# MDD/KMF DTLS Tunnel

## A Proposal for Enabling Endpoint / KMF Key Exchange

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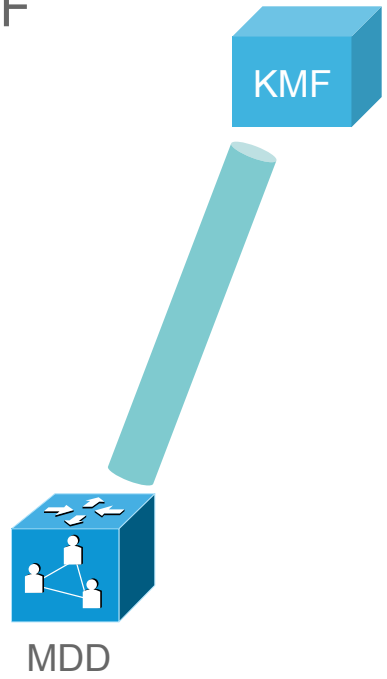
# Tunnel Objectives

- No changes to DTLS, DTLS-SRTP, etc.
- MDD and KMF establish a DTLS association (the “tunnel”)
- Endpoint and KMF establish a DTLS association
  - MDD forwards DTLS packets over the tunnel
  - KMF sends DTLS packets over the same tunnel
- Reliability is left to DTLS (no new mechanics or requirements)
- KMF also gives the MDD the HBH keys, salt values, and cipher for SRTP between MDD and endpoint

