RBridge Channel Tunnel
draft-ietf-trill-channel-tunnel-04

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The RBridge Channel Facility

- TRILL switches need a way to sent control messages to each other including multi-hop and multi-destination control messages. For example, BFD messages [RFC7175] since the BFD standard only specifies the payload, not an envelope.

- Such control messages are addressed by nickname (or distribution tree if multi-destination), since a TRILL switch it not guaranteed to have an IP or MAC address (it could have all PPP ports).

- The RBridge Channel feature [RFC7178] provides this facility.

- A message type ("channel protocol") field is included in the RBridge Channel header.

The RBridge Channel Facility (cont.)

- This is what it looks like at a high level:

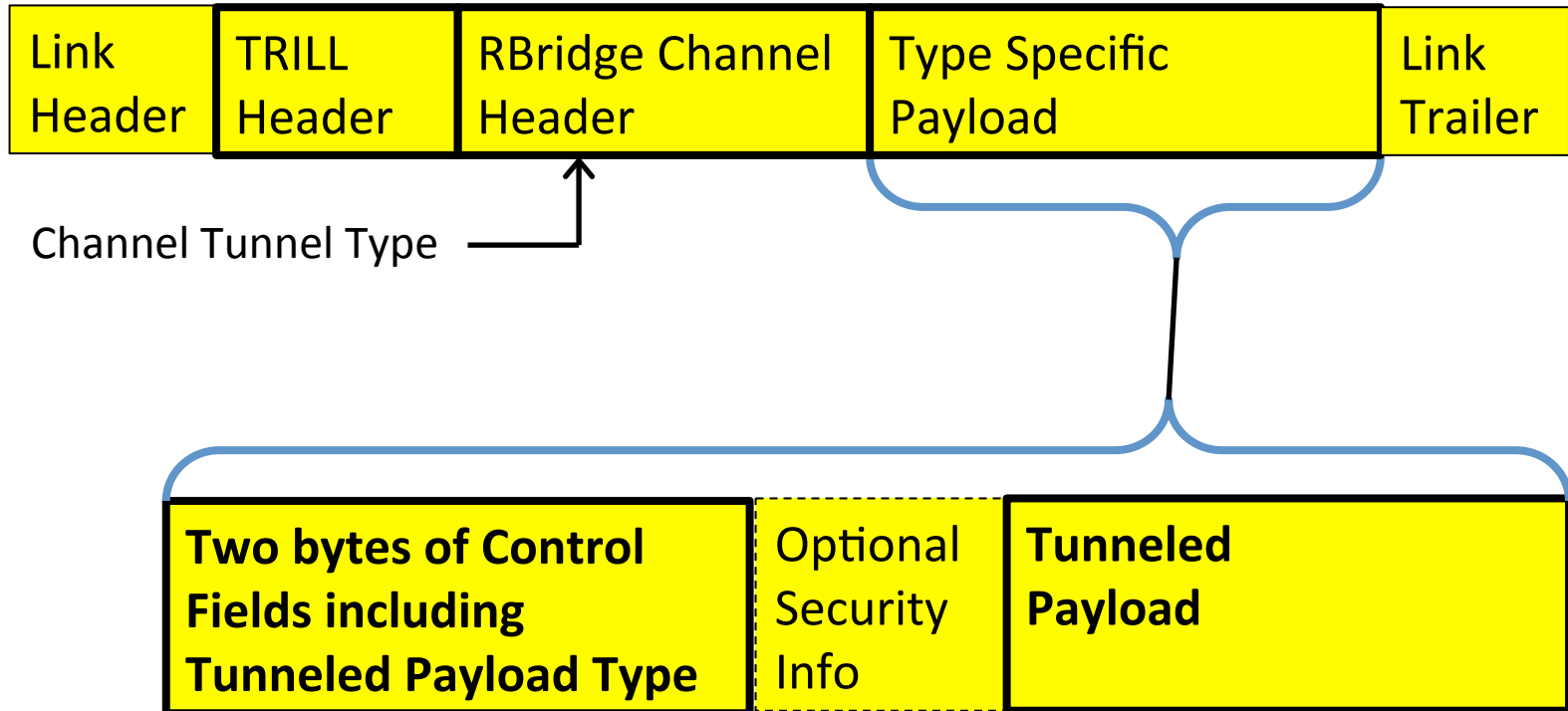| Link Header	TRILL Header	RBridge Channel Header	Type Specific Payload	Link Trailer

