

Computer Systems Lab
Project Proposal in Concurrent and Distributed Systems 236371
Spring 2014

**Resource Tradeoff in a
Resource-as-a-Service (RaaS) cloud**

Description:

Current trends in the Infrastructure-as-a-Service (IaaS) clouds are likely to result in a new cloud model: the Resource-as-a-Service (RaaS) cloud[1]. In the RaaS cloud resources such as bandwidth, CPU and RAM may change hands every second, on the basis of economic considerations. Thus, the price of different resources may change with time, in response to changes in demand.

In this project the student will build a RaaS application that changes its consumption of different resources in response to their changing prices.

Prerequisites:

Operating systems course (or equivalent knowledge). Python.

Platform:

The student can use elastic-memcached[2], a key-value storage application that can dynamically change its RAM consumption, as a baseline.

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Number of students: 1 or 2 students.

References:

[1] "The Resource-as-a-Service (RaaS) cloud", Orna Agmon Ben-Yehuda, Muli Ben-Yehuda, Assaf Schuster, Dan Tsafir. In proceedings of the 4th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud) 2012.

[2]<https://github.com/ladypine/memcached>