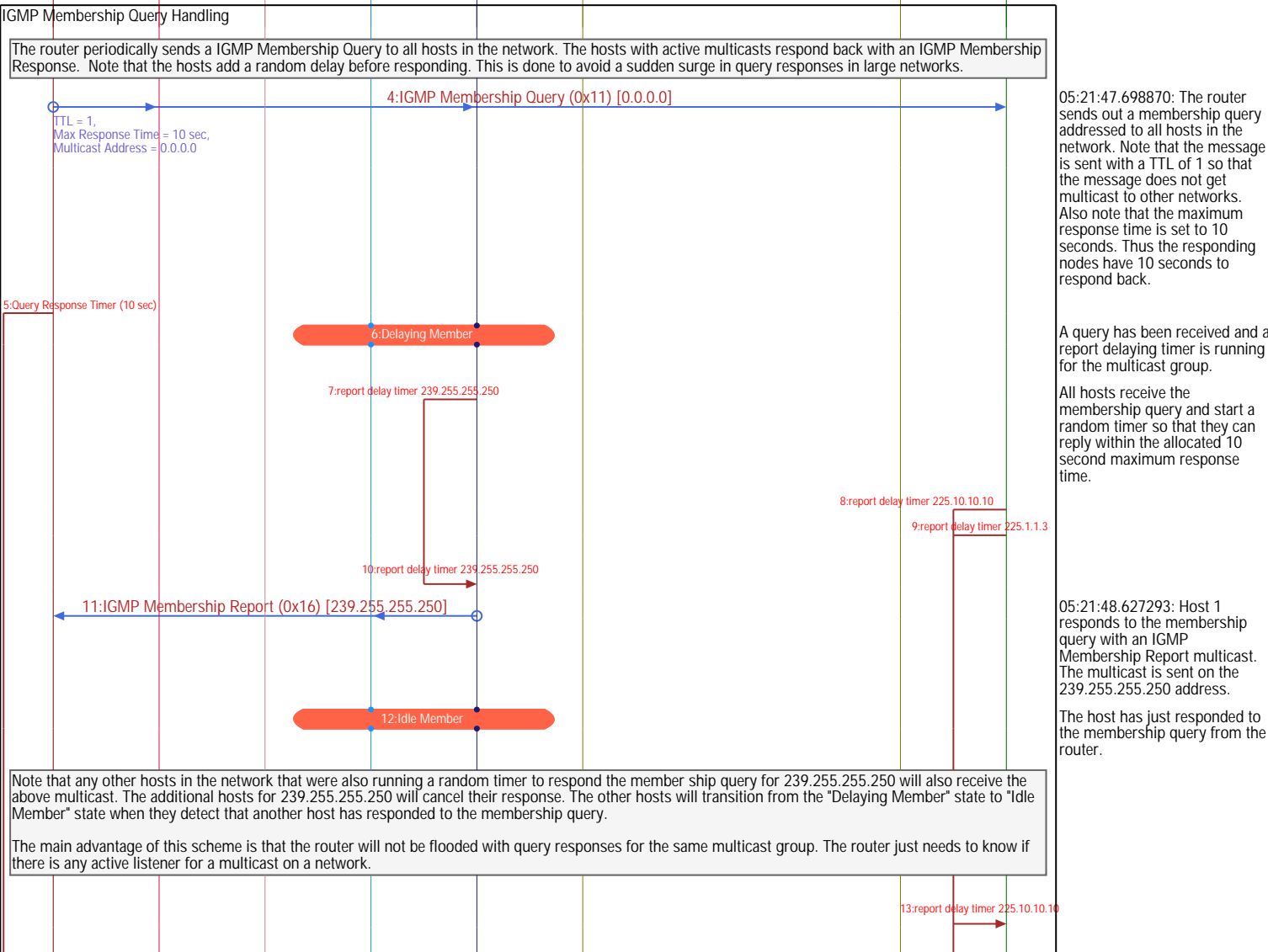
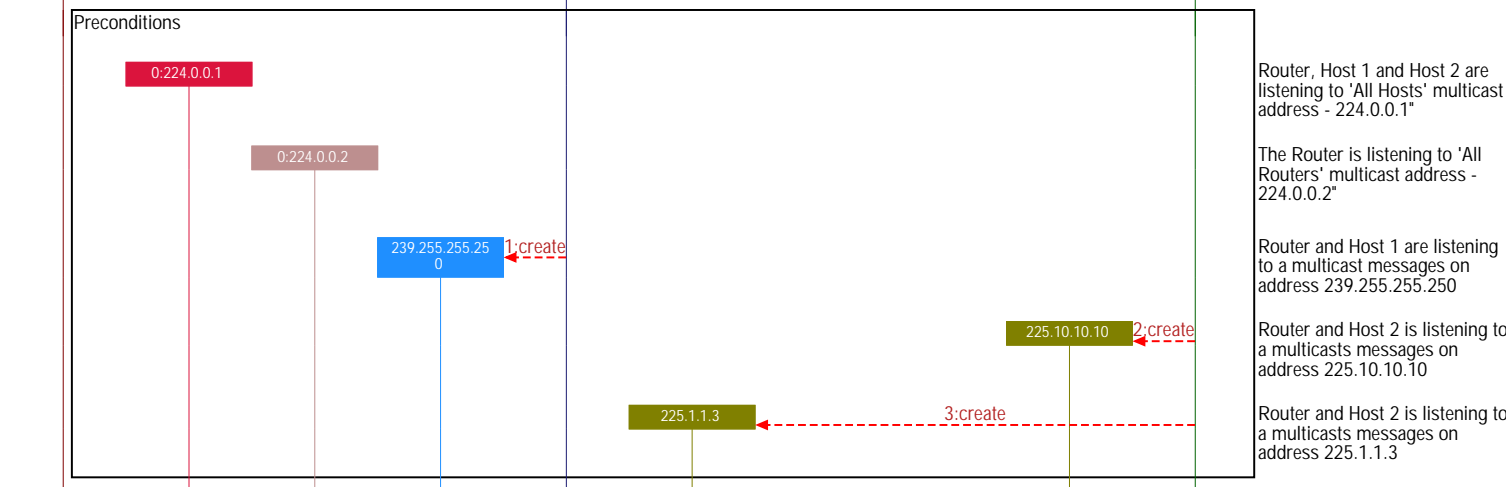


