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CS 455 PA3 Write Up

Compilation Instructions: Compile all Java code in the same directory and run Project3.java

Design:

Variables used:

Lkcost[] : a size 4 array representing the cost of the link from the node to every other node. Set to 0 for itself, INFINITY if not reachable from this node directly.

Costs[][]: a 4x4 matrix representing the cost from this node, to a different node, via some other node. Via meaning the next hop must be the specified node.

Nodename: an integer from 0-3 representing which node this is

Mincost[]: a size 4 array representing the mincost from current node to every other node.

Through[]: a size 4 array representing the next hop in the optimal path to a node from the current node. