

# draft-ietf-pim-multicast-lessons-learned-08

Dino, Lenny, Mike, Nils  
Shenzhen 125

# Current protocols/topics addressed

## 3. Lessons learned about IP Multicast **Protocols** over the last 30 years

3.1. DVMRP

3.2. MOSPF

3.3. Shared vs Source Trees

3.4. IGMP

### 3.4.1. IGMP/MLD Snooping

3.5. Data Driven State Creation and RPF

3.6. MSDP

3.7. MPLS MVPNs

3.8. SD and SDR

3.9. All or Nothing Problem

3.10. AMT and TreeDN

3.11. Network Based Source Discovery

3.13. Reliable Multicast

3.14. Premature Optimization

3.15. Kernel vs User Space

3.16. 802.11

3.17. RPT-to-SPT Switchover  
Thresholds

# New text

## 3.4. IGMP

- Multicast Listener Discovery (MLD) provides the corresponding functionality for IPv6. MLDv1 is functionally similar to IGMPv2 and MLDv2 aligns with IGMPv3 including support for SSM.
-

### 3.4.1. IGMP/MLD Snooping

IGMP and MLD snooping are commonly implemented in Layer 2 switches to limit multicast flooding within a VLAN by observing membership reports exchanged between hosts and routers. When operating correctly, snooping can significantly reduce unnecessary multicast replication in bridged domains.

Operational experience shows that snooping introduces a dependency on the presence of a functioning querier. In the absence of an active IGMP or MLD querier, group state will age out and multicast traffic can be unintentionally blackholed. Ensuring that each multicast enabled VLAN has a stable querier has proven to be a fundamental deployment requirement.

Snooping behavior during topology changes has also been a source of transient outages. Events such as link failures, spanning tree reconvergence or switch reloads may invalidate learned state. Implementations vary in recovery behavior and delayed re-learning of

# Next steps

- Continue to make slow and steady progress, feedback appreciated.
- What else?