

RBridge Channel Tunnel Protocol

draft-eastlake-trill-channel-tunnel

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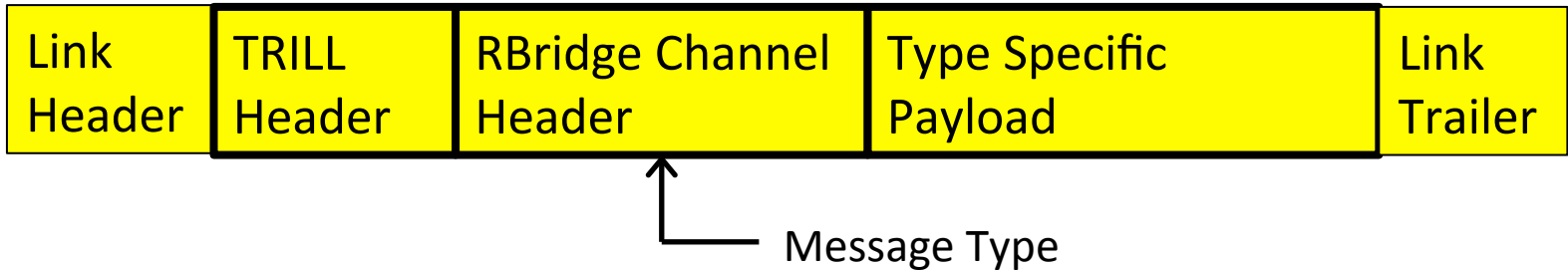
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The RBridge Channel Protocol

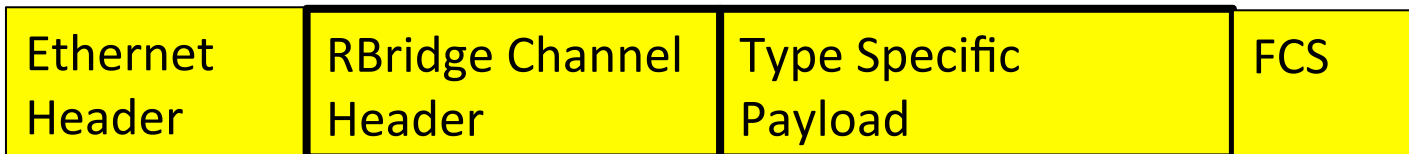
- A way to send typed messages between TRILL Switches. Specified in draft-ietf-trill-rbridge-channel which is a Proposed Standard.
 - Can also be used between end stations and a TRILL switch on the same link: Native RBridge Channel Messages
- Used as the way to envelope BFD (Bi-directional Forwarding Detection, RFC 5880) between TRILL Switches: draft-ietf-trill-rbridge-bfd which is a Proposed Standard.

The RBridge Channel Protocol

- RBridge Channel messages between TRILL switches look like TRILL Data packets.



