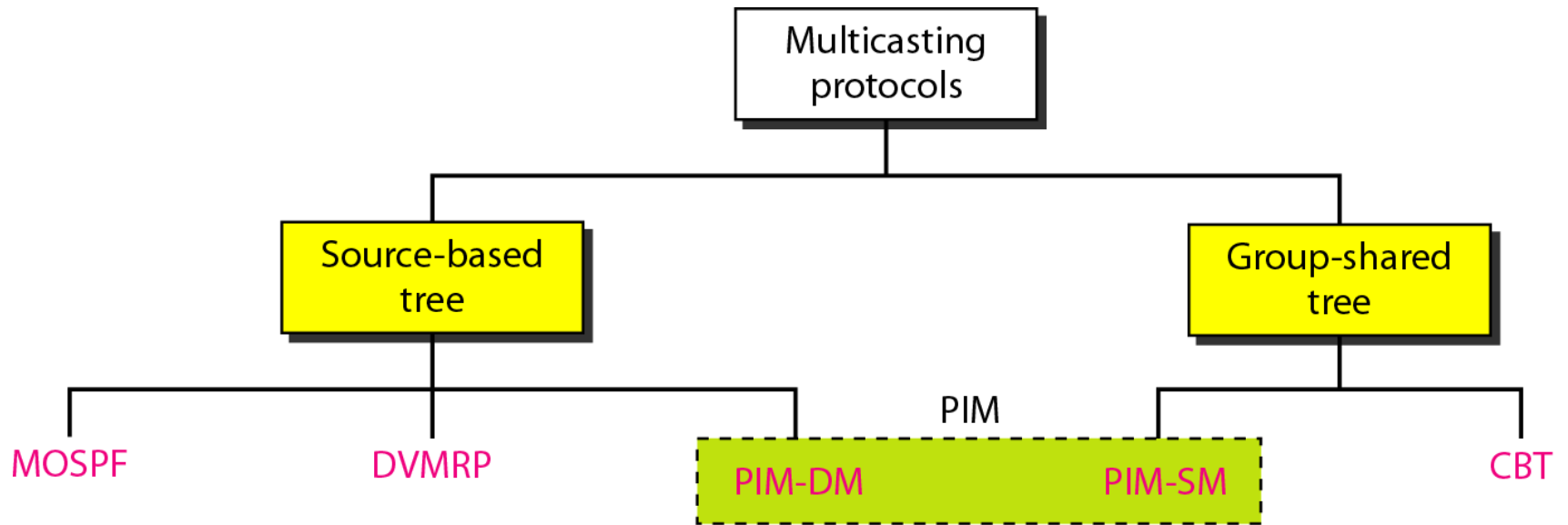


# ***Multicast Routing Protocol: DVMRP***

**Figure-1**

*Taxonomy of common multicast protocols*





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*Note*

**Multicast link state routing uses the source-based tree approach.