ADVANCED COMPUTER NETWORKS

MULTICAST PIM - SM

By

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Implementation details

1. Connecting the routers

Routers need to be started in order of their router Ids. For e.g., If there are three routers, with router ids 0,1,2, router 0 needs to be started first, followed by routers 1 and 2.

2. Connecting the hosts

Hosts can be connected dynamically in any order to any of the routers. Host Id format is as follows:

- Suppose there are 3 routers named 0,1,2.
- Hosts connected to router 0 start from 0 and can go up to 9.
- Hosts connected to router 1 start from 10 and can go up to 19.
- Hosts connected to router 2 start from 20 and can go up to 29.

3. Dijkstra's algorithm

Dijkstra's algorithm is used for calculation of next hop entries which result in the shortest path.

4. Usage of select() function

Select function is used to simultaneously monitor the status of different sockets.

5. Routing Tables maintained :

- routingTable - Main Routing Table

This table's entries are obtained after applying Dijkstra's algorithm. This table contains the next hop router ID from a given router.

- MCRFTable - Multicast Router Forwarding Table

This table contains the router IDs corresponding to the respective multicast groups.

- MCHFTable - Multicast Host Forwarding Table

This table contains the host IDs corresponding to the respective multicast groups.

- SSMCRFTable - Source Specific Multicast Router Forwarding Table

This table contains the Source specific entries for the respective multicast groups.

6. GEN_DEBUG_LOGS macro

This macro needs to be enabled to generate debug logs. By default, it is disabled.