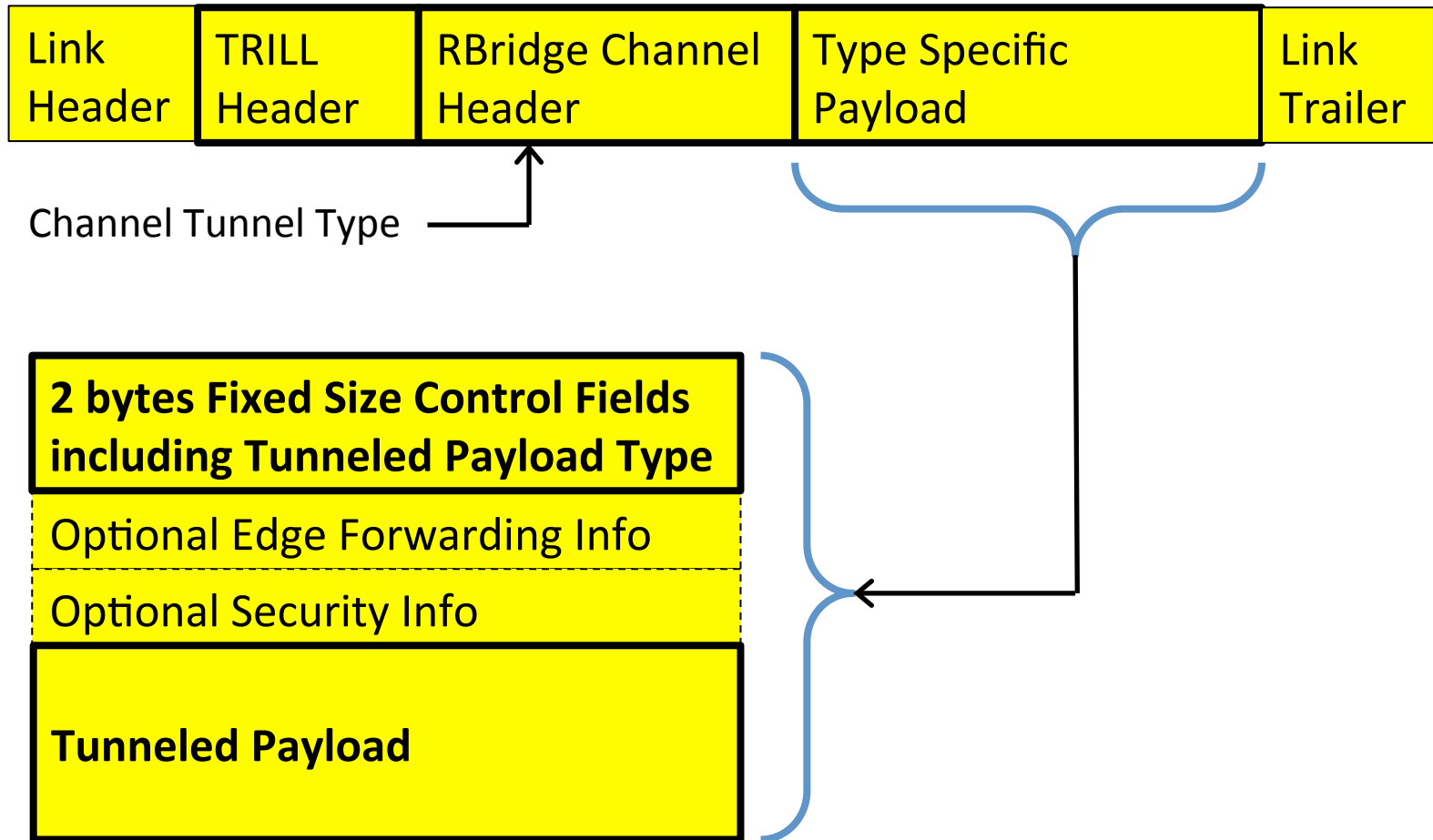
- Native RBridge Channel messages don't have a TRILL Header.



What's Missing?

1. A way to tunnel standard payloads such as RBridge Channel messages, native frames, TRILL Data packets, etc.
2. Security features.
3. A way to send an RBridge Channel message between an end station and a TRILL switch not on the same link or between two end stations not on the same link.

Channel Tunnel Message Format



Tunneling

- Channel Tunnel messages have a payload type field. Current draft has values for:
 - Null
 - RBridge Channel Message
 - TRILL Data Packet
 - TRILL IS-IS Packet
 - Ethernet Frame

