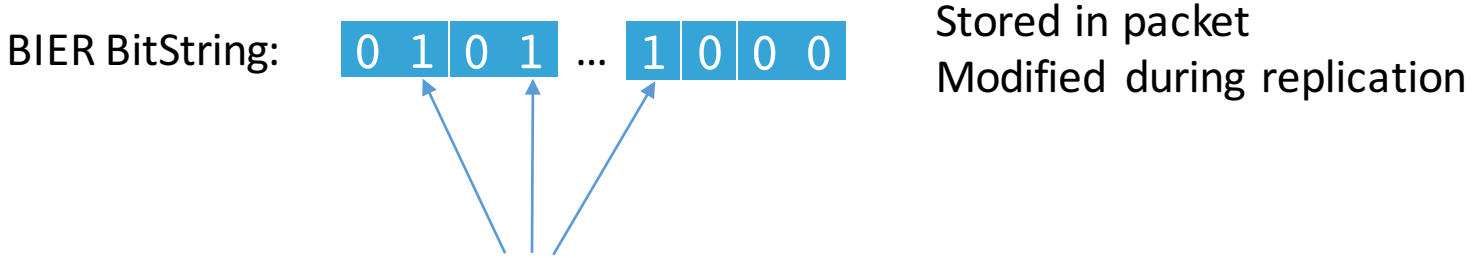
BIER
over
IPv6

Special 6man

draft-pfister-bier-over-ipv6-01 @ IETF 97

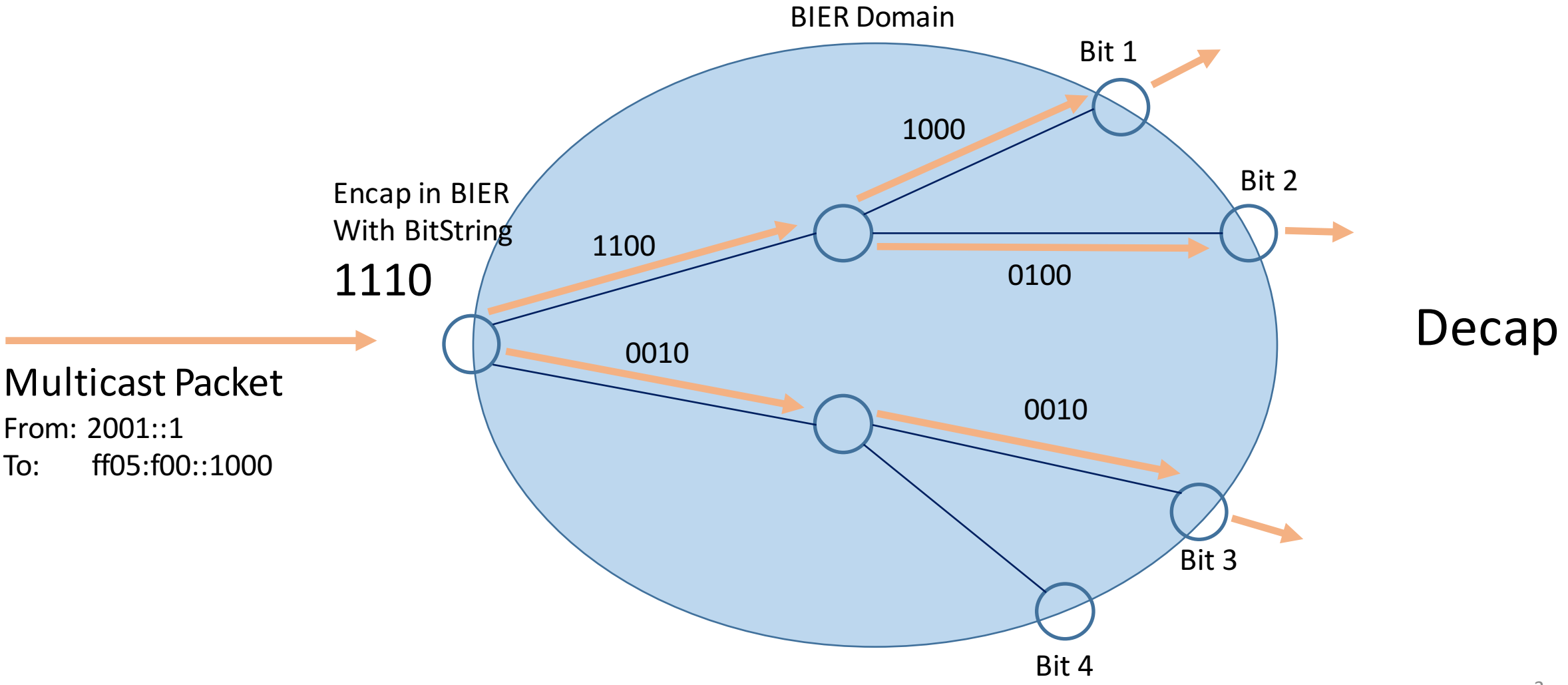
BIER for ~~dummies~~ 6man

- New multicast transport paradigm
