Communication Networks (0368-3030) / Spring 2011

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Network Layer – Routing

Kurose & Ross, Chapter 4 (6th ed.)

Many slides adapted from:

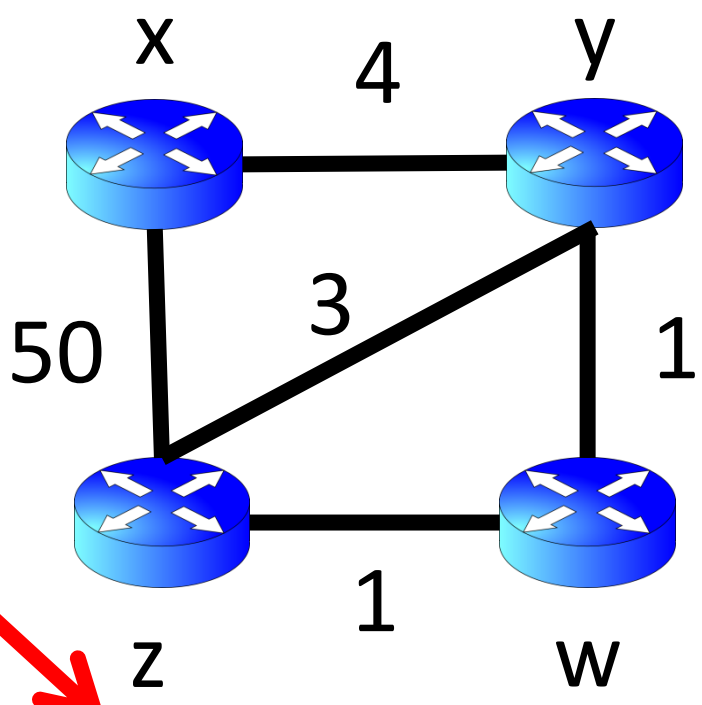
J. Kurose & K. Ross \
Computer Networking: A Top Down Approach (5th ed.)
Addison-Wesley, April 2009.

Exercise (Kurose & Ross, 6th ed.)

Consider a network with 4 routers, that uses a *DV routing algorithm with poisoned reverse.*

- When the DV is stabilized, which distances to x do routers w, y, z report to each other?

Router z	**Informs w, $D_z(x)=\infty$**
	Informs y, $D_z(x)=6$
Router w	**Informs y, $D_w(x)=\infty$**
	Informs z, $D_w(x)=5$
Router y	**Informs w, $D_y(x)=4$**
	Informs z, $D_y(x)=4$



Loop!!!

Exercise (Kurose & Ross, 6th ed.)

The link cost between x and y increases to 60. Will there be count to infinity?

- Yes, because of the spurious distance that z publishes to y: $D_z(x)=6$.
- y will think it can get to x in cost 3 + 6 and publish this to w (not to z because of poisoned reverse)
- w will think it can get to x in cost 9 + 1 and publish this to z (not to y because of poisoned reverse)
- z will think it can get to x in cost 10 + 1 and publish this to y (not to y because of poisoned reverse)
- y will think it can get to x in cost 11 + 3 and will publish it to w (not to z because of poisoned reverse)
- And so on until the distance that is published to z is greater than 50 and z chooses to route to x directly through the edge (z,x)