Degradable concurrent and distributed data structures

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***Index Terms*—Concurrent programming, parallel programming, performance, databases**

I. Introduction

A. Context

Up until the begnining of the 21st Century, there was a simple rule that could be used to predict the performances of computers. This is known as Moore's Law. This law states that every two year, the number of transistors would double on chips. This rule could be used quite flawlessly to predict the speed of processors, as there is a direct correlation between the speed of sequential programs and the frequency of CPUs. However, in recent years, serveral issues have surfaced regarding these assumptions : Firstly, we seem to have reached the minimum physical size of a transistor at around 5 nanometer ; secondly, the frequency that can be reached by craming all these transistors in a single CPU core is too high to be dissipated by current means. [1]

References

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[3] Google Cloud Platform Compute Engine
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