**



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*Note*

**Flooding broadcasts packets, but  
creates loops in the systems.**



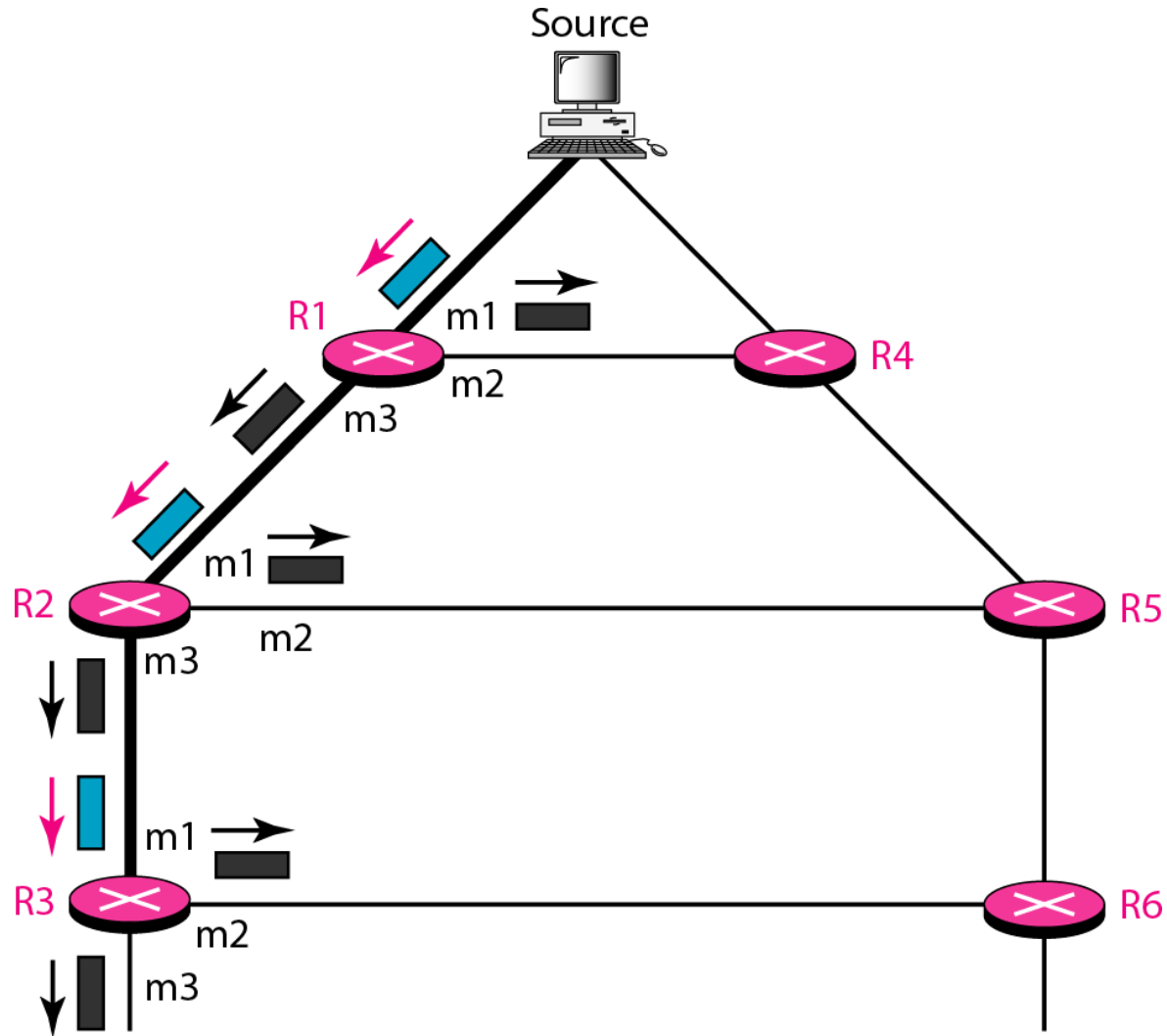
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*Note*

