# draft-ietf-udlr-multicast-issues-00.txt

54IETF Minneapolis
March 20 2002

Jun Takei/JSAT

# Using multicast with LLTM

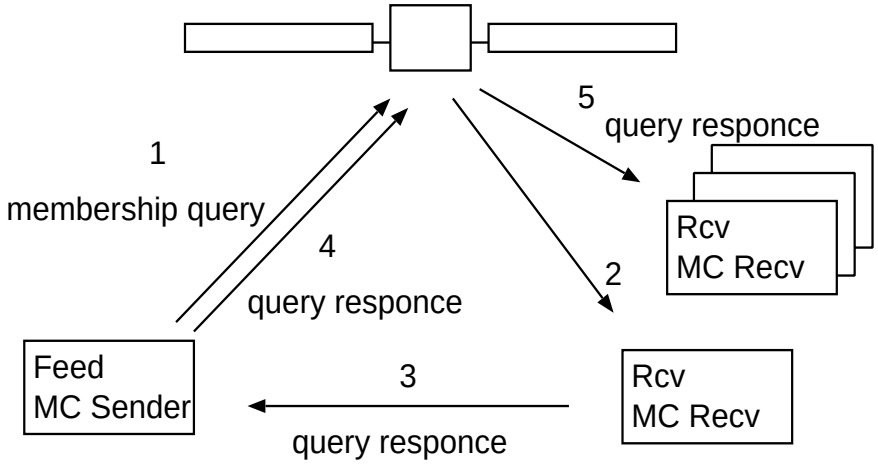
- This draft is based on the presentation and the discussion in Salt Lake IETF.
- Current Multicast protocol may have a problem when it is used with LLTM environment.
- This draft describes two kind of issue regarding multicast protocol.
- Aim of the draft
  - This draft provides a information to whom want to build a network with UDL.
  - This draft does not define any new protcol.

# Two type of issue

- Membership control(sec.3)
  - when the network may have
    - many receivers(routers)
    - long delay(e.g. satellite link)
- Reverse Path Forwarding(sec.4)
  - Revers path can not include UDL.

# Membership control(section 3)

- If the UDL is satellite link, there are quite large delay on the link and also many receivers can be connected.
- It can be say IGMPv2 issue.
- When a receiver send a query response message, the message may travel terrestrial link and the UDL from the feed to receivers.




- Meanwhile many receivers may send query response.

# Membership control issue

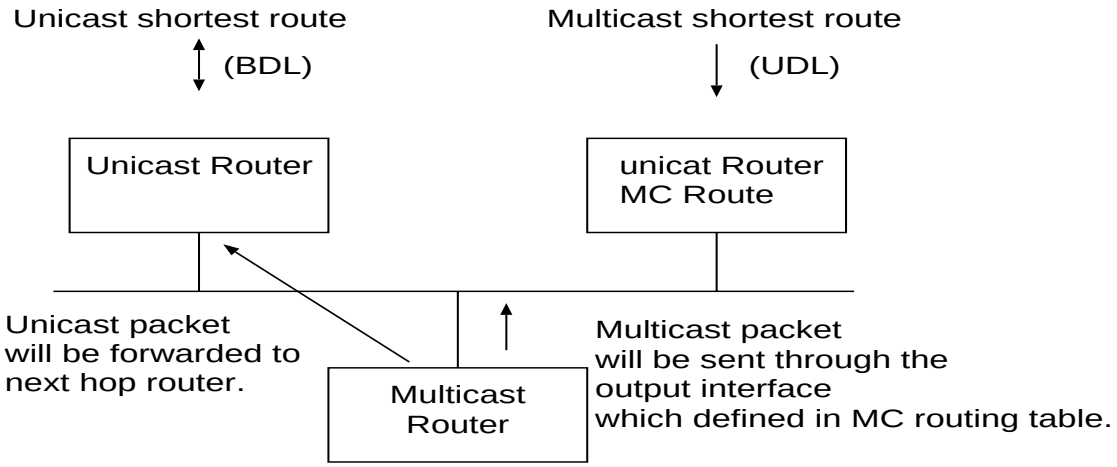
- How to avoid query response flood.
  - timer control
  - IGMPv2 has a timer(Max Response Time 0<x<25.5sec)
  - default value = 10.0sec
  - It may not enough, if the UDL may have long delay.
  - Solution
    - Short term
      - Static configuration
      - Locate a IGMP receiver on a segment which connected to the feed output interface
    - Long term
      - IGMP modification(wait for IGMPv3)

# Reverse Path Forwarding issue

- Router choose a multicast stream using reverse path forwarding.
- Normally it is calculated by using unicast routing protocol.(PIM,etc.)
- UDL doesn’t have reverse path.
- Needs some trick or routing protocol modification.

# Short term solution:

- Use a tunnel path for unicast rouitng.
- Use a multicast routing protocol which build a multicast routing table independent from unicast route(DVMRP).
  - Unfortunately there are scalable issue with DVMRP.
- Use the characteristics as follows,
  - Unicast routing mechanism defines next route with next hop ip address. multicast routing mechanism defines next route with output interface.



# Solution2:(long term)

- Protocol modification
  - Build multicast routing table independent from unicast routing table(New PIM).

That’s all. Thank you.