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IGMPv3 and MLDv2 Update Survey
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Abstract

The PIM WG intends to progress IGMPv3 and MLDv2 from Proposed Standards to Internet Standards. This document describes the motivation, procedures and questions proposed for a survey of operators, vendors and implementors of IGMPv3 and MLDv2. The objective of the survey is to collate information to help the PIM WG progress these protocols to Internet Standards.

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Table of Contents

1.	Introduction	2
2.	Procedures Followed	3
2.1.	Methodology	3
2.2.	Intended Recipients of Questionnaire	3
2.3.	Processing of Responses	3
3.	Questionnaire	4
3.1.	Questionnaire for Vendors or Host Implementors	4
3.1.1.	Implementation Status	4
3.1.2.	Implementation Specifics	4
3.1.3.	Implementation Perspectives	5
3.2.	Questionnaire for Network Operators	5
3.2.1.	Deployment Status	5
3.2.2.	Deployment Specifics	6
3.2.3.	Deployment Perspectives	7
4.	References	7
4.1.	Normative References	7
4.2.	Informative References	7
	Authors' Addresses	7

[1.](#) Introduction

Internet Group Management Protocol Version 3 (IGMPv3) [[RFC3376](#)] and Multicast Listener Discovery Version 2 (MLDv2) for IPv6 [[RFC3810](#)] are currently Proposed Standards. Given the fact that multiple independent implementations of these protocols exist and they have been successfully and widely used operationally, the PIM WG is keen to progress these protocols to Internet Standards. In order to facilitate this effort, it is critical to establish if there are features specified in [[RFC3376](#)] and [[RFC3810](#)] that have not been

widely used and also to determine any interoperability issues that have arisen from using the protocols.

Following approach taken for PIM-SM, documented in [[RFC7063](#)], the PIM WG has decided that conducting a comprehensive survey on implementations and deployment of IGMPv3 and MLDv2 will provide valuable information to facilitate their progression to Internet Standard.

This document describes the procedures proposed for conducting the survey and introduces the proposed questions.

2. Procedures Followed

2.1. Methodology

The PIM WG Chairs will officially kick off the survey and distribute the questionnaire and pertinent information through appropriate forums, aiming to ensure the survey reaches as wide an audience as possible.

An online survey tool such as SurveyMonkey will be used in order make the submission and processing of returns as convenient as possible. Therefore, the questions proposed in this document will be transcribed to the online tool and the URL distributed to potential survey participants.

2.2. Intended Recipients of Questionnaire

1. Network operators
2. Router vendors
3. Switch vendors
4. Host implementors

2.3. Processing of Responses

The submitted responses will be collected by a neutral third-party and kept strictly confidential. The published results will be anonymized and so the contributions by individual operators, vendors or implementors will not be identified. Therefore, survey responders will be identified but they would not be associated with a specific response. Furthermore, there is an option to complete the questionnaire anonymously, in which case the responder will not be identified in the report.

Tim Chown has kindly agreed to anonymize the responses to this questionnaire. Tim has considerable multicast expertise but has no direct financial interest in this matter nor ties to any of the vendors involved. Tim works at University of Southampton in the UK and has been active in the IETF for many years.

3. Questionnaire

3.1. Questionnaire for Vendors or Host Implementors

Name:

Affiliation/Organization:

Contact Email:

Do you wish to complete the survey anonymously?: Y/N

3.1.1. Implementation Status

Which of the following have you implemented?

1. IGMPv1 [[RFC1112](#)]?
2. IGMPv2 [[RFC2236](#)]?
3. IGMPv3 [[RFC3376](#)]?
4. Lightweight IGMPv3 [[RFC5790](#)]?
5. MLDv1 [[RFC2710](#)]?
6. MLDv2 [[RFC3810](#)]?
7. Lightweight MLDv2 [[RFC5790](#)]?

