# Proposal Status

yc2423 Yu-Hsuan Chen

cs2368 Chih-Yuan Sun

In this project, we want to implement **In-band Network Telemetry (INT) framework**, in which the monitor can (1) reports the end-to-end latency along different paths between a pair of end-hosts, and (2) intelligently selects the routing path which has the smallest latency.

The network topology that we will use in this project is shown below:
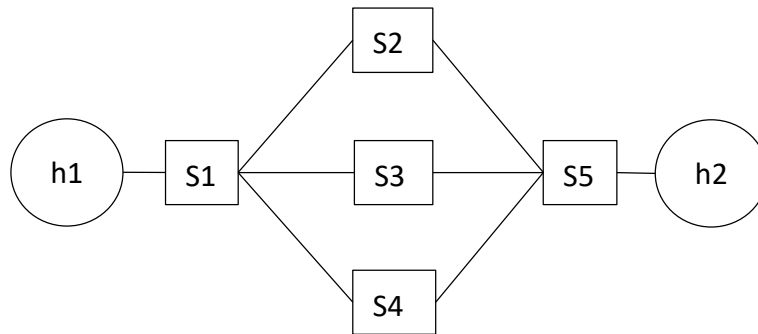
We assumed that h1 is INT source, and h2 is INT sink. The network works according to the following steps: (the steps may be revised in the future)

1. h1 periodically generates several packets that are forwarded by switch s1.
2. switch s1 records the ingress timestamp, congestion status and the hop latency into the INT header.
3. s1 assign same amount of packets to s2, s3 and s4.
4. s2, s3, and s4 repeats the step 2 and transmit the packet to s5.
5. h2 check the total latency of each packets to determine which path is the fastest.
6. h2 encodes the message about the fastest path to a packet and transmit it back to h1.
7. step1 through step6 is repeated, but this time s1 will assign more packets on the fastest path.

The structure of header may be

Ethernet	IPv4	port id	hop latency	ingress timestamp	egress timestamp	congestion

To make sure that our framework indeed improves the network performance, we will compare our result with the result from the network that always equally split the traffic flow to s2,s3 and s4.