Introduction

These 10 last years, the Internet has grown at an exponential rate. More and more people are connected, and using always more numerous kinds of device. As the demand is raising strongly, service providers have to be able to support an increasingly amount of customers on their infrastructure. In 2006, Amazon launched Amazon Web Services (AWS) is born, popularising the concept of cloud computing. This platform allows developers and companies to allocate resources on demand, and these are provisionned instantly.

The market of cloud computing has grown really quickly and forcasts predict that this expansion won't stop in the near future.[1] It is no coincidence if the industry and the academic environments are really interested by this domain. On the one hand, it is a field where money is present and on the second hand, we can consider that we are only at the beginning of an era: a lot of things have to be developed, to be optimized and to be found.

0.1 Background

The evolution of the paradigm of cloud computing has been made possible thanks to the virtualisation technology. As explained by Paul Barham et al.[2], it allows servers to be splitted in different parts, isolated from each other, sharing the resources of the physical machine. Technologies have been developed to give people much more flexibility in the way to manage their virtual machines also called instances. Actually, the concept of live migration, which is detailled in the work of Christopher Clark et al.[3], has been built to move instances from a physical host to another without interrupting the activity of what is running inside a virtual machine. Using this mean,

0.2 Motivation

0.3 Algorithmic studies

0.4 Real data analysis

Conclusion

Bibliography

[1] Louis Colombus. Roundup of cloud computing forecasts update, 2013, November 2013.

[2] Barham Paul, B. Dragovic, K. Fraser, S. Hand, T. Harris, A. Ho, R. Neugebauer, I. Pratt, and A. Warfield. Xen and the art of virtualisation. In *19th ACM Symposium on Operating Systems Principles*, 2003.

[3] Clark Christopher, K. Fraser, S. Hand, J. G. Hansen, E. Jul, C. Limpach, I. Pratt, and A. Warfield. Live migration of virtual machines. In *2nd Symposium on Networked Systems Design and Implementation (NSDI'05)*, 2005.