

10 Principles of Communications (JAC)

The Internet makes use of distributed route computation algorithms such as link-state, distance-vector, and path-vector schemes. When these were designed and implemented in the early days, there was little information about the possible future statistical properties of the topology of the Internet. Since then, measurements show that the way the network has evolved has led to highly clustered, and possibly small-world characteristics in the graph representing the topology.

In this situation, how might you choose to design your routing system, and furthermore how might the topology impact how you choose to represent the graph for the purposes of a link-state or distance-vector computation, and for forwarding?

[20 marks]