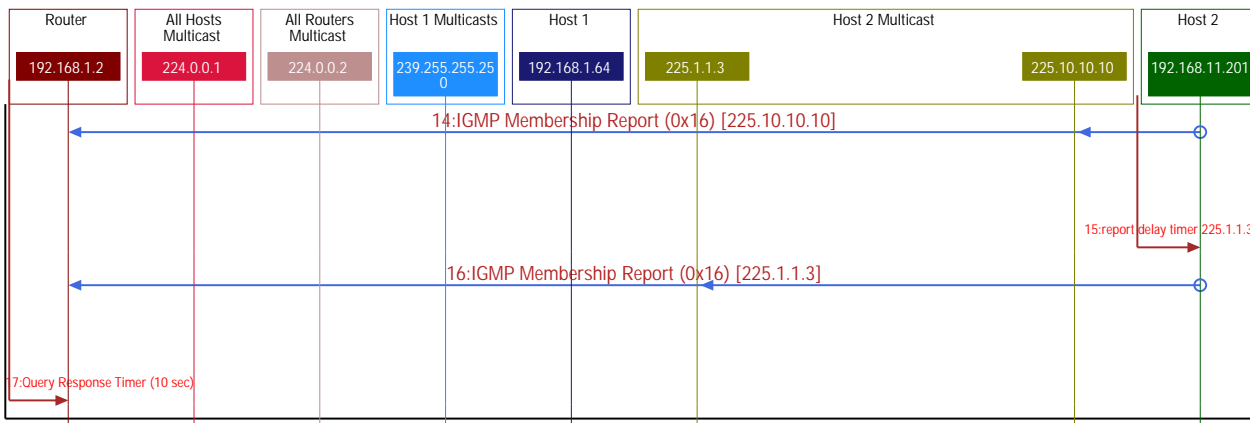
# IGMP Query, Join and Leave Sequence Diagram