**RPF eliminates the loop in the flooding process.**

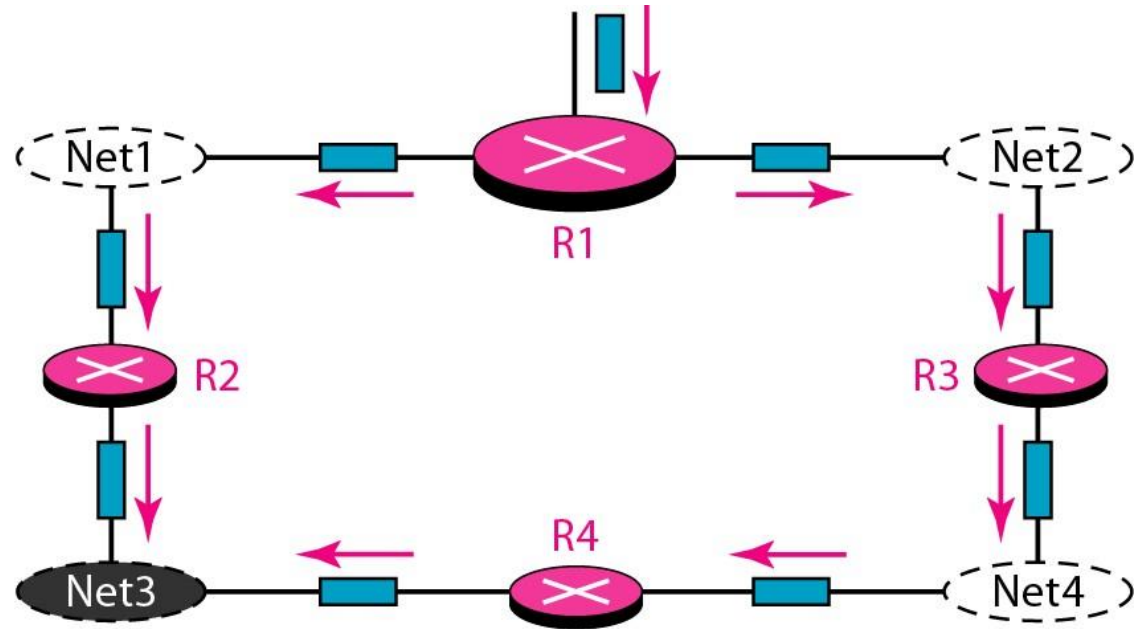
**Figure-2**

*Reverse path forwarding (RPF)*



**Figure-3**

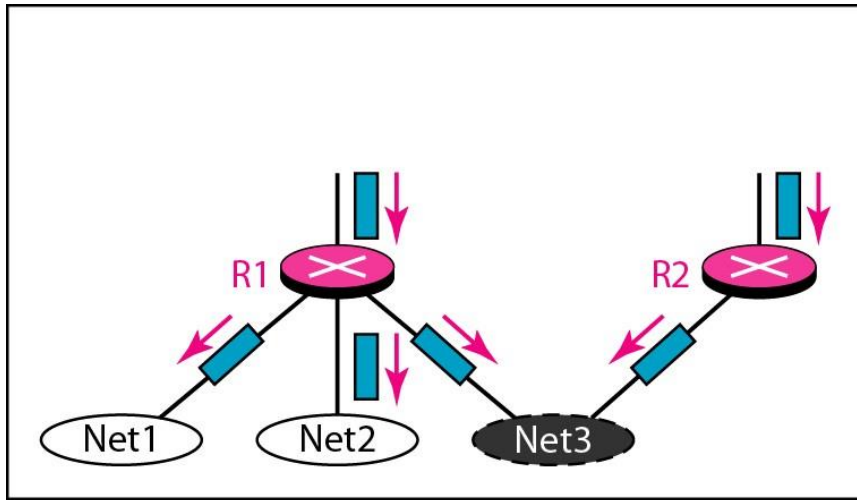
*Problem with RPF*



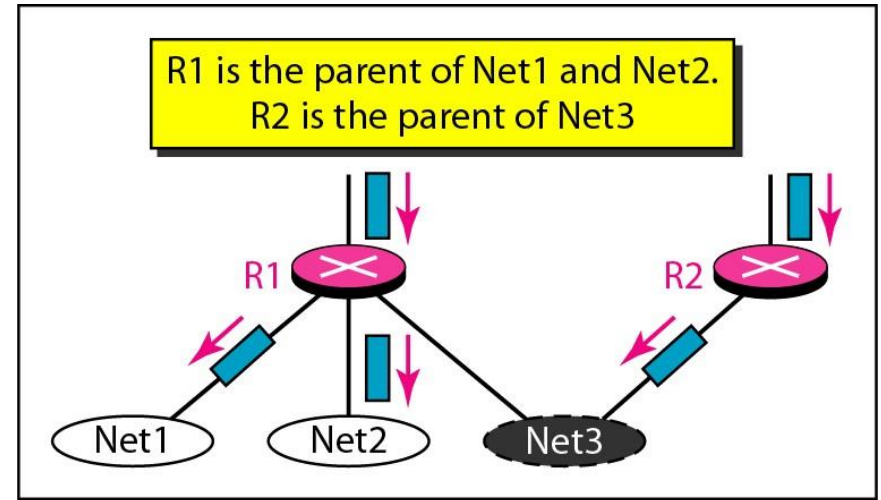
Net3 receives two copies of the packet

# Figure-4

## *RPF Versus RPB*



a. RPF



b. RPB





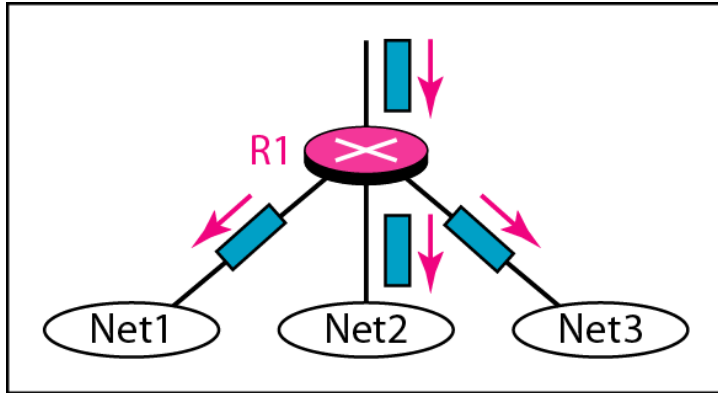
---

*Note*

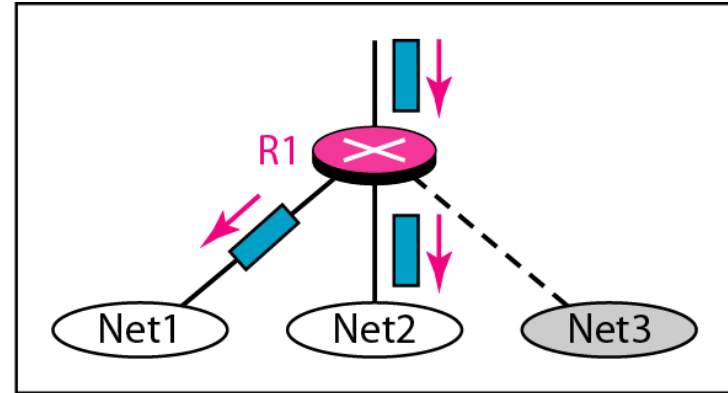
**RPB creates a shortest path broadcast tree from the source to each destination. It guarantees that each destination receives one and only one copy of the packet.**

**Figure-5**

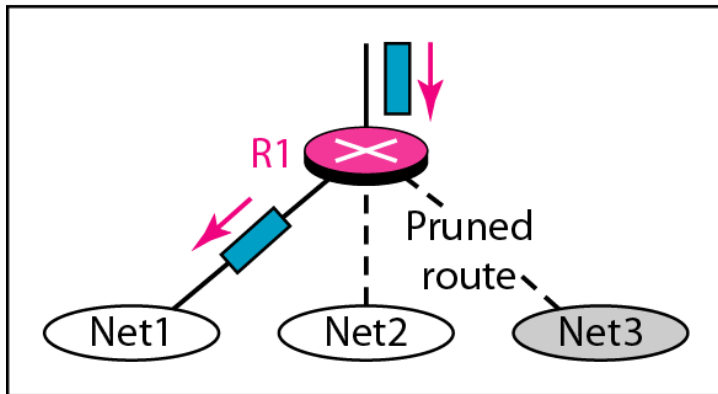
