Multicast to the Browser

Status Update

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IETF 109 mboned

draft-ietf-mboned-dorms
draft-ietf-mboned-cbacc
draft-ietf-mboned-ambi
draft-jholland-mboned-mnat
Outline

- Updates since IETF 108
  - Trials in progress
  - Browser API implementation status
  - Doc Status & next steps (DORMS & CBACC)
- Multicast NAT (draft-jholland-mboned-mnat)
  - Why
  - What & How
  - Next steps?
Trials (8 ISP partners, + geo-relevant content owners)

- Running thru March 2021
- Lab testing
  - Set up `multicast-ingest-platform` (AMT ingest)
  - Attach to ISP’s gear (include access+CPE, maybe core)
  - Software downloader + Video in browser clients
  - Answer Survey Questions
    - Eval CBACC, overall viability
- Slight possibility for a production test
- 2-3 need MNAT or equivalent (not yet started)
- Estimates of expected gains from log analysis
Browser Implementation

- So far still just Chromium
- Sync’d to recent build
- Trying to start Dev Trial this month
  - (they updated process since July, looks helpful)
- Much work still to do
  - Windows
  - AMBI (with DORMS)
  - Then aiming for origin trial/TAG review
DORMS Updates (draft-ietf-mboned-dorms)

- Known TBDs & feedback finished
  - Checked vs. YANG guidelines (RFC 8407)
  - Checked IANA section

- Actions for WG now:
  - Yang doctor review request
  - Early allocation IANA request, service name “dorms”
  - Request cluster assignment? (with CBACC & AMBI)
CBACC Updates (draft-ietf-mboned-cbacc)

- Most TBDs finished
  - Refocused CB-mapping toward clearer explanation
  - Some still remain. 2 possible sections to add.

- Actions for WG now:
  - Request transport area review
  - (request yang doctor review? Or wait for DORMS?)
Multicast NAT: Why?

- Stoppers cited for multicast ingest deployment:
  - Source IP needs to be inside network (no RPF)
  - Static-only multicast routing (without PIM)
  - V6 networks for V4 traffic
  - IGMPv2 devices/ASM-only apps
    - With SSM source assignment in network, using 232

These problems all go away if you use different addresses inside a network. (Like with L3VPN)
MNAT: What & How (draft-jholland-mboned-mnat)

1. Subscribe (Sg,Gg)

2. On Downstream Join: NotifyJoin GetLocalMapping((Sg,Gg)): ->(Sn/*,Gn)

3. Subscribe (Sn/*,Gn)

4. On Admission/Assignment: GetLocalMapping((Sg,Gg)): ->(Sn/*,Gn)

5. Subscribe (Sg,Gg)

6+: Push on change

Client Device Joins (Sg,Gg)

Ingress Receive (Sg,Gg) Forward (Sn/*,Gn)

Egress Receive (Sn/*,Gn) Forward (Sg,Gg)

MNAT service (RESTCONF API)
Manage mappings

(Sg,Gg): Global (S,G) Multicast
(Sn/*,Gn): Local (S,G) or (*,G) Multicast
Purple: HTTPS Control Messages
Thick lines: Data
Thin lines: Control/Signaling

(Similar to MVPN)
HTTP API => No CPE Upgrade

5. Subscribe (Sg,Gg)

Ingress
Receive (Sg,Gg)
Forward (Sn/*,Gn)

4. On Admission/Assignment:
GetLocalMapping((Sg,Gg)):
->(Sn/*,Gn)

2. NotifyJoin
GetLocalMapping((Sg,Gg)):
->(Sn/*,Gn)

3. Subscribe (Sn/*,Gn)

MNAT service
(RESTCONF API)
Manage mappings

Dumb Access Point
(e.g. IGMPv2)

2. Subscribe (Sn/*,Gn)

App Wants to Join (Sg,Gg)
App, OS, or Browser as Egress:
- Discover MNAT (DNS-SD)
- Translate to (Sn,Gn)

Purple: HTTPS Control Messages
Thick lines: Data
Thin lines: Control/Signaling

(Sg,Gg): Global (S,G) Multicast
(Sn/*,Gn): Local (S,G) or (*,G) Multicast

6+: Push on change
MNAT next steps

- Early prototype running, more or less
  - Code to be posted shortly
    - MIT-licensed
    - Server=jetconf (CZ.nic RESTCONF framework)
    - ingress/egress=python agents, h2 to server
  - Different yang model than current draft, will update
- Suitable for mboned adoption?
  - In-scope?
  - Useful?