Telecommunication Services Engineering Lab

On Mid Term – Fall 2015
ENCS691K

Roch H. Glitho

Procedure

- Correct answers / Discussions

- Copies / grades back to students (10 minutes)

- Copies back to course instructor

- More explanations about the grades during the office hours

Roch H. Glitho

Question 1   (5 points)

- **Question #1**

a. What is the main difference between intra data center networking and inter data center networking?

   (2.5 point)

b. Give 2 examples of functional challenges and 2 examples of non-functional challenges for clouds

   (2.5 point)

Roch H. Glitho

Question 1.a (See course material)

- Intra data center networking: Networking within a same data center

- Inter data center networking: Networking between data centers
  - Nil: If you switch the definition around

Roch H. Glitho

Question 1.b

- See course material

Question 2   (10 points)

- Figure out the data set (2 points)

  – Conference

  – Sub-conference (Was missing on several copies)

  – Participant

  – (Media could be added but not mandatory)

Roch H. Glitho

Question 2   (10 points)

- Split the data set into resources (2 points)
    - Conference
    - Participant
    - Sub-conference
    - Lis of conferences
    - List of sub-conferences
    - List of participants

    Note: Could be more refined with list of participants for each sub-conference

Question 2   (10 points)

Name the resources with URIs (2 points)

Note: Concept of subordinates should be used (e.g. sub-conferences belong to conferences)

Question 2   (10 points)

Draw a sequence diagram with the conference manager, the conferencing service and the HTTP operations for the following actions (4 points)

- Creation of conference A

- Creation of sub-conference A1

- Creation of sub-conference A2

- Addition of Alice and Bob to conference A

- Move of Bob from conference A to sub-conference A1

- Move of Alice from conference A to sub-conference A2

Roch H. Glitho

Question 2   (10 points)

Draw a sequence diagram with the conference manager, the conferencing service and the HTTP operations for the following actions (4 points)

- Notes
  - HTTP operations need to appear explicitly (e.g. POST, DELETE)
  - POST should be used instead of PUT
  - Move from a conference should be expressed by
    - POST
    - DELETE
      - No need for a special resource !!!

Question 3 (5 points)

- What is the main difference between bare metal hypervisor and hosted hypervisor? (2 points)
- Give an example of advantage of bare metal hypervisor and also an example of disadvantage (1 point)
- Give an example of advantage of hosted hypervisor and also an example of disadvantage (1 point)
- What is the difference between full virtualization and para-virtualization? (1 point)

Roch H. Glitho

Question 3 (5 points)

- Answers: See course material

Roch H. Glitho

Question 4 (5 points)

What are the 4 phases of application / service life cycle a
PaaS should consider?

Answers: See course material

Roch H. Glitho

Question 5 (5 points)

- Give 2 examples of non-functional challenges an IaaS should meet (2 points)
- b.   Why is server consolidation needed? (not graded)
- d.   What is the main difference between interoperability and portability at the IaaS level? (3 points)
- e.   Give an example of drawback of suspend and copy live migration technique (Not graded)

Answers: See course material

-