Message Type
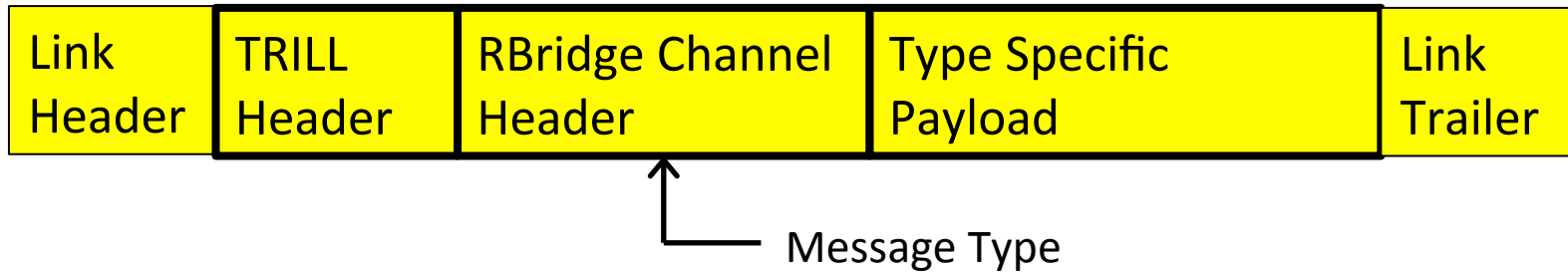
- It is also useful to be able to send control messages between TRILL switches and end stations. In this case, the messages are addressed by MAC address since end stations connect by Ethernet:

Ethernet Header	RBridge Channel Header	Type Specific Payload	FCS
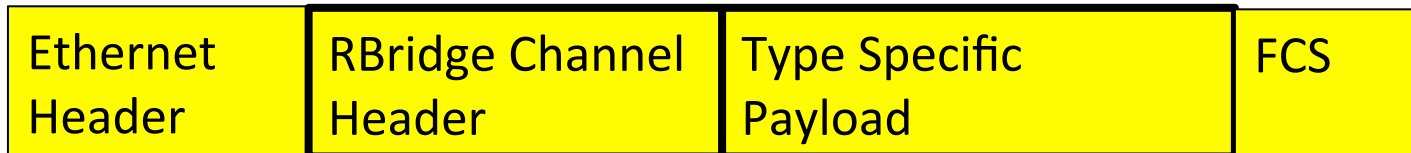
So what does Channel Tunnel Add?

1. The [RFC7178] RBridge Channel facility provides no security. That may be OK if the control message being carriedhas its own security, such as BFD, but is bad in general.

2. A way to tunnel standard payload types such as RBridge Channel messages, Ethernet frames, etc.

- By combining 1 and 2 above, Channel Tunnel lets you tunnel an RBridge Channel Message with security. This is currently used in draft-ietf-trill-directory-assist-mechanisms to security Pull Directory requests an responses.

Channel Tunnel

Link Header	TRILL Header	RBridge Channel Header	Type Specific Payload	Link Trailer

Channel Tunnel Type →

Two bytes of Control Fields including Tunneled Payload Type	Optional Security Info	**Tunneled Payload**

Changes since January Meeting

- -02 > -03 > -04
- Security improvements
  - Add DTLS based security
  - Add IS-IS keying based encryption and authentication
- Remove the "Scope" feature
  - Too complex and no demonstrated need

Question

- Currently specified channel tunnel payload types are:
    1. Null
    2. RBridge Channel message
    3. TRILL Data packet
    4. TRILL IS-IS packet
    5. Ethernet Frame

- Currently, for types 2, 3, and 4, there is no initial EtherType after the Channel Tunnel header.

- Proposal: Include EtherType and collapse payload types 2, 3, and 4 into one.

Questions / Action

- Questions?

- Actions:
  - Resolve the question,
  - Polish the draft a bit, post a revision, and
  - Do a WG Last Call.