MAC PDU Construction on Relay Links

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Purpose:

Propose enhancements to the concatenation and packing mechanisms defined in current IEEE 802.16e for application on relay link.

MAC PDU Construction on Relay Links

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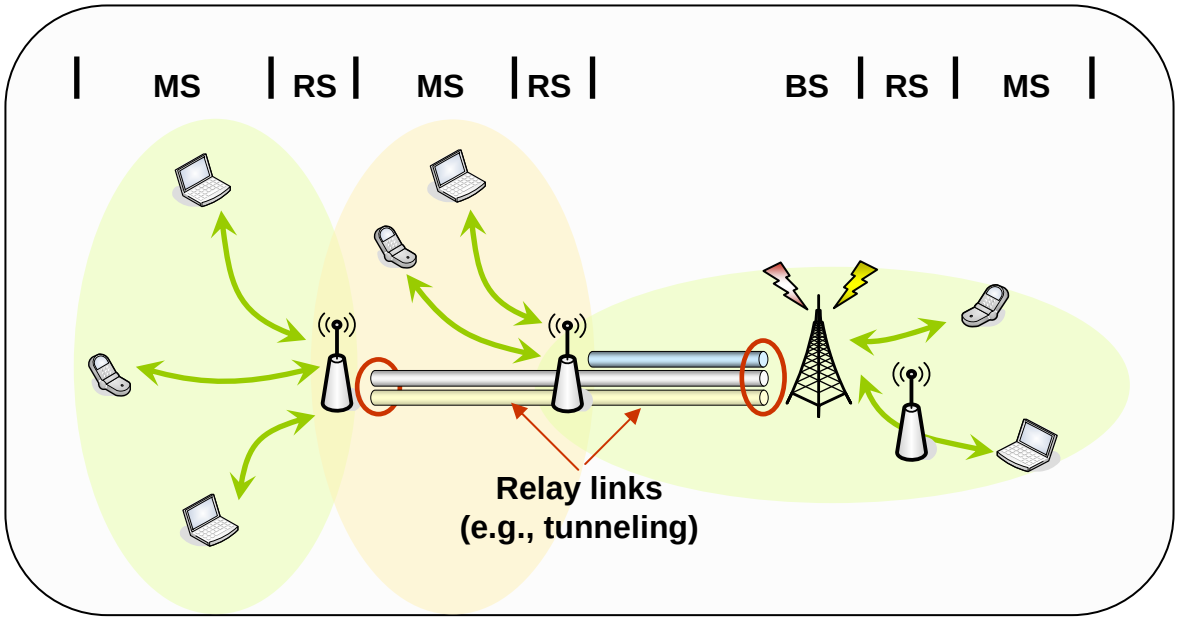
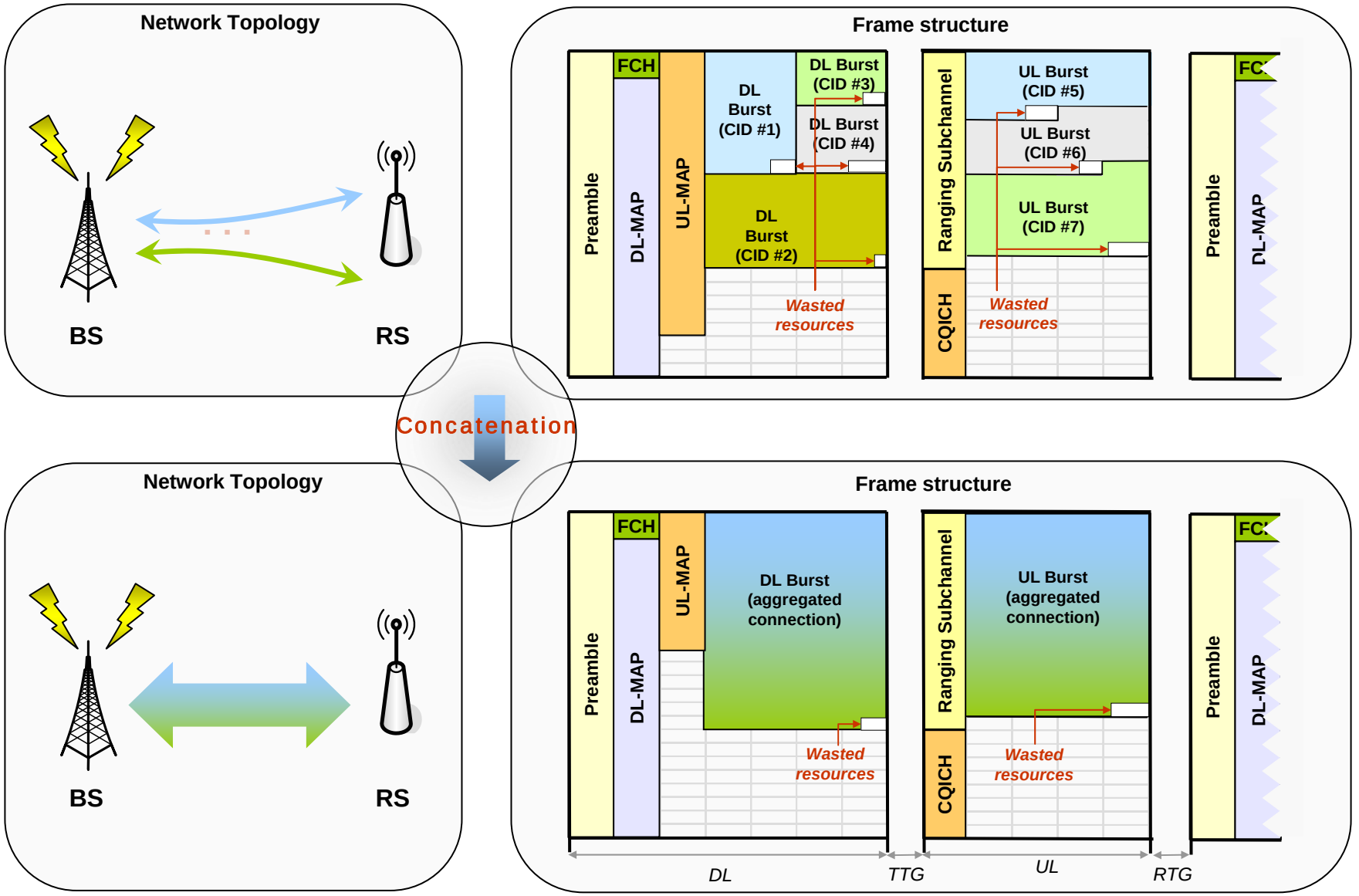
Requirement of Relay Links

