Technical Report Writing

Assignment 1: Review Writing on Research Paper

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Paper: *Performance Analysis of High-Performance Computing Applications on the Amazon Web Services Cloud*

Review:

The Authors have mentioned how cloud computing has exploded in popularity, especially among commercial online applications. The pay-as-you-go, on-demand approach allows for a flexible and cost-effective way to acquire computing resources. As a result of these factors, the scientific computing community is becoming more interested in cloud computing.

They have showed about the cloud implementation and performance, on the other hand, differ significantly from those at traditional supercomputing facilities. It is consequently important to assess the performance of HPC applications in today's cloud settings in order to fully comprehend the constraints that come with cloud migration.

According to the authors this research is the most complete comparison of traditional HPC systems to Amazon EC2 to date, utilising real applications indicative of a typical supercomputing centre's workload. When performing this workload on EC2, the overall performance is substantially lower than a usual mid-size cluster. While cloud computing has shown to be beneficial for a variety of e-Science applications, it has yet to be proven for more inseparably connected HPC applications.

They have demonstrated a significant link between an application's overall performance on EC2 and the proportion of time it spends communicating. The worsening of performance is proportional to the amount of communication. Overall, EC2 is six times slower than a normal mid-range Linux cluster and twenty times slower than a contemporary HPC server, according to the findings.