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Two-weekly report

Q. What have I accomplished since the last Daily Standup?

Firstly, I read the importance of performing live-migrations. How is it useful? My findings are that live-migrations allow to migrate applications with no-downtime and help the service provider to commit to its SLA. However, it involves not only migrating the applications, but also the containers/virtual machines. Migration techniques like On-demand Migration and Stop-and-copy migration are 2 extreme techniques where either the downtime or the performance are highly impacted. Based on these other migration techniques that balance between both were studied. Pre-copy migration is one such technique that involves iteratively copying the memory pages to the destination machine/container was identified to reduce post migration overhead.

On the other hand, application fields were explored. We explored the hard limit of cloud application migration where the service quality could be highly impacted. In gaming applications, where the mobile user moves locally, the containers are deployed to different cloudlets (fog architecture). However, gaming applications require high availability and real time data analysis which can impact user experience and availability.

Q. What will I accomplish until the next Daily Standup?

Factors like CPU Utilization, memory, storage capacity, user experience, cost, etc are identified as key concepts. Link Speed and Page dirty page are important factors that affect the service availability. Next, I will research on how do these factors impact and what is the co-relation between these factors. How can it affect the service downtime. What will the prototype implement? Methodology of out conceptual framework. Which factors can be simulated to depict the live migration evaluation.? Goal is to start with an office application and study how the performance and availability of services are impacted. Gradually, study the same for heavy/high performance applications. Study tools to measure the service quality and its application in an offline first concept.

Q. Do I anticipate any obstacles and can the team help me with them?

Currently, we are in the knowledge gathering phase. We understand that the theoretical approach is important, but there are some obstacles on imagining how the conceptual framework would look like? How to evaluate the metrics from the operating system. The team works in a progressive manner where everyone works individually on the topic and share their findings, we are able to solve each other's doubts, but we need some guidance on painting the final picture.