

CS536: Data Communication and Computer Networks

LAB5 ANSWERS

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1 Bonus

When `overlaygopher` receives a new request message, it will insert two entries into the forwarding table, and mark these two entries tentative. The pre port number is the previous router's (or `createoverlay`'s) transition port, but this pre port will be updated when the first app packet is received. The post port is pending update and has dummy value 0.

After inserting two entries, `overlaygopher` will not send back an ACK immediately. If it receives an ACK or a REJ packet from the post router, it will then send back an ACK or a REJ packet to the previous router (or `createoverlay`).

Moreover, a 5 second periodic alarm is introduced into `overlaygopher` to check odd tentative socket index. Every 5 second, the alarm signal handler is invoked and increase the counter of odd tentative socket file descriptors by 1. If the counter of a tentative socket file descriptor reaches 3, `overlaygopher` will assume the post router is unreachable and then remove related table entries. A REJ packet will also be sent to the previous router to indicate failure in such case.

`createoverlay` also has an alarm with timeout 30 seconds. If the first router is unreachable, `createoverlay` will exit and report timeout after 30 seconds.