

Parallel Computer Systems, Fall 2022

Instructions for Databar Exercise 10:

Warehouse-scale computers

November 14, 2022

1 Introduction

In this exercise, we study warehouse-scale computers. This databar exercise is not reported in any report and it is voluntary.

2 Reference material

Before carrying out the exercise study: L. Barroso, U. Hölzle, P. Ranganathan, The Datacenter as a Computer: Designing Warehouse-Scale Machines, ch 1-2.

3 Exercises

3.1 Problem 1

Why are failure rates in warehouse-scale computers high even though each sub-component is fairly reliable?

3.2 Problem 2

In warehouse-scale computers, a significant effort is spent on automatic service monitoring. Why, would you say, is that so?

3.3 Problem 3

Tail latency is a significant problem in warehouse-scale computers? Why is that so?

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