- The concept of “relay” intrinsically implies a notion of *aggregation*.
- The logical aggregation on downlink and uplink between BS and RS leads to more efficient channel resource utilization.



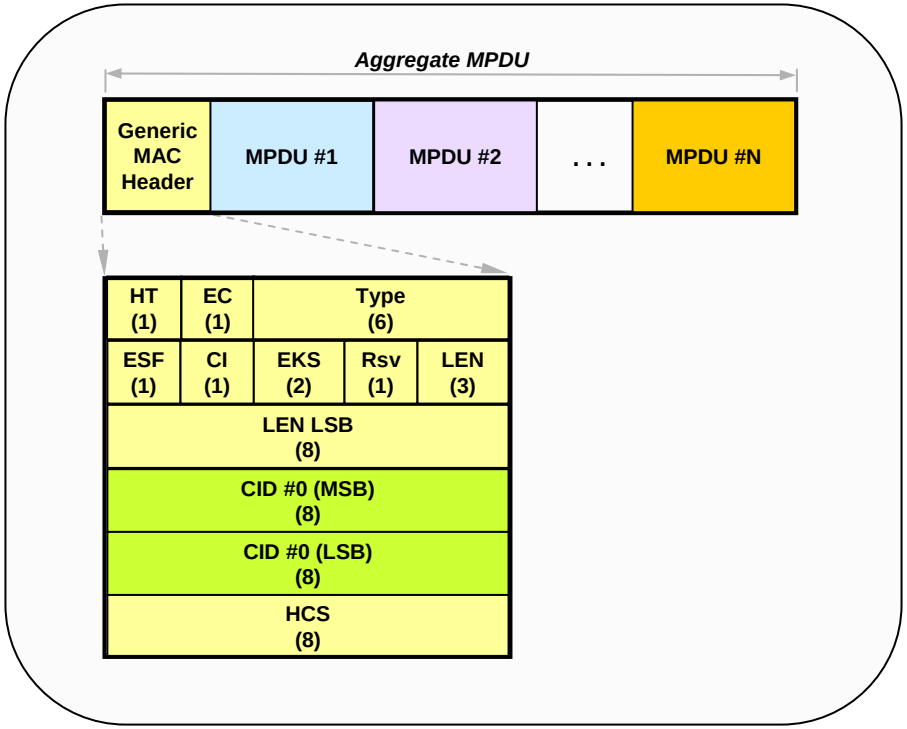
- Enhancements to 802.16e standard are needed to enable and leverage the inherent notion of “aggregation”.

Concatenation on Relay Links



MAC PDU Construction on Relay Links

- To facilitate traffic aggregation/tunneling, a generic MAC header can be appended in front of the concatenated MPDUs.
  - The "**Length**" field in the generic MAC header should describe the total length of the MPDU.
  - The "**CID**" field in the generic MAC header contains the logic/tunnel CID that the intended destination can recognize.



Key Observations & Summary

- Transmission between RS and BS (both UL and DL) can invoke the concatenation mechanism defined in 802.16/802.16e.

- The associated management messages (i.e., DL-MAP, DCD, UL-MAP, and UCD) describe the allocated resources in an aggregate manner for a set of connections between BS and RS.

- We propose a MAC PDU construction method to facilitate traffic aggregation/tunneling.