

1. I will use one main thread and one thread for each flow. The main thread will time and create the flow threads, the flow threads will send the flows.
2. There is no overall controller thread, the threads interact via the `pthread_cond_broadcast(&trans_cvar);` command.
3. I will use one mutex. It will only allow one thread to send its flow at once.
4. The main thread will be keeping track of the time since the program started.
5. I will represent flows with a struct that includes the flows information.
6. Because of the mutex, only one thread should be modifying data at once.
7. I will be using one cvar.
  - a) The cvar represents a flow finishing its transmission, which signals the transmission of the next flow.
  - b) My mutex that allows one flow at a time is related to this cvar. Once the current flow is finished the mutex should be unlocked to allow the next flow to start.
  - c) The Mutex should be unlocked.

8.

import flows from file.

create thread for each flow.

When flow arrives, check if it can be sent:

lock mutex

add flow to queue

sort queue based on rules

wait for current transmission to finish with cvar

send next flow from top of queue

when flow finishes remove from queue and unlock mutex

broadcast cvar so next transmission knows it can go

wait for all threads to finish

exit program