Update

draft-pfister-bier-over-ipv6-01

BIER
over
IPv6
In the previous episode of BIER over IPv6

• Some networks will not deploy MPLS
  • We should provide a future-proof alternative encapsulation => IPv6

• Leverage IPv6 header
  • Put BIER BitString in the destination IPv6 address.
  • No IPv6 extension header

```
+---------------------------------------------+   +---------------------------------------------+
|                        p bits                 |   |                               128-p bits   |
|---------------------------------------------|   |---------------------------------------------|
| BIER IPv6 Prefix                          |   | BitString bits                            |
|---------------------------------------------+   |---------------------------------------------|
```
In the previous episode of BIER over IPv6

Multicast Packet
From: 2001::1
To: ff05:fo0::1000
In the previous episode of BIER over IPv6

• BFERs are assigned a **BIER IPv6 address with a single bit set**
  • This address also is a **valid unicast address** (Forwarded as BIER, but no duplication).

• BIER IPv6 packets are similar to Unicast IPv6 packets.
  • **Can be forwarded as unicast up to the BIER (sub-)domain.**
Outcome of the Interim Meeting

• MPLS and Ethernet encap are identical and will be merged.

• Leaves space for an ‘other encap’.
  • BIER over IPv6 offers a different approach with additional features.
-01 Update

- Sub-Domain and Bit Set ID are implicit to the BIER IPv6 Prefix.
  - Longest prefix match can be used.
  - BitString length is 128 – Prefix-Length

<table>
<thead>
<tr>
<th>p bits</th>
<th>128-p bits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIER IPv6 Prefix</td>
<td>BitString bits</td>
</tr>
</tbody>
</table>

- Terminology error: Routing Underlay -> BIER Layer
- Some wording clarification
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• Clearly mention that the BitString length is limited to ~100bits.
  • Architecture draft states:

  Every BFIR MUST be capable of being provisioned with an Imposition BitStringLength of 256. Every BFR and BFER MUST be capable of being provisioned with a Disposition BitStringLength of 256.

  [draft-ietf-bier-architecture-05]

• This looks very specific to the encoding.
  • What about BIER over small-MTU channels?
  • Is this reasonable statement for future encapsulations and encoding?
Next steps

• Consult 6man (on Tuesday).

• Relax BitString length requirements in the architecture draft?

• Should this be the ‘other encap’?
  • Are there other candidates?