Background

- RFC3024 provides two alternatives for reverse tunneling (direct versus encapsulating)
- However, multicast/broadcast support requires the so-called encapsulating delivery style
- If using encapsulating delivery style *all* traffic (even unicast) must be encapsulated from MN to FA
- This introduces wireless packet overhead even for the more common unicast packets
- Folks desire a more optimized delivery option between the MN and the FA in the particular case of radio links of a p-p nature (e.g., WiMAX)
Proposal

- Multicast-Broadcast encapsulating delivery (MBED) style
  - Encapsulates MC/BC packets from MN to FA
  - Unicast packets are direct delivered between MN and FA

- MBED style extends RFC3024 encapsulating delivery style

- Link-layer assisted delivery style for links of a point-to-point nature (example: Wimax)

- MBED encapsulating extension
  - TLV structure; allows different delivery style (*including* RFC3024 encapsulating delivery style)
Multicast-Broadcast Encapsulating Delivery extension

- FA advertises MBED support in its Agent advertisement
- MN negotiates use of the MBED extension in its Registration Request

```
  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
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|     Type      |     Length    |    Bit-field Value            |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
Type TBD      Length    2         Bit Field Value : 1, 2, 4 ...
Type TBD      Length    2         Bit Field Value : 1, 2, 4 ...
Value x0001 : same as RFC3024 encapsulating delivery style
  x0001 : Multicast-broadcast encapsulating delivery style
  x0002 : Multicast-broadcast encapsulating delivery style
  x0004 : Link-layer assisted delivery style for local network
```