

# Multicast Source Notification of Interest Protocol (MSNIP)

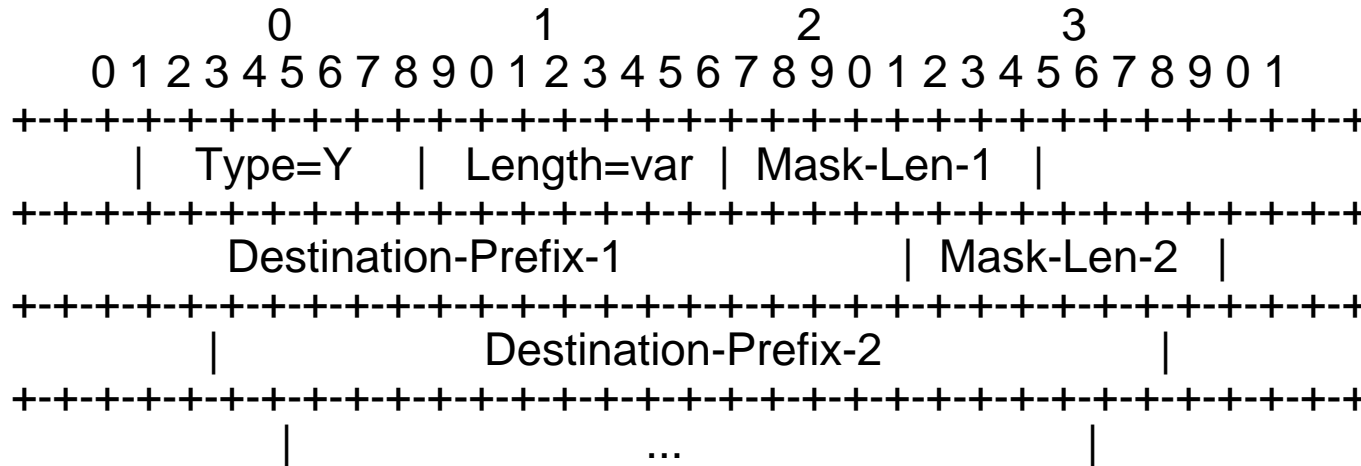
draft-ietf-idmr-msnip-01

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# MSNIP overview

- ◇ Operates between source IP systems and first-hop routers.
- ◇ Applications register with IP host stack to receive notifications on the existence of receivers.
- ◇ First-hop routes send MSNIP membership reports to source systems to control starting and stopping of traffic.
- ◇ This revision mostly addresses comments by Dave Thaler at London IETF.

# SSM Range Advertisement

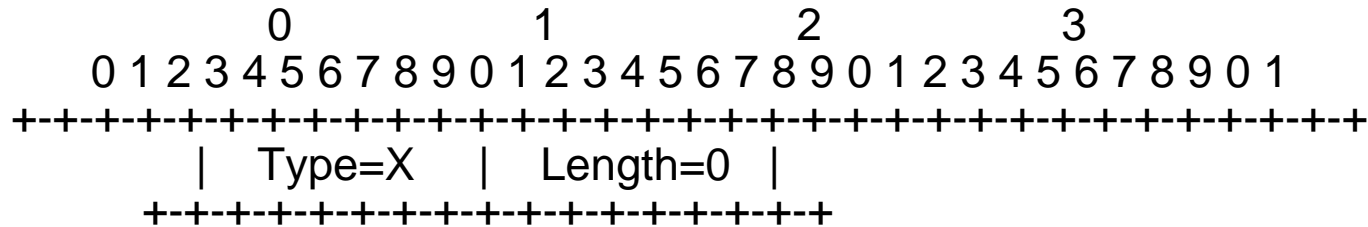


- ◇ MSNIP only provides transmission control services for multicast destination addresses within the SSM range. All multicast routers on a link should be configured with the same range.
- ◇ New multicast router discovery option to advertise the SSM range a router is configured for.
- ◇ TLV size limits to ~50 prefixes.
- ◇ Routers can listen to each other and signal

# Communicating SSM range to source systems

- ◇ Multicast Router Discovery messages are sent to the All-Routers group that hosts do not receive. Two options:
  - ▷ Change destination address of Multicast Router Advertisement messages from All-Routers to something hosts subscribe for (All-Systems ?).
  - ▷ Only use MRD messages with the SSM option for negotiation between the routers. Querier then uses MSNIP Range Map message to communicate range to hosts. Advantage is that only querier needs to deal with router misconfigurations.

# MSNIP capability negotiation



- ◇ In order to allow source transmission control on a link ALL multicast routers must participate in MSNIP.
- ◇ Added new Multicast Router Discovery option to advertise MSNIP router side capability.
- ◇ If even one multicast router is not capable than all capable routers should be configured to NOT use MSNIP and to NOT advertise MSNIP capability.
  - Rationale is same as with not mixing different versions of IGMP queriers.

# Minimal configuration on link without routers

- ◇ When no IGMP querier is present on a link source IP systems can use the default SSM range (232/8).
- ◇ Directly connected IP systems with receivers have to be able to unicast MSNIP membership reports to sources.
- ◇ Interim solution to support legacy receivers requires a proxy to implement router side of IGMPv3 and MSNIP.

# API modifications

- ◇ Interface replaced by source address to support multiple addresses per interface.
- ◇ Considering adding multicast destination address masks on all calls.
  - ▷ Mask needed on registration calls for applications using a contiguous range of addresses.
  - ▷ Mask needed on notification calls for efficiency outside the SSM range.

# Miscellaneous

- ◇ MSNIP membership reports do not use IGMPv3 report packet format for packing efficiency.
- ◇ IPv6 support added to todo list :-)