The Internet Group Management Protocol (IGMP) is used by routers and hosts to management multicast group membership. This protocol flow describes the following IGMP operations:

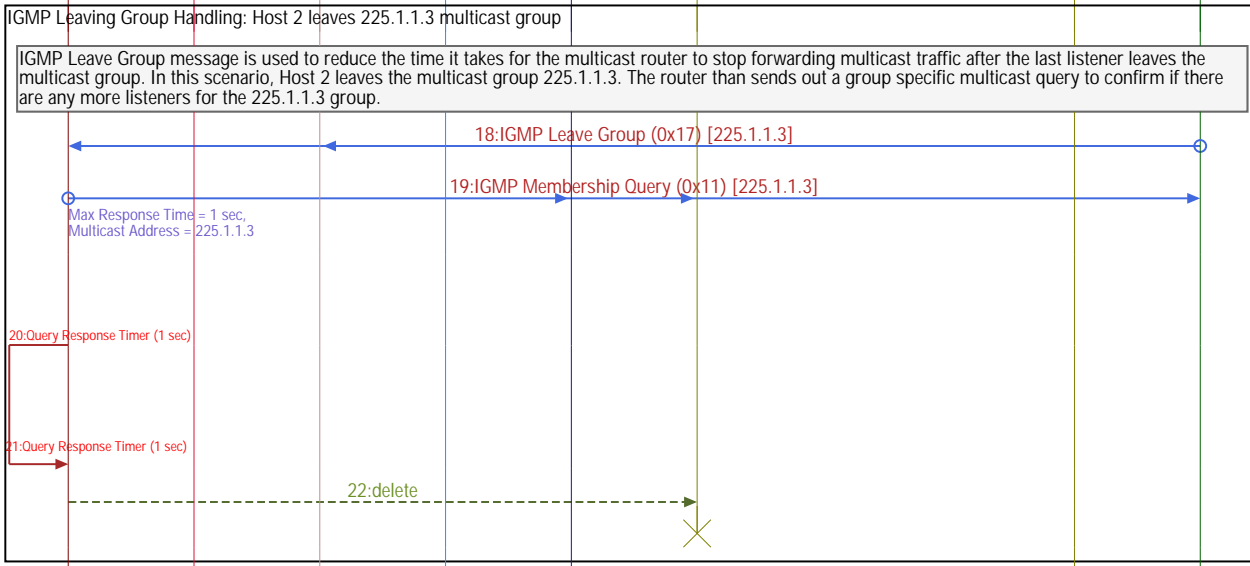
- IGMP query Handling
- Hosts joining multicast groups
- Hosts leaving multicast groups

You can click on individual message titles in the sequence diagram to see the complete contents on the message.  
The messages are also shown with a timestamp to give you an idea of the timer intervals involved in the message exchanges.

