

Information Network I (2001) Examination

Questions

1. IPv6 protocol was not designed for protocol migration to another new / future network layer protocol. If we have an opportunity to re-design IPv6 in order to help protocol migration, what we have to design additional mechanism in the network layer protocol?
2. Suppose that we are going to communicate between Earth and Mars using TCP protocol. What mechanism we have to implement in TCP in order to obtain high throughput on this communication channel?
3. In the current Internet operation, route aggregation is set up manually. Answer the reason why we have to do this. Also, you have to answer what we have to make modification and improvement on the router in order to achieve the route aggregation much easier.
4. Explain the reason why IPv6 has much simpler header than one in IPv4.
5. Suppose that 100Gbps network service is available and its backbone network can handle all the traffic where its user can utilize full bandwidth without any packet-loss as well as adding extra delay.

Propose one network application which can consume higher bandwidth as much as possible in this network environment. You also have to answer estimated bandwidth in Gbps consumed by your proposed application. Higher bandwidth consumption is estimated, we evaluate your answer is better.