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Computer Networking Principles

Homework 6

10/29/2021

1. Use the Distance Vector algorithm to find distance at each node X, Y, and Z according to the following diagram (5 points):

X

Z

3

5

4

Y

Using Distance Vector Routing Algorithm

Finding the distance from X to Y:

You do this formula for every pair to fill the table to get the results

X:

|  |  |  |  |
| --- | --- | --- | --- |
|  | X | Y | Z |
| X | 0 | 5 | 4 |
| Y | 5 | 0 | 3 |
| Z | 4 | 3 | 0 |

Y:

|  |  |  |  |
| --- | --- | --- | --- |
|  | X | Y | Z |
| X | 0 | 5 | 4 |
| Y | 5 | 0 | 3 |
| Z | 4 | 3 | 0 |

Z:

|  |  |  |  |
| --- | --- | --- | --- |
|  | X | Y | Z |
| X | 0 | 5 | 4 |
| Y | 5 | 0 | 3 |
| Z | 4 | 3 | 0 |

1. Use the diagram below and LSR algorithm to find the shortest path from A to F (5 points):

2

4

3

3

2

4

7

There is 3 ways you can get to F from A:

* Path One = {A,B,E,F}, Weight of Path One = (7+2+4) = 13
* Path Two = {A,B,D,E,F}, Weight of Path Two = (7+2+3+4) = 16
* Path Three = {A,C,D,E,F}, Weight of Path Three = (3+4+3+4) = 14
* Path Four = {A,C,D,B,E,F}, Weight of Path Four = (3+4+2+2+4) = 15

The shortest out of all these paths is Path One {A,B,E,F}.