

Title: Optimizing the utilization of networks' capacity on unix-like systems

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Abstract: Modern unix-like systems contain very powerful network stacks with configuration options often beyond operators' understanding. A comparison of available algorithms, documentation and visualization of certain components help their understanding, leading to better configuration choices. By explaining the network stack from the drivers up to the network layer will exhibit problems with timekeeping, burst traffic processing or queue management with regard to classification, scheduling or traffic regulation options in Linux or OpenBSD. The thesis works as an overview of implemented algorithms and updated documentation of Linux's actions and filters, while the implementation introduces a new portable tool to visualize existing configuration on remote machines without the need of modifying them.

Keywords: network internals, traffic shaping, traffic classification, queue management