Exam Hints

Exam Hints (Part 1)

- Tuesday, 13 Dec 2005, 13 – 16, S5

- There is a ton of paper you could read
  - Particularly RFCs, Internet drafts, etc.
  - But this would simply be too much.

- What you SHOULD do includes
  - Understand all the slides from the lectures
  - Read the overview parts of RTP, SAP, SDP, RTSP, and SIP
    - Need a good grasp of the big picture of the respective protocols
  - If there questions about some core aspects, look them up
    - E.g., if the semantics of the Expires: header in the REGISTER message is unclear
    - E.g., if you don’t know the purpose of a SIP Request URI
    - E.g., if you wonder what an RTSP session is and how it is created and destroyed
  - There are too many details: concentrate on those discussed in the lecture
    - E.g., there are many error codes and additional headers in SIP we did not talk about
Exam Hints (Part 1)

- Planning on 10 – 12 questions
- Questions will be about **concepts rather than details**
  - Concepts obviously include
    - Architecture, general operation and interactions, terminology, methods, and headers, basics of message exchanges
  - Concepts do not include
    - Syntax details, tiny exceptions, state machines, detailed call flows, numbers of response codes...
- May include a **small design task**
  - How would you build a system that does X?
  - Where to get which data from?
  - Which protocols to apply? How to combine them?
  - May leverage what you have learned in the assignments
- More to come next week…

Exam Hints (Part II)

- Range: All lectures except for the “Real World SIP” part today
- Things learned when looking closer at the exercises
- Again: concepts rather than details
  - But going once through all the slides will likely be insufficient
  - So, take your time

- Task structure
  - 10 – 12 in total
  - Large fraction with (relatively) short answers
  - 2 – 4 requiring more time
  - Possibly one “design” task

- Some sample questions (probably not used in the exam :-)

© 2005 Jörg Ott
Sample Questions

Short tasks

- How is a SIP transaction identified?
- Why do RTP packets carry a sequence number and a timestamp?
- Why is jitter not a problem for real-time communications in packet networks? What is the problem?
- What are the IMG FETCH and RESOLVE operations used for?
- What is the media level a=rtpmap attribute in SDP used for?
- Sketch the operation of SIP digest authentication.

Sample Questions (2)

Longer tasks

- Sketch the interaction of RTP and RTCP for synchronizing two media streams (e.g., audio and video) from the same source.
- Outline the operation of the SIP REGISTER messages. Which different semantics are supported? Which parameters are used to control these semantics?
- What is the basic idea of audio redundancy encoding? Contrast this approach to generic FEC, e.g., for use with video.
- What are the semantics of the following RTSP message? Describe the key fields. When will it be sent? Who will send it?
Sample Questions (3)

Design tasks

- Sketch one approach (out of many possible ones) to realize a call recording feature for a SIP user who uses a SIP hardware phone without built-in recording capabilities. Remember that this service must not require cooperation from the remote party on a call. Describe which components you will use, which functions they perform and when and how they interact (protocols, messages).

Any other Questions…?