

IP Telephony (Midterm Exam)

April 26, 2005

1. What does “carrier grade” mean for VoIP services? (5%)
2. Elaborate on the requirements for voice traffic vs. data traffic in terms of delay, jitter and packet loss (10%)
3. Why is voice carried over UDP, not TCP? (5%)
4. Describe the functions provided by RTP and RTCP. (15%)
5. Elaborate on the advantages of SIP (3%) Also describe the functions of SIP network entities: UAC, UAS, Proxy Server, Redirect Server, Registrar. (12%)
6. SIP Messages
 - (a) Describe the functions of the following SIP headers: To, From, Contact, Via, CSeq, Expires, Retry-After, Content-Type, Record-Route and Route. (20%)
 - (b) What is the difference between Request-URI and From, To headers in SIP REGISTER? (5%)
7. Paper Presentations
 - (a) Group I (Ubiquitous Computing Using SIP)
 - What role does SIP play in ubiquitous computing? (5%)
 - (b) Group II and Group VI (Mobility Management for VoIP Service, Mobile SIP Introduction)
 - What are terminal mobility, personal mobility and session mobility? (5%)
 - Why using SIP to support mobility? Also compare Mobile SIP with Mobile IP? (8%)
 - (c) Groups III (Using SIP to Build Context-Aware VoIP Support for Multiplayer Networked Games)
 - What is B2BUA? (2%)
 - (d) Group V (Group Conference Using SIP)
 - Please briefly describe the distributed conferencing architecture in terms of the mixers (5%)