PJMCC: A Java Library for Efficient and Easier Computation Offloading Mechanism in Mobile Cloud Computing

Alimuddin Khan aak5031@rit.edu  Advisor: Prof. Minseok Kwon

INTRODUCTION

• Mobile cloud computing is a standard infrastructure to offload computationally intensive tasks from mobile devices to the cloud servers
• Advantages:
  • Enhanced computational capability
  • Increased battery life

MOTIVATION

• Existing solutions are client server model, MAUI[2] and CloneCloud[3].
• Some of the drawbacks of existing solutions are:
  • Subjective to applications
  • Work on method level instead of thread level
  • No inherent support for parallel computing
  • No control over which tasks will run where
  • Difficult to implement
  • Not mobile device oriented
  • Lack support for android programming

SOLUTION: PJMCC

• PJMCC is a java library which has following key features:
  • Provides an easy to implement APIs for mobile cloud computing
  • Uses reflection and annotation paradigms of java to provide fine grained code offloading
  • Handles the cluster creation and failure management transparent to the end user and the developer
  • Uses a caching and logging mechanism in PJMCC to handle the network failure
  • Supports resumption of an interrupted computation
  • Inherent support for offloading computation on AWS EC2 servers

CONCLUSION

• PJMCC provides an easier and efficient way to write a code to achieve mobile cloud computing

REFERENCES

[4] Ali Kaminsky (a.k@gmail.com). Big cpu, big data (solving the world’s toughest computational problems with parallel computing), 2014.