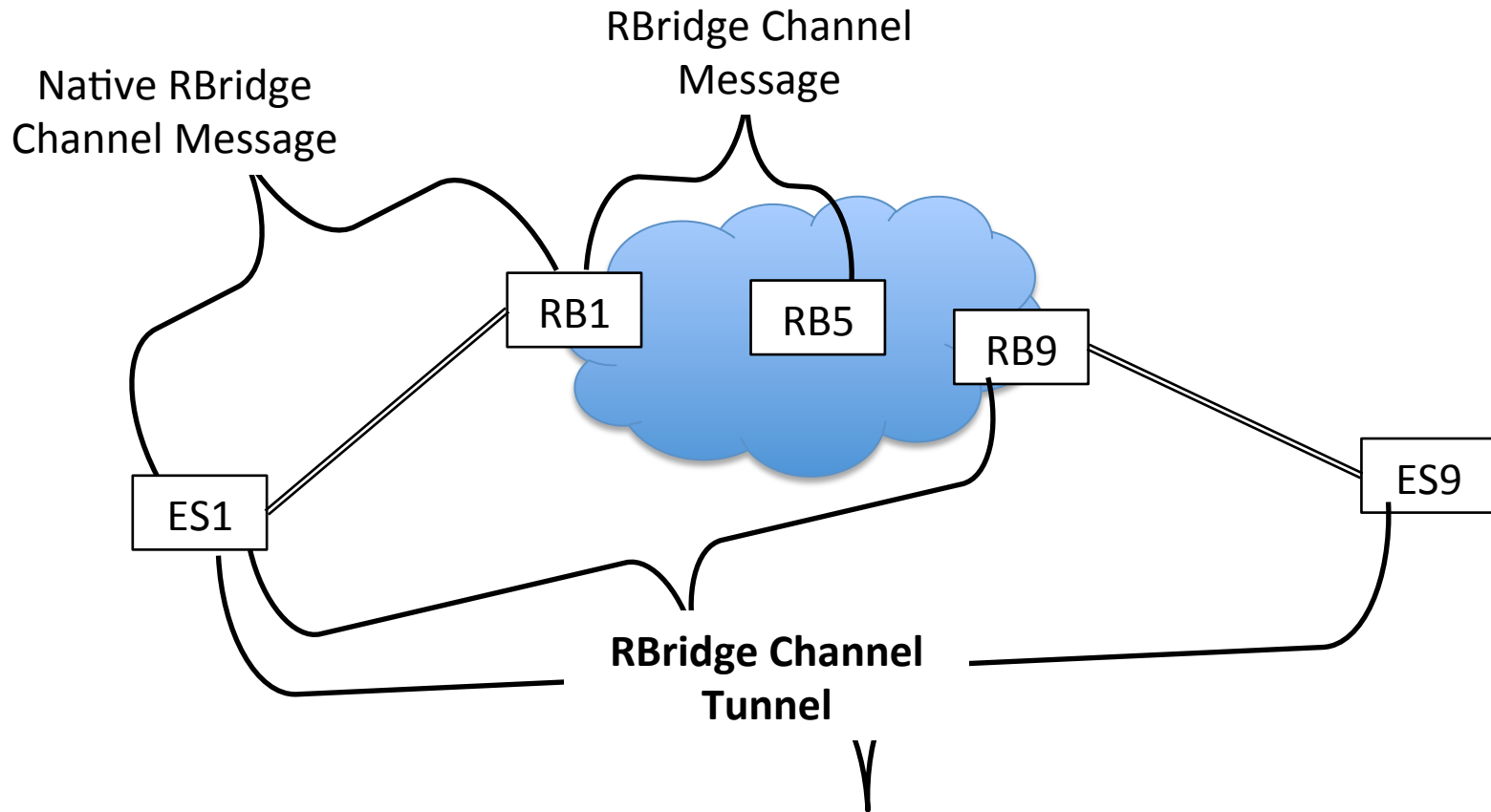
Security

- Security
 - The current RBridge Channel Message does not provide any security features even though the payload can be a “control message”. (BFD has its own authentication.)
 - The Rbridge Channel Tunnel will be able to provide authentication and encryption if desired.

Edge Forwarding

- Assuming cooperating TRILL switch(es) on the links with the end station(s) involved, provides a standard way to send an RBridge Channel message between:
 - An end station and a TRILL switch both in the same campus but not on the same link.
 - Two end stations in the same campus but not on the same link.
- Sender must be aware of what is going on and know the destinations nickname (for an Rbridge) or MAC address (for an end station).

Edge Forwarding



Security Considerations

- The Channel Tunnel Protocol is potentially dangerous.
 - Tunneled payloads, if blindly de-capsulated and processed, could wreck havoc.
 - This is somewhat mitigated by the ability to authenticate Channel Tunnel messages.
- The draft recommends being conservative in what you accept and requiring authentication where appropriate.