

Multicast pruning a necessity

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Abstract

This document calls for the MBone to be free of non-pruning multicast as soon as possible, due to the high cost to the Internet of the traffic resulting from them. Consensus is that [DATE 1 month from RFC publication] is the goal date for eliminating non-pruning multicast routers.

It cites several ways to eliminate non-pruning multicast from a network, allowing per-site flexibility.

This is a product of the Multicast Deployment Working Group in the Operational Requirements area of the Internet Engineering Task Force. Submit comments to mboned@ns.uoregon.edu or the author.

Discussion

The MBone (Multicast Backbone) of the Internet is composed of a DVMP

backbone connected to regions that may be running other multicast routing protocols.

DVMRP versions prior to 3 do not support pruning. Every multicast packet transmitted is delivered to every non-pruning router (subject to scoping rules), regardless of the presence of members of that group. Network paths between each source and each non-pruning router are thus forced to carry all multicast traffic from those sources. This behavior is fundamentally incompatible with a scalable multicast backbone.

Effective [DATE], the MBone community will no longer accept such non-pruning implementations as a part of the MBone. Such implementations should be upgraded or disconnected from the MBone prior to that date. Service providers should assist their customers in these processes.

DVMRP implementations that do not support pruning include mrouterd versions prior to 3, and Cisco Systems IOS prior to version 11.0(3). 3Com's NETBuilder routers and LANplex switches have supported pruning as long as DVMRP has been available for them (releases 8.3 and 7.0, respectively). Bay Networks' implementation supports pruning in version 9.00 and up.

In the case where the existing infrastructure cannot be upgraded to support pruning, sites may wish to consider deploying lightweight multicast routers instead. For instance, popular free unixes (e.g. FreeBSD, NetBSD, and Linux) that run on cheap PC hardware all support pruning multicast using mrouterd.

Within non-DVMRP regions, software that does not support DVMRP pruning but does support a similar mechanism of a different protocol (such as CBT, MOSPF, or PIM) is acceptable, as long as the border routers of such a region can translate that mechanism into DVMRP pruning.

Security Considerations

Security considerations are not addressed in this memo.

References

- [IPMULTI] S.E. Deering, "Host extensions for IP multicasting", [RFC1112](#), 1 August 1989.
- [MREQ] R. Braudes, S. Zabele, "Requirements for Multicast Protocols", [RFC1458](#), 26 May 1993.

[DVMRP] T. Pusateri, "Distance Vector Multicast Routing Protocol",
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