On the Performance of String Search Algorithms for Deep Packet Inspection

Introduction

- State the problem
- Define terms like packet, rule, algorithm.
- Talk about the modern way of performing deep packet inspection (literature review).
- Create a hypothesis. Estimate which algorithms would perform better (maybe not based on the algorithms themselves but the on some performance indicators).

String Search Algorithms

- Talk about multithreading the algorithms.
- Speak briefly about each of the string search algorithms.
- Speak about their pros and cons as well as their complexities.

Results

- Talk about the experiment; its setup and execution.
- Present the data here.
- Talk about the dataset.

Analysis

- Show pretty graphs and make observations about each.
- Answer the following questions:
  - Overall, how fast are each of the algorithms?
  - Which algorithms perform better with a large amount of data (some book text) and which with a small amount (a single packet)?
  - Which algorithms had largely fluctuating processing times? This is related to the standard deviation.

Conclusion

- Talk about which algorithms performed better over and why. Recommend some.

References