

Illuminating a small network: Perspective from within

StrangeBit

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1. Introduction

1.1 Questions

In this section we enumerate research questions that we would like to answer in this report. We foresee at least three important questions in this report. Namely those are:

(i) What to measure in the enterprise networks? By answering this question we attempt to shed the light on most important characteristics in the network traffic analysis. Be it latency, throughput, goodput, error and loss rate, availability. (ii) How to measure? Here we would like to answer how to perform the network measurements. For example, how to select vantage point, how to minimize the dataset, but still be able to grasp the most important characteristics of the network. (iii) When to measure? This question is also important for a number of reasons. Selecting correct measurement period and correct duration of the measurements intervals will have the important impact on the quality of the research outcome.

2. Background

2.1 Basic network characteristics

2.2 Topologies

2.3 Tools

2.4 Network protocols to watch out for

2.4.1 TCP and UDP

2.4.2 DNS and DHCP

2.4.3 LDAP and other Windows services

2.4.4 What about timing: NTP

2.4.5 SSH, TLS and other security protocols

2.4.6 Watch out for anti-virus

3. Results

3.1 Breakdown of the network protocols in small enterprise network

3.2 Watch out! We are plotting the network map

3.3 Performance, performance and once again performance: Stressing the outside world

3.4 Looking for the world: CGNs and TCP

4. Conclusions

Bibliography