

Distance Vector Multicast Routing Protocol

The **Distance Vector Multicast Routing Protocol** (**DVMRP**), defined in [RFC 1075](#), is a routing protocol used to share information between [routers](#) to facilitate the transportation of [IP multicast packets](#) among networks. It formed the [basis of the Internet's historic multicast backbone](#), [Mbone](#).

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Operation

The protocol is [based on the Routing Information Protocol \(RIP\)](#).^[1] The router generates a routing table with the multicast group of which it has knowledge with corresponding distances (i.e. number of devices/routers between the router and the destination). When a multicast packet is received by a router, it is forwarded by the router's interfaces specified in the routing table.

DVMRP operates via a [reverse path flooding](#) technique, sending a copy of a received packet (specifically [IGMP messages](#) for exchanging routing information with other routers) out through each interface except the one at which the packet arrived. If a router (i.e. a LAN which it borders) does not wish to be part of a particular multicast group, it sends a [prune message](#) along the source path of the multicast.

Criticisms

Being a [naïve distance-vector protocol](#), DVMRP has [difficulties with network scaling](#) in some topologies,^[2] primarily due to the [periodic reflooding necessary to detect new hosts](#). This was more prevalent in early versions of the protocol, [prior to the implementation of pruning](#).^[3] DVMRP's [flat unicast routing mechanism](#), which is used to determine the source interface of a data stream, also affects its ability to scale.

See also

- [IEEE 802.1aq - Shortest Path Bridging \(SPB\)](#)
- [IP Multicast](#)
- [Protocol Independent Multicast](#)
- [Router Information Protocol](#)

References

1. DVMRP: Distance Vector Multicast Routing Protocol (<http://www.javvin.com/protocolDVMRP.html>) Archived (<https://web.archive.org/web/20090622072943/http://www.javvin.com/protocolDVMRP.html>) June 22, 2009, at the [Wayback Machine](#)
2. What is DVMRP? (http://www.savetz.com/mbone/apc_13.html)
3. Multicast Routing May 5, 1995 (http://www.cisco.com/en/US/tech/tk828/technologies_white_paper09186a00800a43ee.shtml)

External links

- [RFC 1075 - Distance Vector Multicast Routing Protocol](#)
- [Proposal for Distance Vector Multicast Routing Protocol version 3](#) (<http://tools.ietf.org/html/draft-ietf-idmr-dvmrp-v3-11>)

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