Use Cases for Multiple Provisioning Domain in Homenet
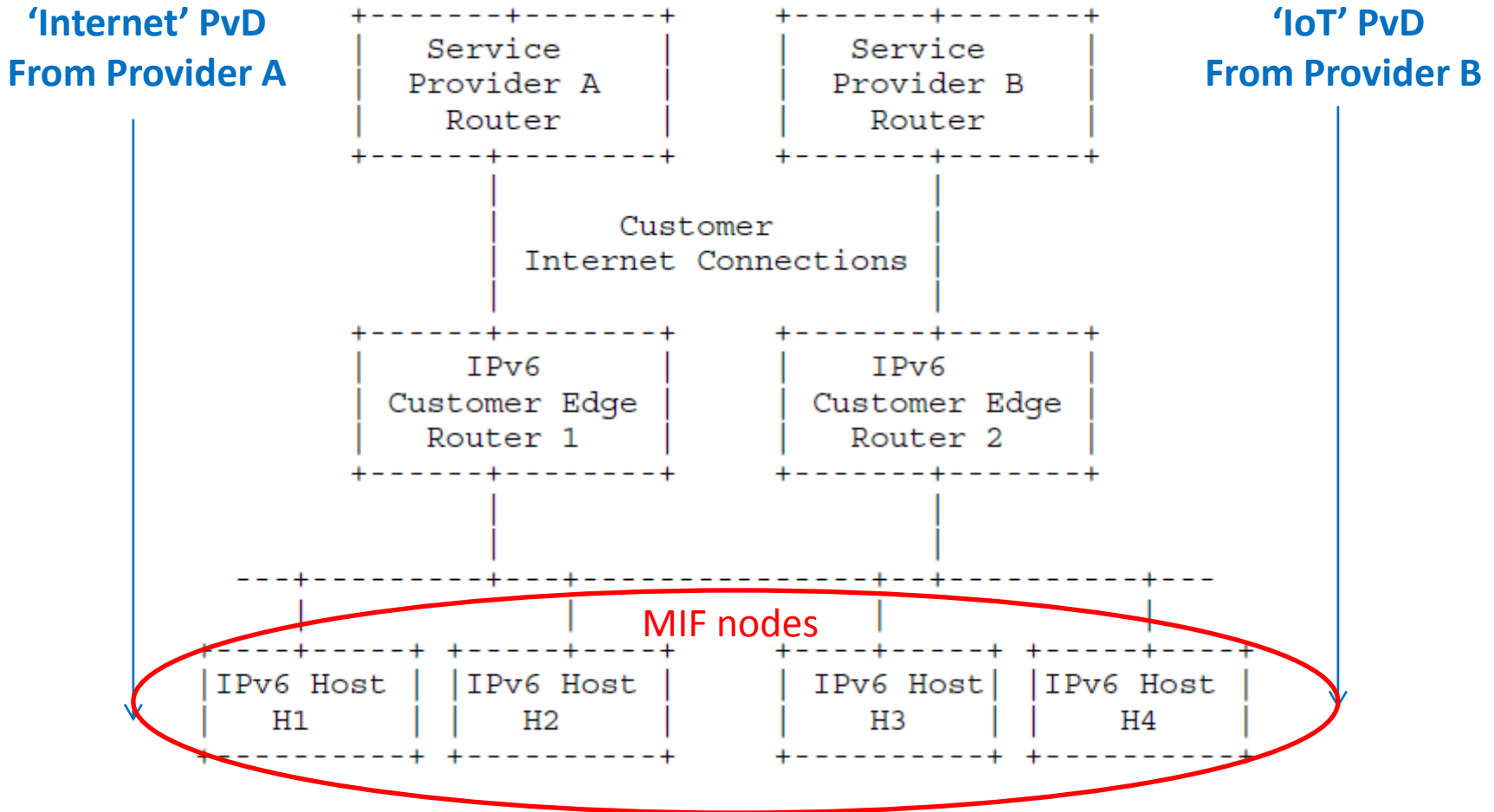## draft-geng-homenet-mpvd-use-cases-01

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PvD in Homenet

Example: Multiple CE routers providing different downlink interfaces to hosts

**'Internet' PvD
From Provider A**

**'IoT' PvD
From Provider B**

```
          +-------+-------+       +-------+-------+
          |    Service    |       |    Service    |
          |  Provider A   |       |  Provider B   |
          |    Router     |       |    Router     |
          +-------+-------+       +-------+-------+
                  |                       |
                  |       Customer        |
                  | Internet Connections  |
                  |                       |
                  |                       |
          +-------+-------+       +-------+-------+
          |     IPv6      |       |     IPv6      |
          | Customer Edge |       | Customer Edge |
          |    Router 1   |       |    Router 2   |
          +-------+-------+       +-------+-------+
                  |                       |
                  |                       |
        ---+------------+---+-------------------+-+------------+---
           |            |                         |            |
      +----+----+  +----+----+    MIF nodes  +----+----+  +----+----+
      |IPv6 Host|  |IPv6 Host|              | IPv6 Host|  |IPv6 Host|
      |   H1    |  |   H2    |              |    H3    |  |   H4    |
      +---------+  +---------+              +---------+  +---------+
```

The HNCP CE router needs support the delivery of PvD information within homenet

Conveying PvD info

- In MIF WG, a DHCPv6 mechanism is defined to convey the PvD info (i.e PvD container option)

- In Homenet, HNCP is used to configure internal nodes and DHCP data TLVs are used to carry the DHCP options

It seems that PvD info can by forwarded transparently by current mechanisms defined in MIF and Homenet

Conveying PvD info

- BUT...
- Would the current DHCP data TLVs in HNCP fully work with PvD options defined in MIF?
  - Signature validation problem?
  - ORO?
  - Does it support multiple prefixes per PvD?
  - Other issue
- Would PvD-specific HNCP TLVs be helpful?
  - PvD container TLV
  - PvD Identity TLV

Next Steps

- Ask for comments from MIF and Homenet WG
- We propose that Homenet and MIF should have a design team to work on this