Multicast Control Protocol (MCOP)

draft-lehtonen-magma-mcop-01.txt

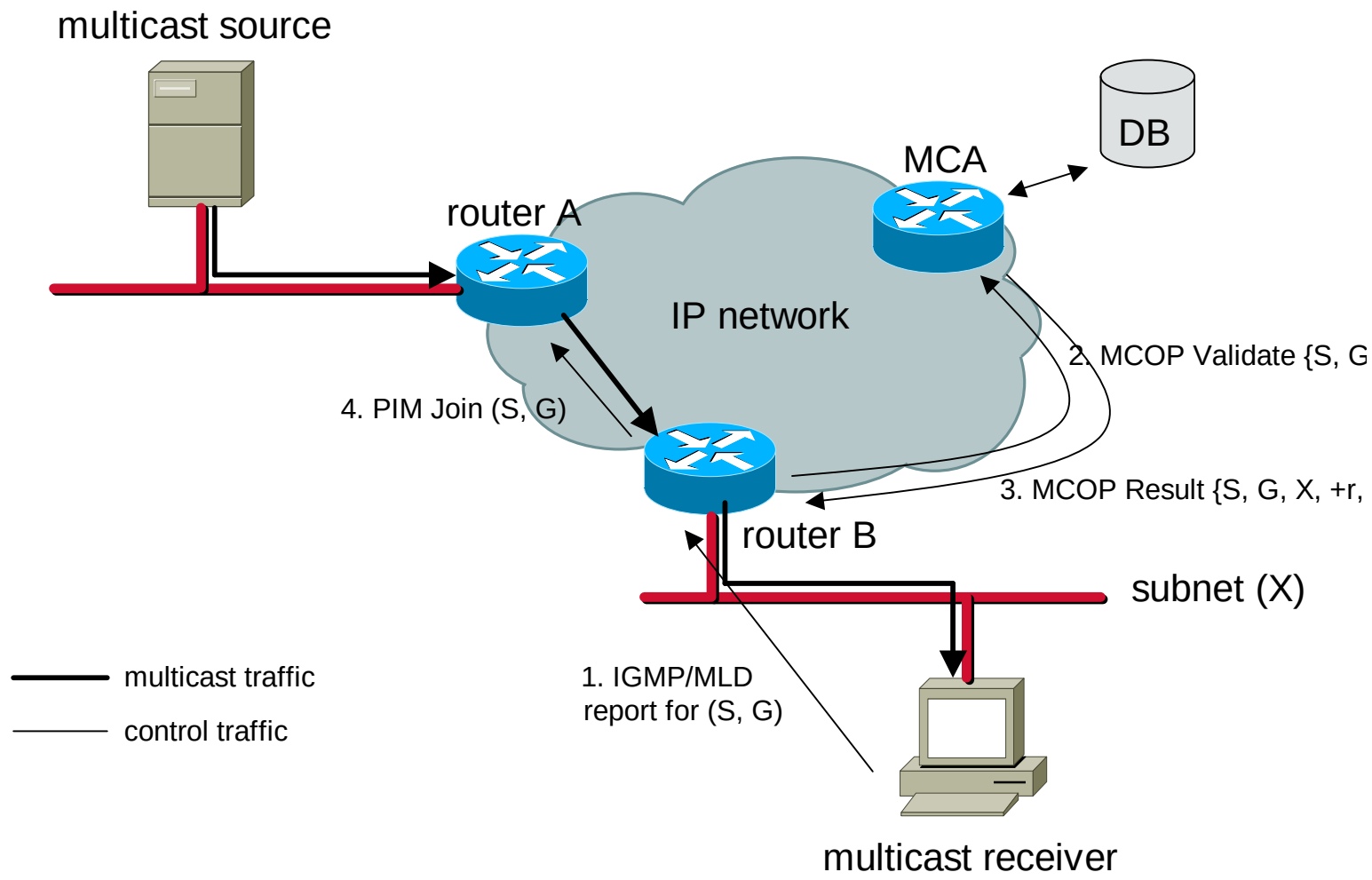
Multicast & Anycast Group Membership WG

55th IETF Meeting, Atlanta, GA USA

Outline

- MCOP model
- Applicability
- Changes since -00 draft
- Open issues
- Next steps

MCOP model


multicast source
DB
MCA
router A
IP network
2. MCOP Validate {S, G
4. PIM Join (S, G)
3. MCOP Result {S, G, X, +r,
router B
subnet (X)
multicast traffic
control traffic
1. IGMP/MLD
report for (S, G)
multicast receiver

Applicability

- Intra-domain control for ASM and SSM
- No control on sources and listeners outside the domain
- There is no inter-MCA protocol
  - Global policy hard to agree
- No protocol for clients to update MCA information
  - Requires authentication
- Authorization information is loaded to routers on request
- Validation happens when first listener or source joins the group
  - If group is not yet validated first sourced packets are dropped
- May be implemented over Diameter later
- Per host validation with IGMPv3/MLDv2
  - Per subnet with IGMPv1/IGMPv2/MLDv1

Other Changes since -00 Draft

- Added section on key maintenance
- Removed exclude-bit
- Clarified R and S bit combination semantics
- MLD clients use link-local address on reports
  - Routers SHOULD use Inverse NDP (RFC 3122) to find out global scope addresses of the client
- Made Security Considerations section more extensive

Open Issues

- How a client may be informed of denied access?
  - ICMP rules prevent sending ICMP Administratively Prohibited message back if the original destination is multicast address
  - In MCOP ICMP reports would be generated at connected router(s) and the original source should not get too many duplicate addresses
  - ICMP Administratively Prohibited message should have TTL / Hop Limit = 1
  - Requires changes to ICMP processing rules
  - Worth the trouble?

Next Steps

- Finalize implementation of MCOP
  - Linux environment
  - MCA + database, filtering bridge and MCOP protocol
- We request this to become working group draft
  - experimental RFC?
- Investigate use of MCOP to filter MSDP SA?
- Number of multicast group joins/sends per host limitation?
- Rate-limits per host?