



IGMP / MLD Extension for Signaling Eco-Mode

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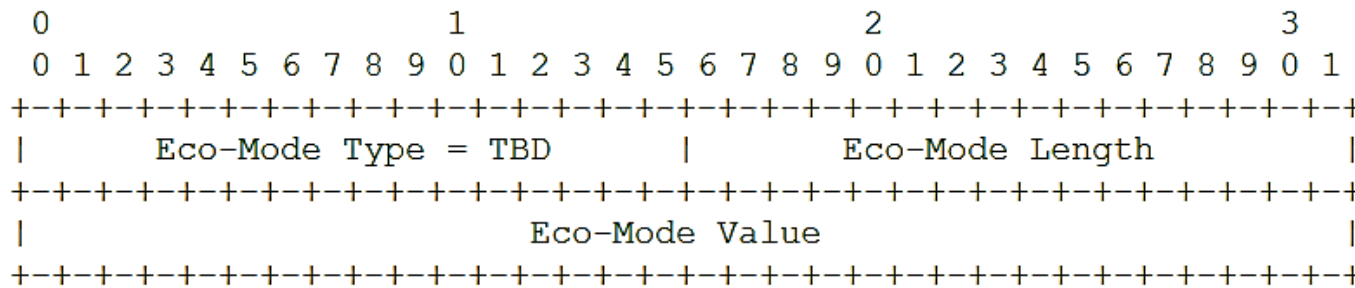
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Motivation

- Video contents currently represent the major source of traffic in operator's networks.
 - The same content can be distributed in multicast with different resolution
 - The traffic per multicast flow is dependent of the resolution of the encoded video which tends to be higher as long as the subscribers' devices support higher resolutions.
 - Distribution trees are built in the network, in most cases proactively subscribing to channels to minimize access time to the content even during periods of low (or inexistent) demand.
- No mechanism available today for allowing the subscribers to indicate their willingness of applying an eco-mode consumption
 - It could be used for the user to explicitly signal the network the desire of receiving more energy efficient service, or being activated by default
- An eco-mode, when applied to multicast distribution, can further optimize resource utilization
 - E.g., adjusting transmission power, reducing active network elements, enabling sleep modes etc
- This document proposes an extension of IGMP and MLD messages for supporting the signaling of eco-mode.
 - The implications of the eco-mode either in the receiver or the provider side is out of the scope of this document.

Eco-mode Extension

- Leverage on RFC9279 for defining a mechanism to extend IGMPv3 and MLDv2 messages to allow the indication of eco-mode



Eco-Mode Value: considered by now as Boolean (1 = eco-mode set to true, 0 = eco-mode set to false)

- Eco-mode intended to be supported in both the Query and Report messages
- The logic behind the inclusion of the eco-mode extension at both subscriber and provider side is out of the scope of this draft

Next steps

- Collect feedback and interest from the WG
- Analyse the possibility of more complex coding and logic of the eco-mode value
 - E.g., selection among different modes (i.e., consider the eco-mode not as a boolean variable)
- Address additional points raised during presentation or from comments received
- Prepare new version for IETF 123