

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

**Network Resource Allocation 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 platform that auctions bandwidth.

Prerequisites:

Operating systems course (or equivalent knowledge). Python.

Platform:

The student will use a RaaS platform that auctions RAM as a basis. The system is written in python. The bandwidth controlling will be done either on the basis of MOM[2], using C-groups[3] or using new hardware from Mellanox.

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Number of students: 1 or 2 students.

Engineer: Itzik Shashuashvili {itziksh} at cs.technon.ac.il

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]<http://aglitke.wordpress.com/category/mom/>

[3]<http://www.haifux.org/lectures/299/netLec7.pdf>