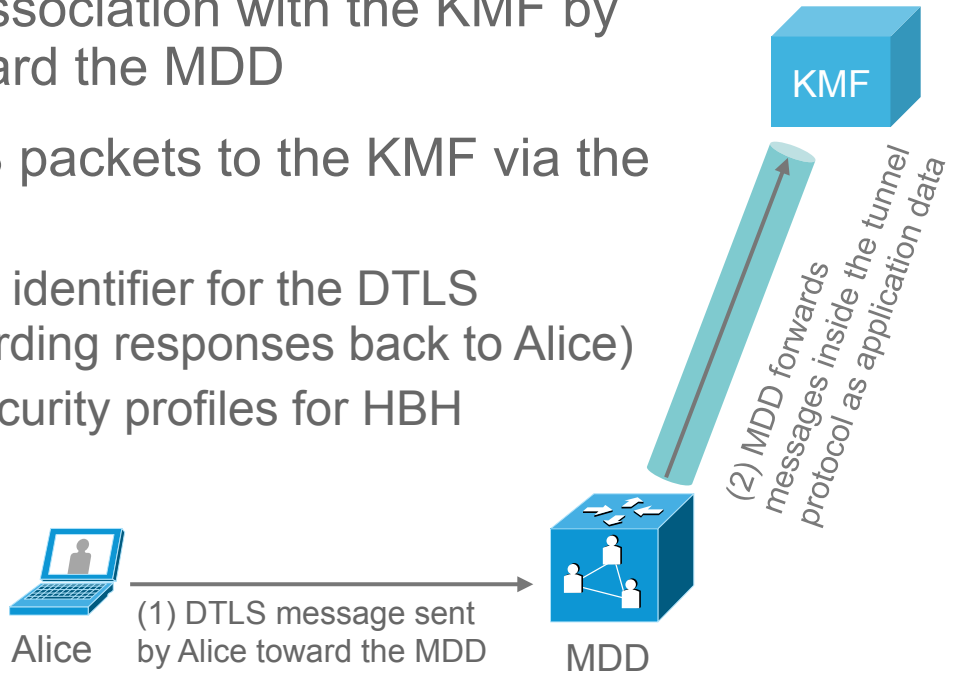
# The Tunnel

- The MDD establishes a DTLS association with KMF



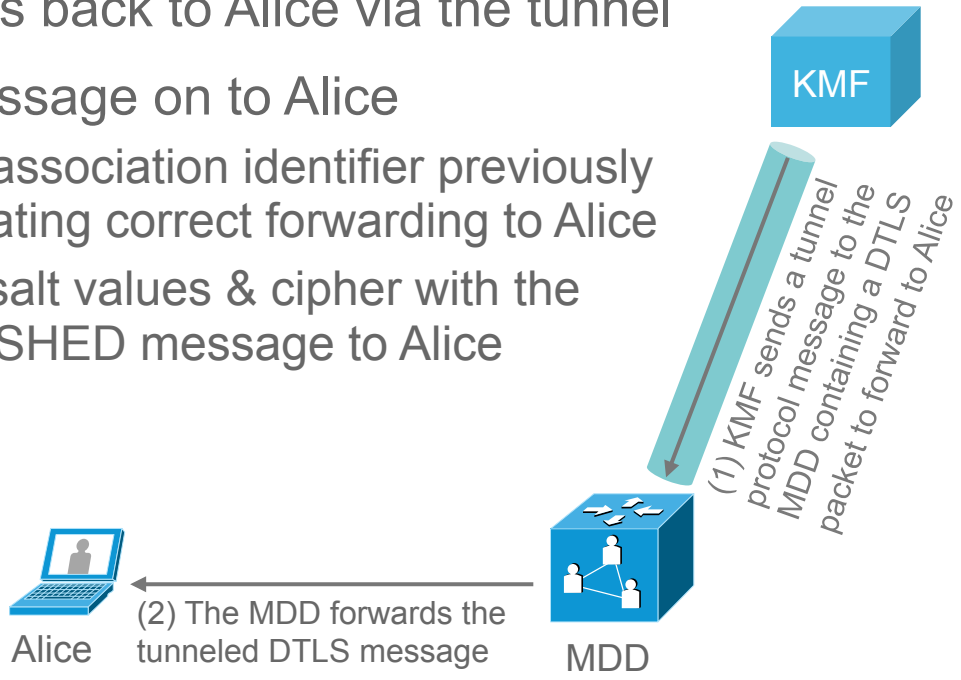
# Tunneling DTLS from Alice

- Alice establishes a DTLS association with the KMF by sending DTLS packets toward the MDD
- MDD forwards Alice's DTLS packets to the KMF via the tunnel as application data
  - MDD assigns an association identifier for the DTLS association (facilitates forwarding responses back to Alice)
  - MDD indicates supported security profiles for HBH operations via the tunnel

