




HKUSTx: ELEC1200.3x A System View of Communications: From Signals to Packets (Part 3)


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4.1 Routing

4.2 Routing: Distance Vector AlgorithmWeek 2 Quiz due Feb 01, 2016 at 15:30 UTC 

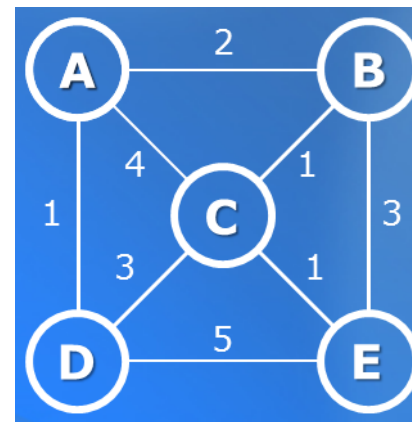
4.3 Routing: Routing Link State Algorithm

Topic 4: Routing > 4.2 Routing: Distance Vector Algorithm > 4.2 Quiz

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4.2 QUIZ QUESTION 1 (1/1 point)

Consider the network shown below, where each link is labelled by its cost.




What is the best path from node A to node E?


☐ ABE☐ ADCE☒ ABCE ✓

Week 2 Quiz due Feb 01,
2016 at 15:30 UTC 

4.4 Summary of Routing Algorithms

Week 2 Quiz due Feb 01,
2016 at 15:30 UTC 

4.5 Lab 2: Network Layer

Lab due Feb 01, 2016 at
15:30 UTC 

► MATLAB download
and tutorials

☐ ADE

☐ ACE

EXPLANATION

Path ABCE has cost 4. All other possible paths have higher cost.

4.2 QUIZ QUESTION 2 (1/1 point)

Suppose that Node A in a network has an initial routing table given by

(A,-,0), (B,B,1), (C,C,3), (D,-,inf), (E,-,inf)

The routing table is given by triples with the form (dest, link, cost), where “link” indicates the neighbor node at the end of the link that should be taken by the packet from A to node “dest”, and “cost” is the total cost to get to the destination node. In this example, the routing table shows, the neighboring nodes of Node A are B and C. An unknown or unnecessary link is indicated by “-”. A cost of “inf” indicates that the node does not know how to reach the corresponding destination.

Advertisements from node X have the form of pairs (dest, cost), where “cost” is the cost to reach node “dest” from node X. If Node A receives the following advertisements from it neighboring nodes B and C,

Advertisement from B: (A,1), (B,0), (C,1), (D,2), (E,4)

Advertisement from C: (A,3), (B,1), (C,0), (D,inf), (E,1)

What is the routing table after the distance vector algorithm integrates these two advertisements?

☐ (A,-,0), (B,B,1), (C,B,1), (D,B,2), (E,C,1)

☒ (A,-,0), (B,B,1), (C,B,2), (D,B,3), (E,C,4) ✓

☐ (A,-,0), (B,B,1), (C,B,2), (D,B,3), (E,B,5)

☐ (A,-,0), (B,B,1), (C,C,3), (D,-,inf), (E,-,inf)

EXPLANATION

After integrating the advertisement from B, node A knows that

1. It can reach C from B with a cost of 2
2. It can reach D from B with a cost of 3
3. It can reach E from B with a cost of 5

After integrating the advertisement from C, node A knows that it can reach E from C with a cost of 4.

You have used 1 of 2 submissions

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