- **No multicast protocol** (uses unicast forwarding)
- Forwarding **state is in the packets** (not in the routers & groups)



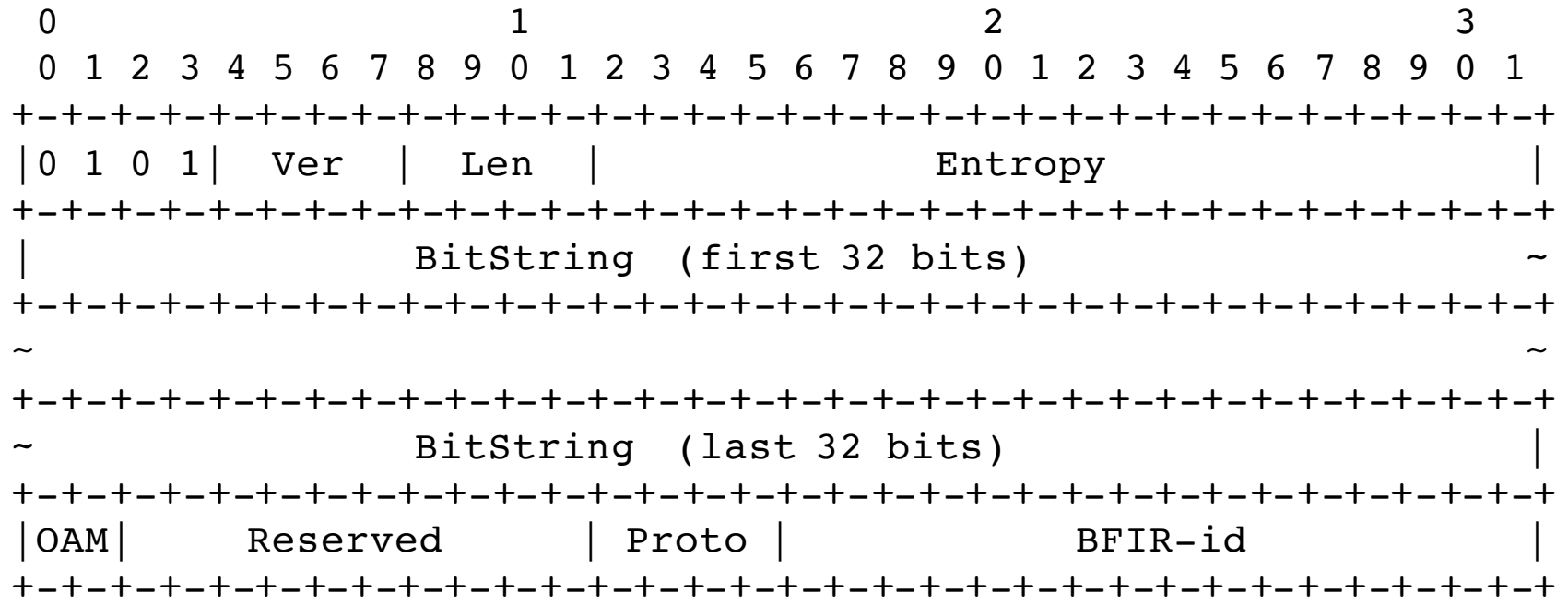
Each bit set indicates **a destination the packet should go to**.