3.1.2. Implementation Specifics

1. Which IGMPv3 and MLDv2 features have you implemented?
 - A. Source filtering with include list?
 - B. Source filtering with exclude list?
 - C. Snooping proxy?
 - D. Snooping querier?

- E. Snooping filtering?
 - F. L2 Report flooding?
 - G. Host proxy?
 - H. Unicast queries/reports?
2. Have you carried out IGMPv3 or MLDv2 interoperability tests with other implementations?
 - A. What issues, if any, arose during these tests?
 - B. How could [[RFC3376](#)] and [[RFC3810](#)] have helped minimize these issues?

[3.1.3.](#) Implementation Perspectives

1. Which ambiguities or inconsistencies in [RFC 3376](#) or [RFC 3810](#) made the implementation challenging?
2. What suggestions would you make to the PIM WG as it seeks to progress IGMPv3 and MLDv2 to Internet Standard?

[3.2.](#) Questionnaire for Network Operators

Name:

Affiliation/Organization:

Contact Email:

Do you wish to complete the survey anonymously?: Y/N:

[3.2.1.](#) Deployment Status

Which of the following have you deployed in your network?

1. IGMPv1 [[RFC1112](#)]?
2. IGMPv2 [[RFC2236](#)]?
3. IGMPv3 [[RFC3376](#)]?
4. Lightweight IGMPv3 [[RFC5790](#)]?
5. MLDv1 [[RFC2710](#)]?

6. MLDv2 [[RFC3810](#)]?
7. Lightweight MLDv2 [[RFC5790](#)]?

3.2.2. Deployment Specifics

1. Which IGMPv3 and MLDv2 features do you use?
 - A. Source filtering with include list?
 - B. Source filtering with exclude list?
 - C. Snooping proxy?
 - D. Snooping querier?
 - E. Snooping filtering?
 - F. L2 Report flooding?
 - G. Host proxy?
 - H. Unicast queries/reports?
2. Are you using equipment with multi-vendor implementations in your IGMPv3/MLDv2 deployment?
 - A. What inter-operability issues, if any, have you experienced?
 - B. How could [[RFC3376](#)] and [[RFC3810](#)] have helped minimize these issues?
3. Are you using different IGMP versions or different MLD versions in your network?
 - A. Are you dependent on the fallback mechanism between the different versions?
 - B. Have you experienced any issues related to the fallback mechanism between the different versions?
 - C. How could [[RFC3376](#)] and [[RFC3810](#)] have helped minimize these issues?

3.2.3. Deployment Perspectives

1. Based on your operational experience, What have you found to be the strengths of IGMPv3 or MLDv2?
2. What have you found to be the weaknesses of IGMPv3 or MLDv2?
3. What suggestions would you make to the PIM WG as it seeks to progress IGMPv3 and MLDv2 to Internet Standard?

4. References

4.1. Normative References

- [RFC1112] Deering, S., "Host Extensions for IP Multicasting", [RFC 1112](#), August 1989.
- [RFC2236] Fenner, W., "Internet Group Management Protocol, Version 2", [RFC 2236](#), November 1997.
- [RFC3376] Cain, B., Deering, S., Kouvelas, I., Fenner, B., and A. Thyagarajan, "Internet Group Management Protocol, Version 3", [RFC 3376](#), October 2002.
- [RFC2710] Deering, S., Fenner, W., and B. Haberman, "Multicast Listener Discovery (MLD) for IPv6", [RFC 2710](#), October 1999.
- [RFC3810] Vida, R. and L. Costa, "Multicast Listener Discovery Version 2 (MLDv2) for IPv6", [RFC 3810](#), June 2004.
- [RFC5790] Liu, H., Cao, W., and H. Asaeda, "Lightweight Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Version 2 (MLDv2) Protocols", [RFC 5790](#), February 2010.

4.2. Informative References

- [RFC7063] Zheng, L., Zhang, Z., and R. Parekh, "Survey Report on Protocol Independent Multicast - Sparse Mode (PIM-SM) Implementations and Deployments", [RFC 7063](#), December 2013.

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