*RPF, RPB, and RPM*



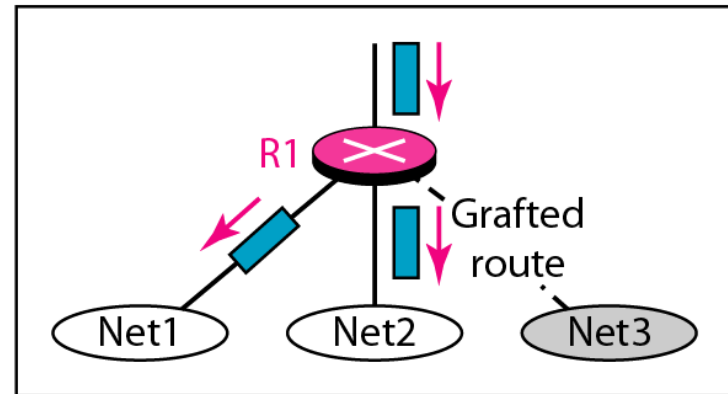
a. RPF



b. RPB



c. RPM (after pruning)



d. RPM (after grafting)



*Note*

**RPM adds pruning and grafting to RPB to create a multicast shortest path tree that supports dynamic membership changes.**



## **References**

- 1. Computer Networks, A. S. Tenenbaum, D. J. Wetheral, Pearson India.***
- 2. Data Communications and Networking, B.A. Forouzan, Tata McGraw Hill Education Private Limited.***
- 3. Data and Computer Communications, William Stallings, Pearson-Prentice Hall.***