

PROJECT 2 - RU-CloudNet

1. **Authors:** Ganesh Rohit Basam - *gb555*, Adam Trabelsi - *at1197*
2. **References:**
 - <https://stackoverflow.com/questions/8312880/how-the-kernel-continues-with-the-three-way-handshake-after-it-sets-the-state-to>
 - <https://stackoverflow.com/questions/58183847/does-listens-backlog-number-include-syn-received-connections-count-in-case-of-t>
 - https://github.com/torvalds/linux/blob/master/include/net/inet_connection_sock.h
 - https://github.com/torvalds/linux/blob/master/net/ipv4/tcp_cubic.c
3. **Functionality:** All required functionality for RU-CloudNet is working correctly. Packets are properly encapsulated and encapsulated with custom headers for switch-to-switch forwarding, labeled with tenant IDs, and forwarded based on reachability and performance isolation rules. Reachability isolation prevents communication between different tenants. Performance isolation uses per-tenant TR-TCM metering at the fabric switch to rate limit and drop out-of-profile packets, protecting tenants from each other's traffic. Extensive testing, including packet captures, has verified IPv4/ARP forwarding between valid host pairs, tenant isolation, rate-limiting, and correct header formats across all switches.