BIER for ~~dummies~~ 6man



BIER MPLS encap

- Defined in <draft-ietf-bier-mpls-encapsulation-05>
- BitString length from 64 to 4096 bits
- Sub-Domain and BitSet ID (provide more bits) are in MPLS label

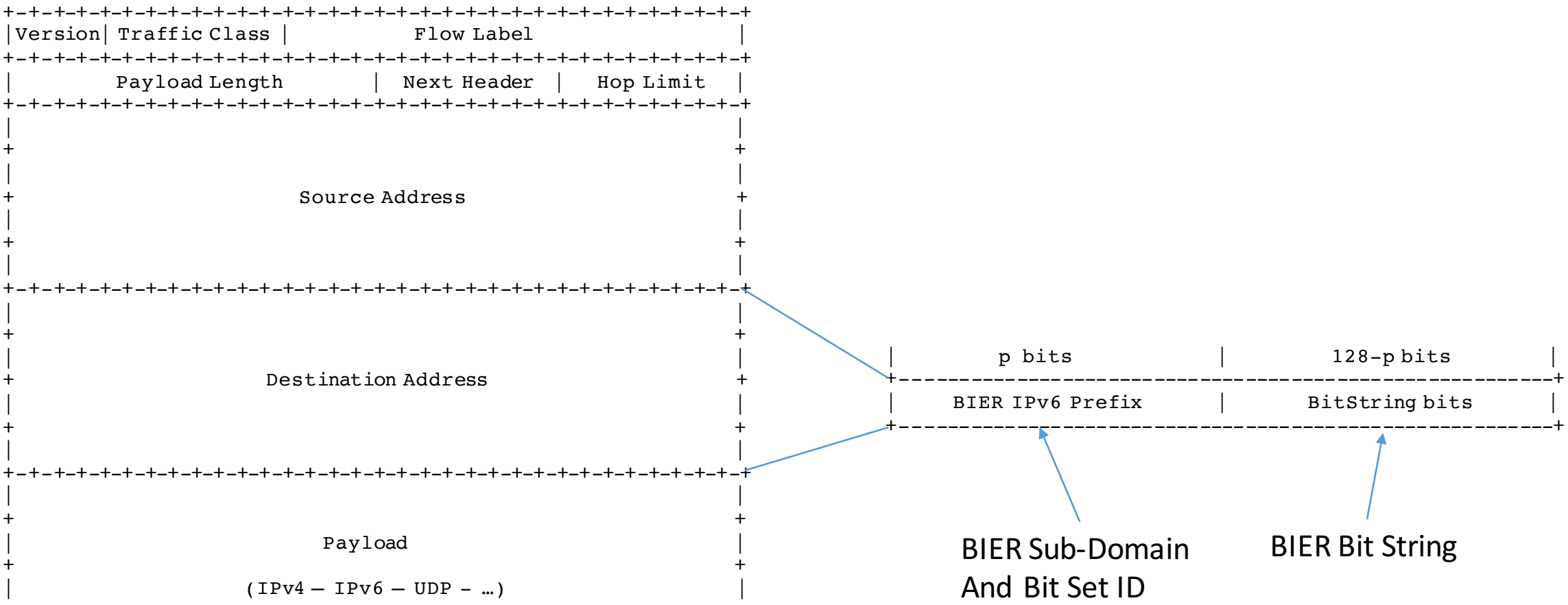


What about IPv6 ?

