

Exam 14.08.2012

T-110.5121 Mobile Cloud Computing (5 cr)

Mark clearly on each paper:

- T-110.5121 Mobile Cloud Computing
- Exam 14.08.2012
- Family name, first name
- Degree programme, student number
- Signature

Questions 1 and 5 are compulsory to all. Answer to two of the questions 2 – 4. All answers should only be based on the content of the required material and lectures. Try to structure your answer before starting to write and pay special attention to clear handwriting. Each question will be reviewed in scale 0-6 and the maximal score is accordingly 24.

1. Define the following concepts, in (mobile) cloud computing context, shortly (1p / each):

- a) Service model
- b) SLA
- c) MapReduce
- d) Data lifecycle management
- e) Mobile offloading
- f) Dynamic resource provisioning

Answer **only** to **two** of the questions 2-4:

- 2. What are the key business impacts of cloud computing.
- 3. Describe the main advantages and disadvantages of a hybrid cloud.
- 4. Review how mobile devices and networks can benefit from cloud computing
- 5. A new startup company called RUBiS ltd will start 2013 for setting up, firstly national but later also a global auction site, similar to eBay. In the first year RUBiS ltd plans to intermediate 1 million auctions in Finland, but already within three years a global market size of 100 million auctions should be reachable. Service demand peaks can be 1000 times larger than an average load. Usually 1% of users are active users, e.g. selling things, 10% make bids and rest, about 90% are just searching items.

RUBiS ltd is currently planning their service implementation. Define your high level proposal to the architecture and auction delivery system. How it will evolve during the first three years? You might consider how they can utilize cloud computing, mobile operator APIs and mobile terminals in their service delivery system. What is the business logic? How does RUBiS ltd may differentiate from the current auction sites such as eBay and Huuto.net?