

13 Principles of Communications (jac22)

- (a) Multicast routing provides IP packet delivery from a source to a set of receivers. One clear use case for this is for large scale content distribution (e.g. software updates). In such a case, we would expect the end-to-end protocol to provide flow and congestion control. How might such a reliable multicast transport protocol be designed? [10 marks]
- (b) Mobile systems move. In cellular networks, this is can be handled by the radio access network, and measuring signal strength to determine to which cell a handset is best assigned. In the Internet, the IP layer typically hides this information. How might we combine information across layers to make mobile IP routing more efficient? In your discussion, pay attention to problems of software layering, and also of managing the dynamics (e.g. route flapping) in such systems. [10 marks]