Project Title: Detection of Network Traffic Interference by Intermediaries on the Internet

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Project Description:

Currently, every packet sent on the Internet goes through numerous routers and intermediaries until it gets to the intended receiver. While routing the traffic, these intermediaries (referred to as middleboxes) are potentially capable of making significant changes to what happens to a traffic stream on the network. During the past decade, a wide variety of middleboxes have been proposed, implemented and deployed. Examples include traffic shapers, proxies, firewalls, and WAN optimizers. These middleboxes are becoming a common element of various types of networks, making their detection by end-hosts beneficial and in some cases crucial. In this project, we will investigate if these middleboxes are detectable through implementing network tools. The project involves implementation using OOP network simulation, scripting, automation, and configuration of network switches. The goal of this project is to emphasize on object-oriented programming paradigm, critical thinking, software development, hands-on experience with network equipment, innovation, and small group collaborations.

Required skills: Introduction to C++ or Python, and Data Structure