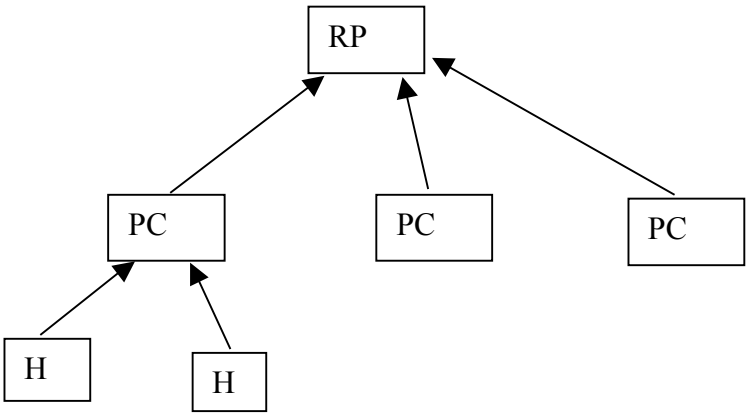
The second half of the lecture on 5/22/02, Multicasting

1, the overlay routing:



The topology can be statically configured.

2, The topics of the two paper

2.1 Reliable multicast transport

Why not has every host give ACK to the sender?

Because there will be too many ACKs
Alternatives:

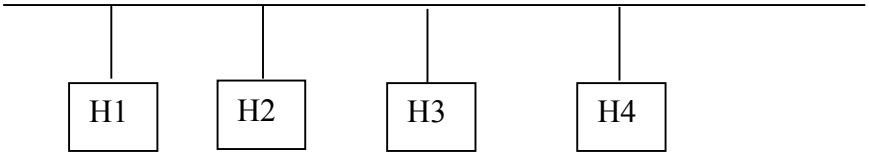
- Negative ACK
  -only ack lost packets
  -Problem: still too many return packets

- Merged Negative ack.
  -forward NAK per Packet
  -cache of recent NAK.

- SRM (application)
  -multicast NAK, so any host can reply.
  -randomize timer to decide which one send a NAK
  -hear a NAK, cancel timer
  -Randomize timer to reply

-if hear reply, turn off timer

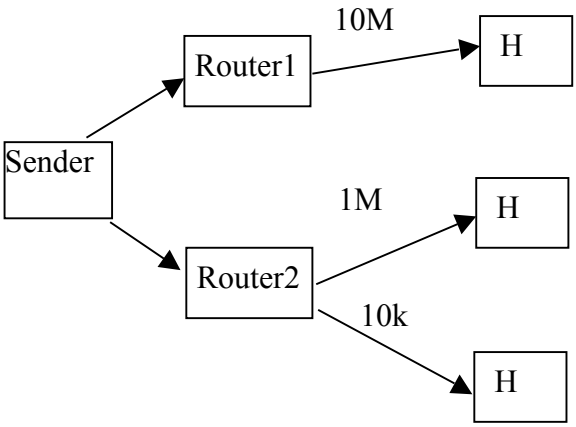
How to set the timer
-Assign number to each host, the number represents the time a host should wait.
OR
-Use the similar method as Ethernet's exponential back-off.



-The time out of NAK is based on distance to from the host to the sender.

Some notes:
Overlay network may work better wither the merged NACK algorithm.

2.2 Layered structure to handle the different speed in different path



Handle heterogeneous bandwidth. Send different bandwidth signal to different group.
The ability of dynamic auto-configurable (self discovered bandwidth) is desired.

Some Notes:

Another model of multicasting is: