Dissemination and Memberships Protocols

Francisco Nunes*
fl.nunes@campus.fct.unl.pt
MIEI, DI, FCT, UNL

Frederico Lopes†
fmc.lopes@campus.fct.unl.pt
MIEI, DI, FCT, UNL

Octávio Freire‡
o.freire@campus.fct.unl.pt
MIEI, DI, FCT, UNL

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1 ABSTRACT

There are different membership and dissemination protocols being developed and used around the world for many years. In this work we did some experimental evaluation to compare how different dissemination protocols (*EagerPushGossip* and *PlumTree*) would perform with the same membership protocol (*CYCLON*). The goal was to find the best combination of parameters and protocols to achieve the highest reliability and lowest latency.

•150-200 words (tem 62)
•1º paragrafo -> contexto do que vai ser apresentado e objetivos
•2º paragrafo -> contributions and main conclusions

2 INTRODUCTION

This project was developed for the Algorithms and Distributed Systems course unit taught by Professor João Leitão. The goal of this project was to implement and compare different unstructured overlay networks with different epidemic broadcast protocols and find the best one or the best ones that when working together, delivery the lowest latency and the highest reliability.
The project was developed under the internal *BABEL* framework that was created by Pedro Fouto, Pedro Ákos Costa and Professor João Leitão at NOVA LINCS. We also used the research computational cluster of DI and NOVA LINCS to conduct experiments for our project, it allowed us to measure the reliability and latency of the protocols that we implemented.

•Should provide the context and goal of the work.
•In terms of context it starts by a broad context that becomes more and more specific as you advance in paragraphs (in the context you have to also motivate the reader in relation to the relevance of the work) •It then presents the goal of the work and the main contributions/results
•It usually ends with a short paragraph that indicates the structure of the document after this point.

3 RELATED WORK

• Discusses previous work that is relevant to understand the contribution or results presented in the current paper.
• May be divided in sub-sections to present existing works in groups that make it easier for the reader to have a quick overview of existing works.
• In your case you might want to discuss: i) overlay protocols; ii) gossip-based broadcast; iii) experimental studies on the use of these technologies (that are similar to your own work)

4 IMPLEMENTATION

• Here you will want to discuss the implementation you did, present pseudo-code, or correctness arguments.
• Sub-divide this into the main components of your solution. • In the start of the section, provide a quick overview of the section (to assist the reader in understanding the organization).
• When discussing a solution, it is good to start with a high-level overview, and only after that present technical details.

4.1 Pseudo-code

Colocar pseudo-codigo dos algoritmos

5 EXPERIMENTAL EVALUATION

• Here you will present both your methodology, results, and discuss them.
• Methodology should be detailed and present all parameters that were used. Remember that good engineering is typically based in good science: the reader should have all the information required to replicate your results on his own.
• Present plots in a clear and consistent (in the document) way. Discuss results one by one. You might want to have different subsections for different aspects of your evaluation.
• Many plots does not mean better evaluation. Readable and complete plots are what you should strive to obtain.

Aqui vamos mostrar alguns gráficos e testes feitos aos protocolos. Tempos de Latencia e experiencias com combinações de protocolos. Cyclon e Eager push gossip, Cyclon e Plumtree, etc..

Measure: Rate of transmission(1 broadcast every 2sec or every 200miliseconds) PayloadSize small vs big (1Kb vs 1Mb) Reliability Latency

*Student number 50774. Francisco was responsible for doing EagerPushGossip and Plumtree protocols.
†Student number 42764. Frederico was responsible for doing Cyclon protocol.
‡Student number 50451. Octávio was responsible for doing PlumTree protocol and the report.

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6 CONCLUSIONS

• A summary of what was presented in the paper and the main take-away lessons from you result.
• You can also present some aspects that you did not cover but that you think would be interesting (aka Future Work).
• You can also present some limitations of your work and discuss them.