An Educational Networking Framework for Full Layer Implementation and Testing

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PROJECT GOAL

PINTOS/NACHOS FOR TCP/IP

KEY FEATURES

Students Will Do:
- Demultiplexing calls from the lower layer
- Multiplexing calls from the upper layer
- Context management
- Implementing protocol specification

Framework Supports:
- Automated test suite for grading
- Incremental development
- Deterministic and reproducible tests
- Link layer control (reliable/unreliable)
- Various topology configuration

FRAMEWORK OVERVIEW

EVALUATION OF STUDENTS’ SUBMISSIONS

Visualization of bitrate from PCAP dump: 0% (left) vs 1% (right) droprate

Visualization of window size change: congestion control in action

Test suite execution result of Listen():