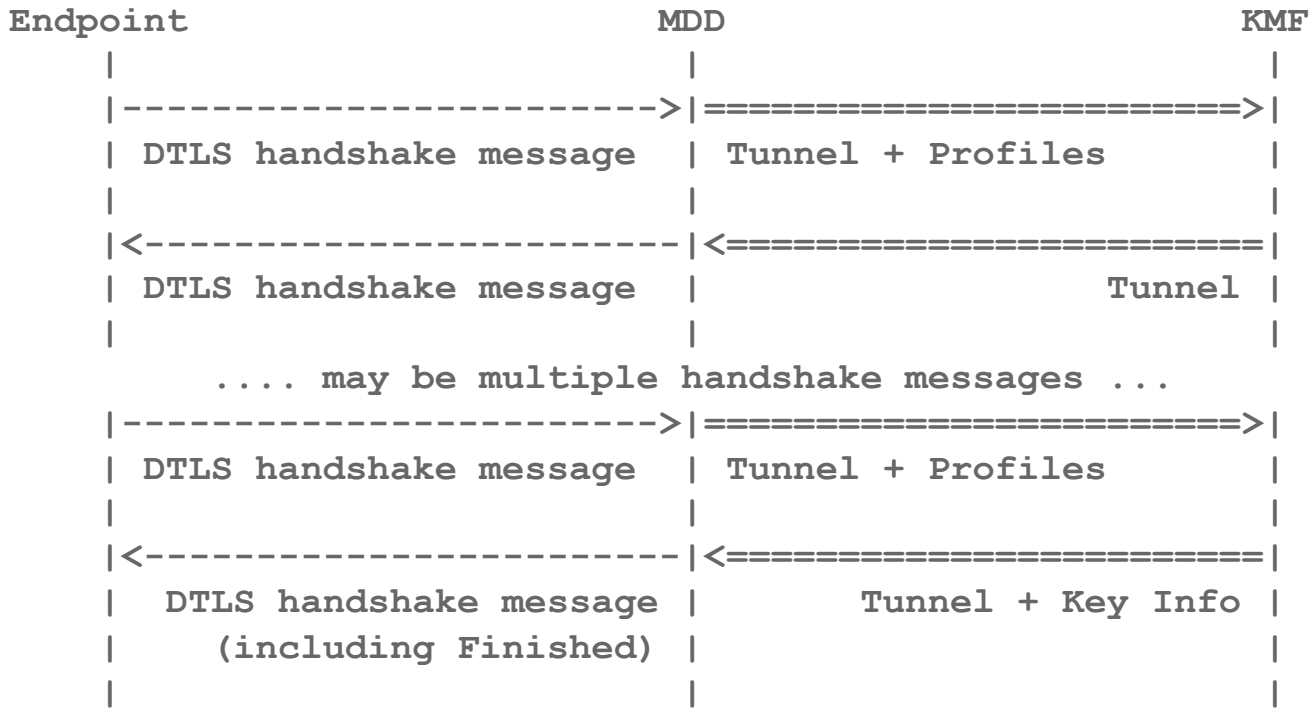


# Tunneling DTLS from the KMF

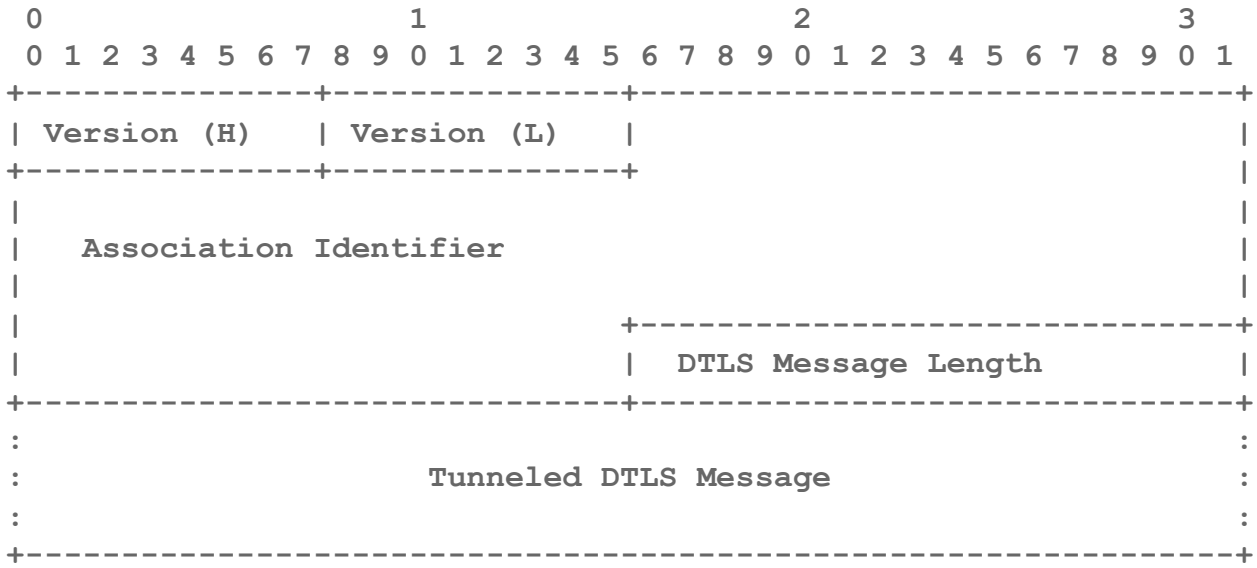
- KMF sends DTLS messages back to Alice via the tunnel
- MDD forwards tunneled message on to Alice
  - Tunneling protocol includes association identifier previously assigned by the MDD, facilitating correct forwarding to Alice
  - KMF shares the HBH keys, salt values & cipher with the MDD when it sends the FINISHED message to Alice



