Multicast Ingest Platform

IETF 103 Hackathon

draft-jholland-mboned-driad-amt-discovery-01

Jake Holland
Network

Internet

sender1

relay1

sender2

relay2

border-rtr

access-rtr

ip mroute 0/0

PIM+OSPF
(same area)

ingest-rtr
AMT gateways

dhcp server
igmp querying

client devices
1. IGMP+PIM

Join:
S=192.0.2.10
G=232.1.1.1

2. DNS

Query:
10.2.0.192.in-addr.arpa
RRTType=AMTRELAY?

Response:
AMTRELAY=198.51.100.4

3. AMT

Signaling example

border-rtr

ingest-rtr
AMT gateways

access-rtr

Internet

sender1=192.0.2.10
relay1=198.51.100.4

sender2
relay2

client devices

Join:
S=192.0.2.10
G=232.1.1.1
Ingest Platform (in theory)

- Ingest Platform (in theory)
- Router
- IP mroute 0/0
- PIM
- Virtual bridge
- Prefix list add hook
- New sg source?
- IGMP join (S,G)
- DNS(S)->relay
- Spawn new AMT gw(relay)
- AMBI integrity filter
- AMT GW (relay1)
- AMT GW (relay2)
Ingest Platform (in practice: hack)

- router
- pim
- virtual bridge
  - tcpdump -vvv pim | pimwatch.py
  - pim
  - AMT GW (relay1)
  - AMT GW (relay2)
  - ip route <src1>
  - ip route <src2>

(Caveat #12 in github/frrouting/frr/pimd)

No IPv6 (Caveat #6 and #9 in github/frrouting/frr/pimd)
Running Code: ✓

VLC screenshot during hackathon, The Knowledge Network:

Try it: github.com/GrumpyOldTroll/multicast-ingest-platform
Draft: Known Open Issues

draft-jholland-mboned-driad-amt-discovery

• TBD section: local service discovery for LAN AMT
  • SHOULD for gateway implementations instead of reverse DNS?
  • Is “home.arpa” correct for e.g. office LAN? (example ok?)

• Security section: stub descriptions
Next steps

• mboned adoption?

• If so:
  • DNS expert review, draft update
  • Extend source for other platforms
    • better signaling triggers for join/leave