Rapid Cloud Offloading

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Abstract

1 Introduction

Offloading resource-intensive computation from a mobile device to the cloud in order to extend battery life or to speed up execution has been the subject of many recent papers [3]. These papers are rooted in work stretching back over a decade on the theme of *cyber foraging* [2, 4]. Commercial applications that use cloud offload now exist: Apple's *Siri* for speech recognition on the iPhone is a good example [1]. An ongoing convergence of mobile computing and cloud computing is clearly under way.

2 Background

3 Architecture and Prototype

4 Evaluation

4.1 Basic Operation

4.2 Pipelining & Parallelism

4.3 Effect of Ballooning

Research questions

- How much does it going to reduce overlay size?
- How far does the ballooning will degrade application performance?
- Does the Base VM have to be the status where ballooning is applied to get ballooning effect on overlay VM?

5 Related Work

6 Conclusion

References

[1] APPLE. iPhone 4S - Ask Siri to help you get things done. `http://www.apple.com/iphone/features/siri.html`.

[2] BALAN, R., FLINN, J., SATYANARAYANAN, M., SINNAMOHIDEEN, S., AND YANG, H. The Case for Cyber Foraging. In *Proceedings of the 10th ACM SIGOPS European Workshop* (Saint-Emilion, France, September 2002).

[3] CHUN, B.-G., IHM, S., MANIATIS, P., NAIK, M., AND PATTI, A. CloneCloud: Elastic Execution between Mobile Device and Cloud. In *Proceedings of EuroSys 2011* (Salzburg, Switzerland, April 2011).

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