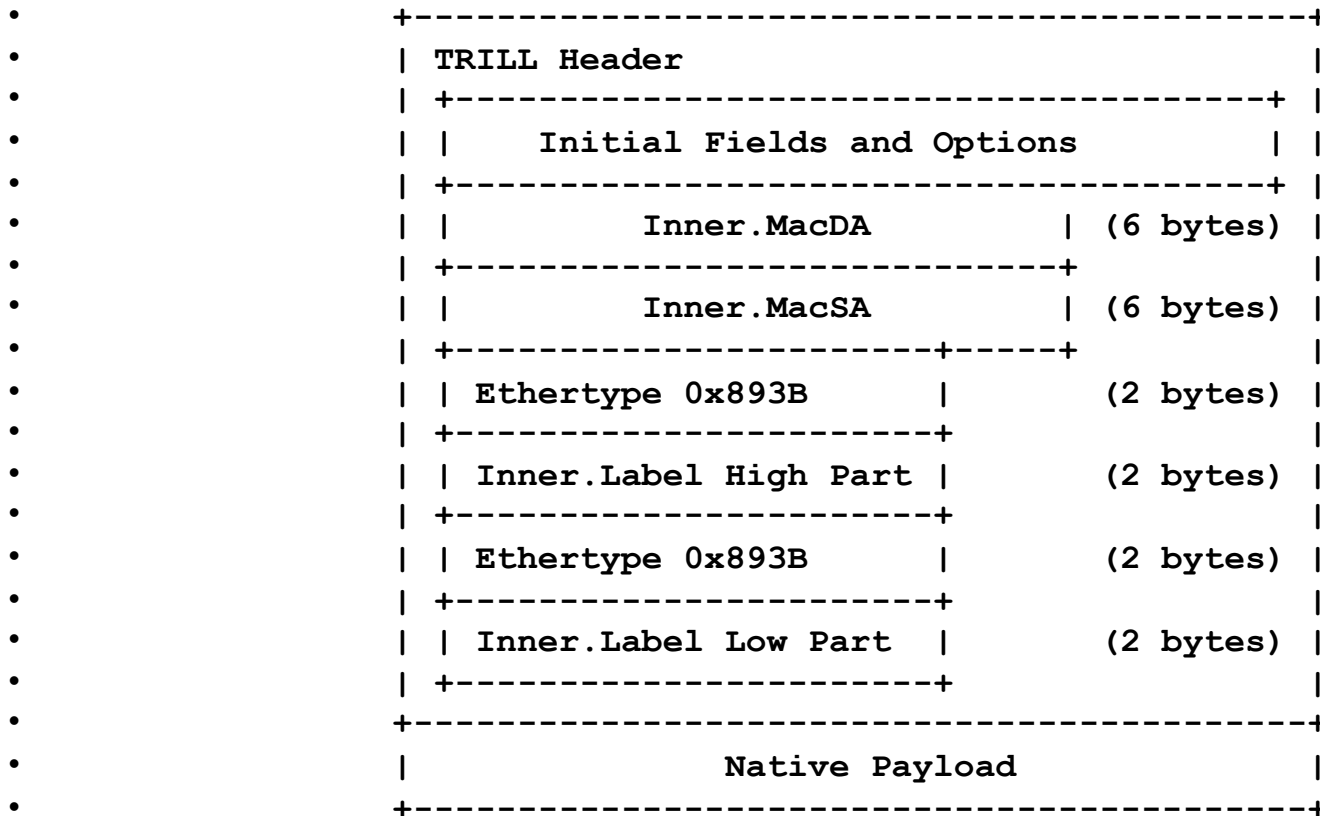Donald E. Eastlake, III

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Fine Grained Labeling

- Fine Grained Labeling provide 24-bit labels on TRILL data packets within a TRILL campus.

- On ingress, the VLAN of traffic is mapped to an FGL and on egress, an FGL is mapped to a VLAN.

- There are also provisions for priority at the FGL level.

FGL Standard

- Fine Grained Labeling was standardized in RFC 7172.

```
   +------------------------------------------+
   | TRILL Header                             |
   | +--------------------------------------+ |
   | |       Initial Fields and Options     | |
   | +--------------------------------------+ |
   | |           Inner.MacDA      | (6 bytes) |
   | +--------------------------+             |
   | |           Inner.MacSA      | (6 bytes) |
   | +----------------------+-----+           |
   | | Ethertype 0x893B     |       (2 bytes) |
   | +----------------------+                 |
   | | Inner.Label High Part |      (2 bytes) |
   | +----------------------+                 |
   | | Ethertype 0x893B     |       (2 bytes) |
   | +----------------------+                 |
   | | Inner.Label Low Part  |      (2 bytes) |
   | +----------------------+                 |
   +------------------------------------------+
   |            Native Payload                |
   +------------------------------------------+
```

Backwards Compatibility for Encoding

- If some TRILL switch ports use a different FGL encoding, there would be a problem if mixed ports were on a link using incompatible encodings.

- A bit can be allocated to indicate use of a variant encoding.

Backwards Compatibility for Encoding

- If two TRILL switches that both support FGL have ports on the same link but they use incompatible FGL encoding, then no adjacency would be formed. This is expected to be a rare condition.

END

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