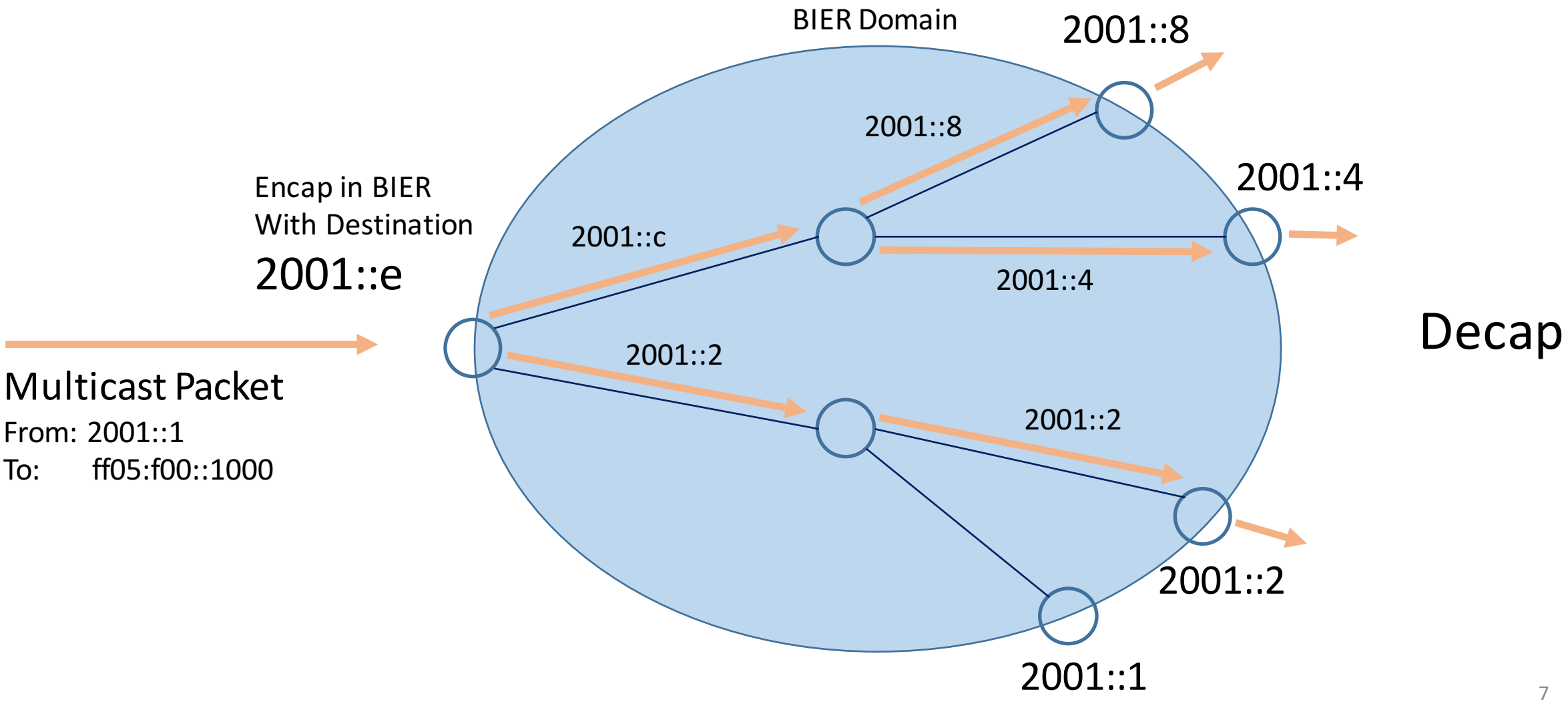
- BIER is an *experimental* WG chartered to specify the MPLS encap and *"another encapsulation".*
- My opinion: This *other encap* should enable BIER in **IPv6-only networks**.

- There are two options:
  - Use an **hop-by-hop extension header** option (or something similar).
  - Use the **IPv6 header** (*This draft*).

BIER over IPv6



BIER over IPv6



Pros and Cons of this approach

- Pros:
  - Works in **IPv6 only** networks
  - **No extention header.**
  - Compatible with **existing extension headers** (e.g. IPv6 SR)
  - Backward **compatibility with hosts** (for receiving and sending BIER IPv6 packets).

- Cons:
  - No more than ~80 BIER bits.

Questions for 6man

- The BIER working group supports this work.
- Does 6man object ?
  - Does anyone think a hop-by-hop header approach would be better ?
  - Are there any other option ?
  - Should we just stick to L2/L2.5 ?

Thanks for the feeback