PWE3 Frame Relay

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<draft-bryant-pwe3-fr-encap-00.txt>
<draft-bryant-pwe3-fr-compare-00.txt>

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Questions

Two methods have been proposed for sending frame-relay PDUs over a pseudo-wire:
• <draft-martini-l2circuit-encap-mpls-04.txt> and
• <draft-kamapabhava-fr-pwe3-00.txt>.

These drafts beg two questions:

• Why is a Frame Relay intermediate format needed?

• If it is needed, why make it hard for the implementers?
Frame-relay header translation

Constant (may be pre-loaded into DLCI by control plane)

Two and four octet frame-relay headers in IETF notation

Frame-relay header translation does not seem to benefit from an intermediate format.
### Separate convergence and payload

**Frame-relay header without abbreviation:**

- Uses generic packet payload type
- Simple & efficient to implement
- Common approach with VLAN and other packet types over PW
- Separates transmission from translation
- Places FR semantics & changes outside PW

Cost = 0
FRoPW control word format

FRoPW header from <draft-kamapabhava-fr-pwe3-00.txt>

Cost = 14
Proposed change to follow Martini format

- The proposed Martini frame-relay control word format described in: `<draft-martini-l2circuit-encap-mpls-04.txt>` predates PWE3.
- The authors of `<draft-kamapabhava-fr-pwe3-00.txt>` have indicated that they will change their draft to conform to draft-martini.

The Martini format is inefficient for software implementations.
Martini control word for Frame-relay

Frame-relay control word from <draft-martini-l2circuit-encap-mpls-04.txt>

```
  0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+------------------------------------------+
| Rsvd | B | F | D | C | Length | Sequence Number |
+------------------------------------------+
| hi dlci | C | 0 | lo dlci | F | B | D | 1 |
+------------------------------------------+
```

Cost = 32
Frame Relay optimised CW

2 Octet Frame Relay Header

```
| hi dlci | C|0|lo dlci|F|B|D|1|
```

4 Octet Frame Relay Header

```
| hi dlci | C|0| dlci |F|B|D|0|   dlci      |0| dlci_lo   |0|1|
```

Control word from <draft-bryant-pwe3-fr-encap-00.txt>

Cost = 6/12
Recommendations

• Send frame-relay packets transparently and unchanged.

• If we must use an intermediate type, use a frame-relay efficient format.