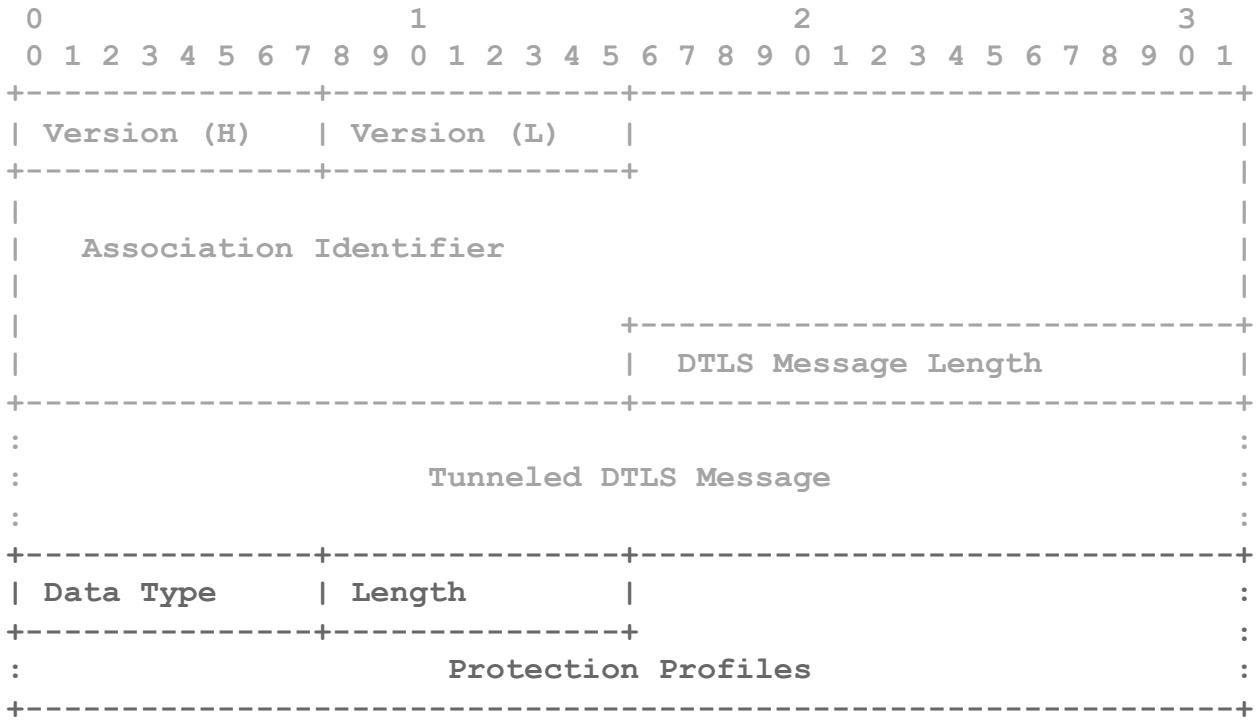
# Message Exchange via the Tunnel



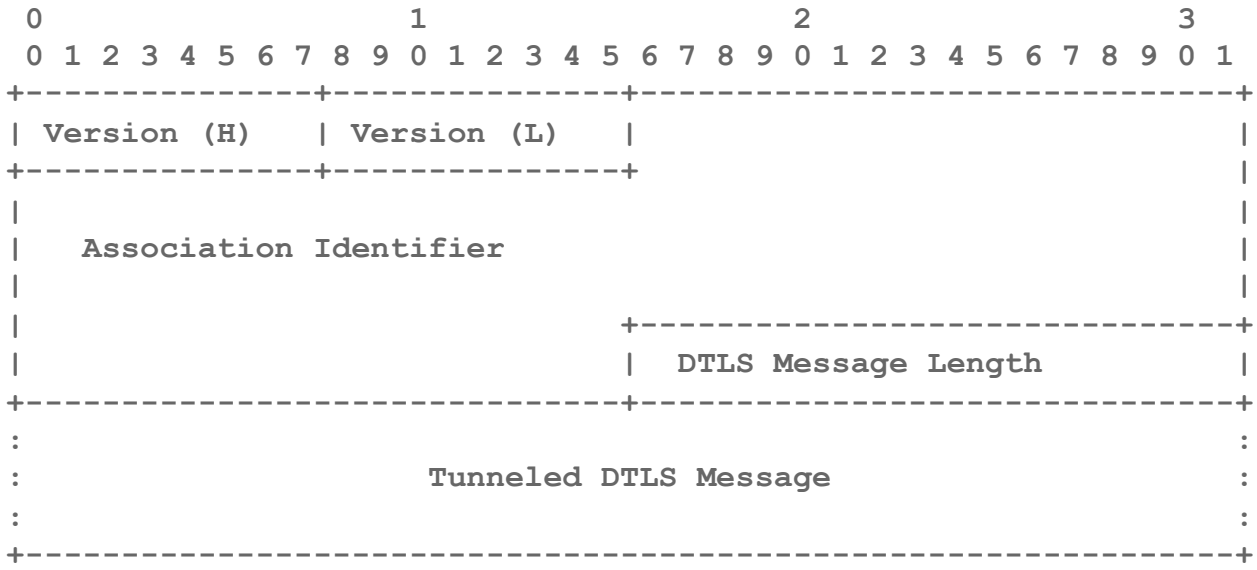
# Tunnel Message Format



# Messages from MDD to KMF

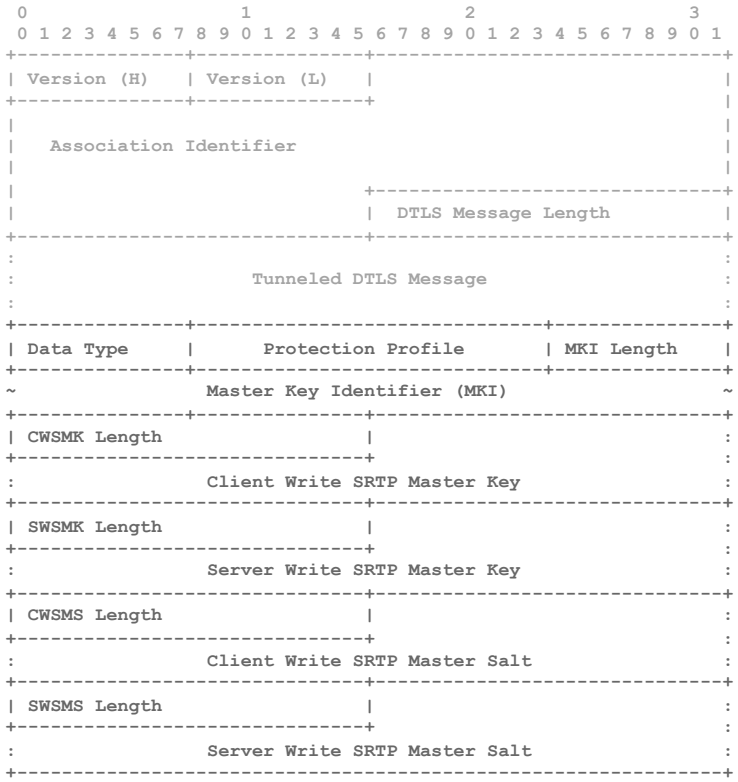


# Messages from KMF to MDD (1)




This is just the “tunnel” message with no additional data appended

# Messages from KMF to MDD (2)




The message form when the KMF sends a FINISHED message to an endpoint. The extra data are the key, salt, and cipher values the MDD will use for HBH operations.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