

Thesis
B.Sc.

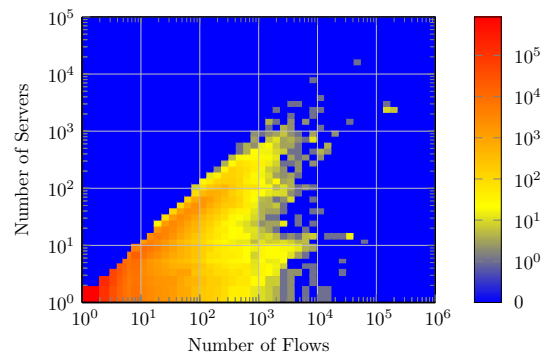
Thesis
M.Sc.

IDP

Long-Term Analysis of User Behavior and Prefix Significance

Motivation

During the past years, the Internet has become one of the most crucial infrastructures worldwide. However, there is ongoing change on various layers like used protocols, traffic characteristics, or user behavior. With changing technologies like mobile or IoT devices and easier access to Internet resources user behavior likely changed. Simultaneously, the Internet was strongly influenced by large Internet companies that maintain large IP prefixes providing multiple services.



At the Chair of Network Architectures and Services we developed an analysis framework to extract flow characteristics from previously captured network traffic, as provided for the last couple of years by CAIDA^a or MAWI^b. The current analyzer version misses to interesting features for further research:

- Metrics describing user behavior and user session characteristics
- Keeping IP address information to analyze prefixes

Based on already extracted flow data, it is possible to extend the analyzer for advanced metrics regarding users' behavior, like flows per user session or session duration.

^ahttps://www.caida.org/data/passive/passive_dataset.xml

^b<https://mawi.wide.ad.jp/mawi>

Your Task

- Extend the current analyzer to extract user and user session metrics
- Implement proper IP address handling to keep prefix information
- Analyze publicly available traffic data sets and survey changes during the past years

Requirements

- Basic programming knowledge in Go

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