

Internet Technologies

Prof. Dr. Thomas Schmidt
HAW Hamburg, Dept. Informatik
Raum 780, Tel.: 42875 - 8452
Email: schmidt@informatik.haw-hamburg.de
Web:

[http://inet.cpt.haw-hamburg.de/teaching/
ss-2009/internet-technologies](http://inet.cpt.haw-hamburg.de/teaching/ss-2009/internet-technologies)

Test Examination

1. Internet Protocol (v4 /v6):
 - a) Please name and explain three innovations of IPv6 over IPv4.
 - b) Why can IPv6 be processed more efficiently by routers?
 - c) Please describe the mechanism of stateless address auto-configuration?
 - d) In which way needs the address auto-configuration modification if 'Secure Neighbor discovery' is applied?
2. Network Management:
 - a) Please name and explain three major goals of network management.
 - b) Please describe the SNMP architectural framework and the functions of its constituents.
 - c) From your network management system you want to enable a (previously shutdown) interface at some router. Please explain the individual system & protocol operations, which take place during that task.
 - d) How is a network management system entitled to discover network topologies? Please give clues on major operations.
3. Group Communication:
 - a) Please give and explain three reasons for the existence of multicast communication.
 - b) What is the principle difficulty in supporting closed multicast groups?
 - c) Why does multicast routing not work like ordinary routing? Please name and (roughly) explain two algorithms for multicast routing.
 - d) What difficulty must connection oriented anycast communication face?
4. Multimedia Networking:
 - a) Please explain 4 issues on packet network performance in real-time transport.
 - b) How does RTP account for different transport requirements of different media? Please give one example.
 - c) Please explain the functional components of an RTP system.
 - d) How can RTP/RTCP be used to (passively) monitor multicast sessions?