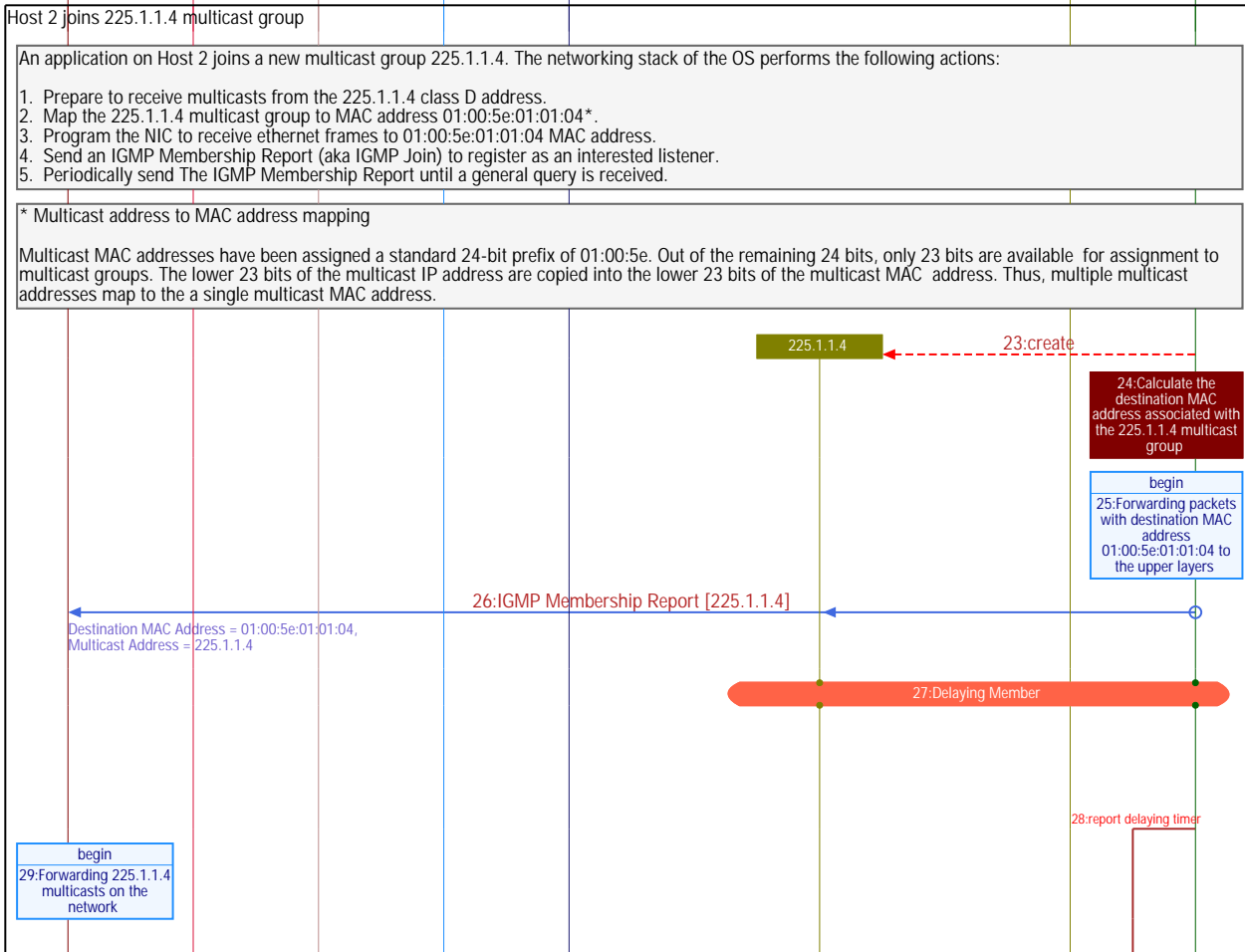




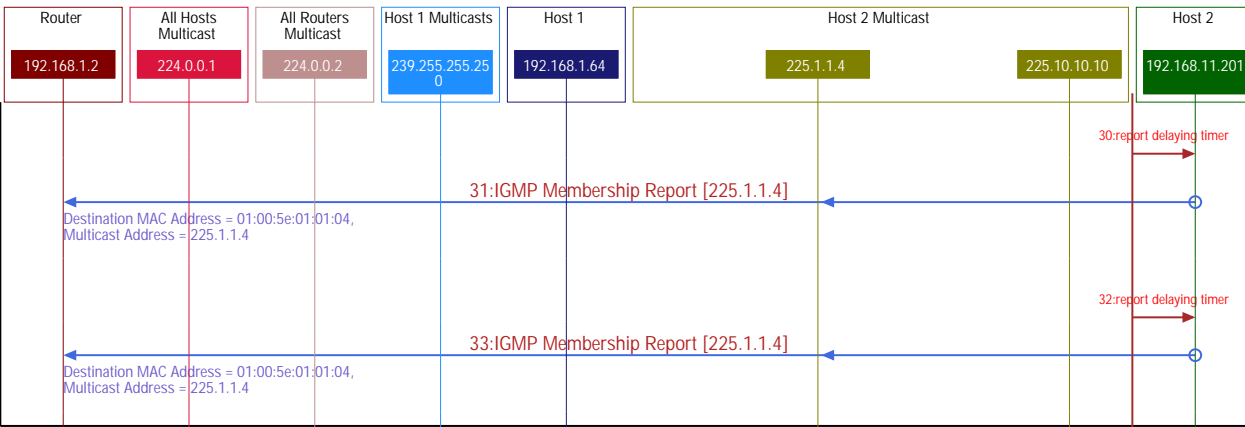
05:21:54.761748: Host 2 responds to the membership query with 225.10.10.10 multicast address.  
 05:21:56.111610: Host 2 responds to the membership query with 225.1.1.3 multicast address.



