COMP3100 - Stage 1

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Contents

1 Introduction

This section of the document will provide the reader with a high-level overview of this projects details, where the code to test the job-dispatching can be found and the overall outcome of the project.

1.1 Purpose

Before continuing with this document, it is important to understand what a ds-sim is, how it's used and why it's a critical element in client/server communication. The majority of this information can be found in the User Guide, developed by Young Choon Lee. Lee describes ds-sim as an "open source, language-independent and configurable distributed systems simulator" [3]. The term 'open-source' means this simulator is open to the public to see, modify and distribute code. Language-independent, which means programmers are able to utilise their preferred OS/programming language without major disruptions to the program [2]. Finally, the meaning behind "distributed systems simulator" can refer to the connection of multiple processes on multiple machines performing a single action[1].

1.2 Project Location

The project has been developed and run using Ubuntu, an open source Linux operating system. See the following GitHub Repository for the Client-Side code used to run this project. [4]

1.3 Project Goal

2 System Overview

2.1 Server-Side Simulator

2.2 Client-Side Simulator

3 Design

4 Implementation

4.1 Largest Round Robin (LRR)

5 References

References

[1] Jakob Engblom Daniel Aarno. Distributed simulation, 2015.

[2] LanguageOrientedProgramming. Language independent programming.

[3] Young Choon Lee. ds-sim: an open-source and language-independent distributed systems simulator, 2021.

[4] Benjamin Sumners. Comp3100—45878803, 2022.