DHCP Statistics Analyzer Documentation

Introduction, Design, Implementation, and Usage Guide

Zdebska Kateryna (Login: xzdebs00)

Obsah

Introduction

The DHCP Statistics Analyzer is a tool designed to analyze DHCP traffic and provide insights into IP address allocations within specified IP prefixes.

Application Design

The application is designed to capture and process DHCP ACK packets, track allocated IPs, and calculate utilization percentages for defined IP prefixes.

Implementation

The program is implemented in C and utilizes the libpcap library for packet capture. It features both offline analysis of pcap files and live capture from a network interface.

Basic Information about the Program

The program supports multiple IP prefixes, monitors utilization exceeding 50

Instructions for Use

To analyze a pcap file, use the following command:

```
./dhcp-stats -r sample.pcap 192.168.1.0/24 10.0.0.0/16
```

For live capture on an interface:

```
./dhcp-stats -i eth0 192.168.1.0/24 10.0.0.0/16
```

Conclusion

The DHCP Statistics Analyzer provides a valuable tool for monitoring and analyzing DHCP traffic, helping network administrators understand IP address allocation patterns.

References

[1] Author, A. et al. (Year). Title of the Relevant Literature. Journal/Conference, Volume(Issue), Page Range.