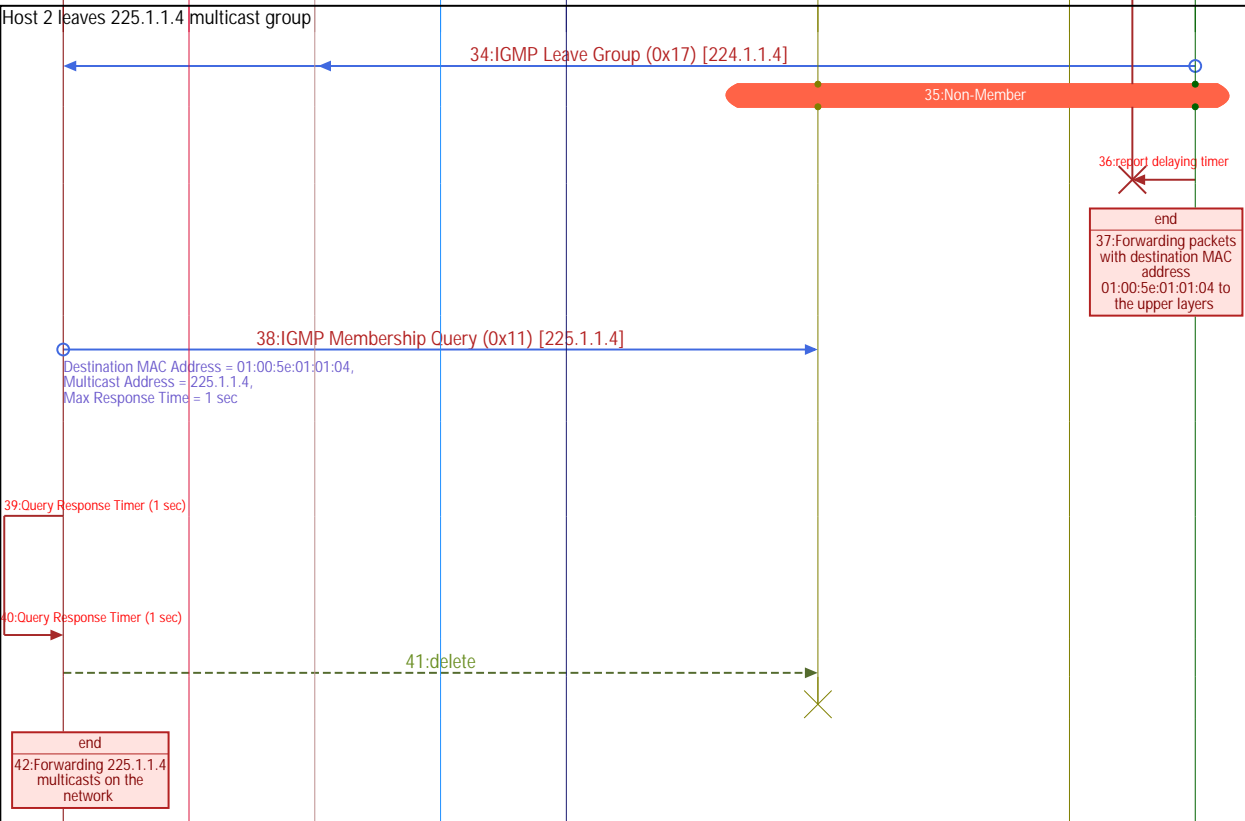
05:22:07.221561: Host 2 leaves the 225.1.1.3 multicast group.  
 05:22:07.231083: The multicast router initiates a membership query to check if there are any other hosts in the network that are still listening to multicasts on 225.1.1.3. It gives the hosts 1 second to respond.  
 The router waits for 1 second for any other hosts that might be interested in 225.1.1.3 multicasts.  
 No host responded to the query  
 The router stops forwarding multicasts for 225.1.1.3.



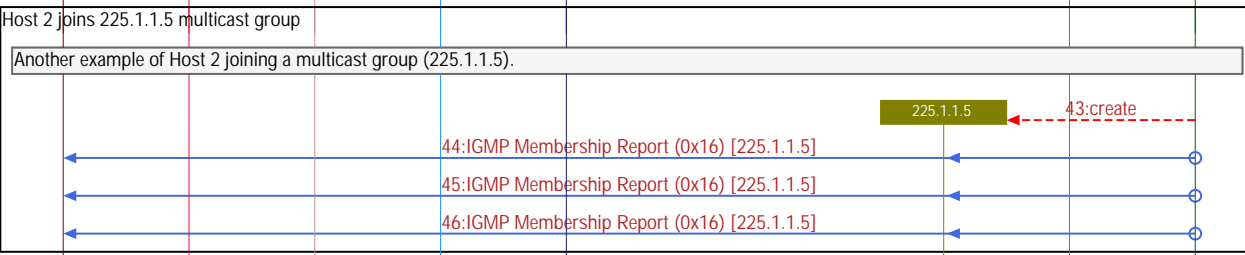
The destination MAC address 01:00:5e:01:01:04 is associated with the 225.1.1.4 multicast address.  
 Program the NIC to forward packets destination MAC address 01:00:5e:01:01:04.  
 05:22:07.461496: Send an IGMP Membership Report for the new multicast group 225.1.1.4.  
 The new multicast starts in the "Delaying Member" state (RFC 2236). Note that the application has started sending and receiving multicast data at this point.



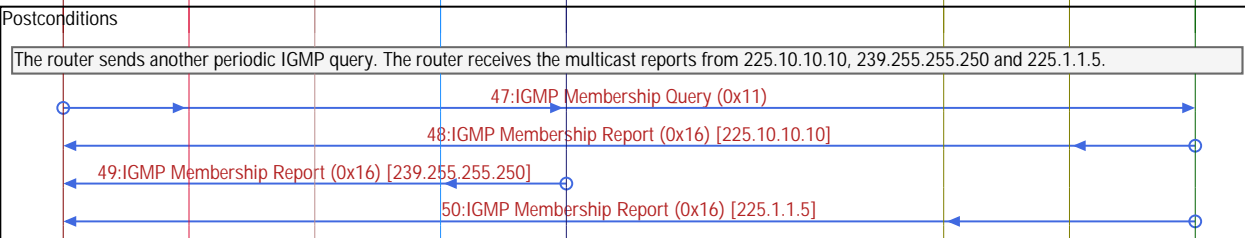
Timed out for a general or group specific IGMP query.  
 05:22:10.221472: Resend the membership query as a General query or a group specific query has not been received.  
 05:22:12.496710: Still haven't received a general or group specific query.



05:22:18.681377: Change the multicast group state to "Non-Member"  
 No longer awaiting confirmation of multicast start  
 Host 2 is leaving the 225.1.1.4 multicast group, so ask the NIC to stop forwarding packets with the associated destination MAC address.  
 05:22:18.689506: The router sends out a group specific query to determine if there are any other interested listeners for 225.1.1.4 multicast group. Note that the Max Response Timer is set to a short value of 1 second.  
 The router waits for 1 second for any other hosts that might be interested in 225.1.1.4 multicasts.  
 No host responded to the query  
 There are no interested listeners for the 225.1.1.4 multicast on this network.  
 Stop forwarding 225.1.1.4 multicasts to the network.



05:22:18.921288  
 05:22:24.791096  
 05:22:28.461112



05:23:52.768522  
 05:23:56.649577  
 05:23:57.667297  
 05:24:00.739398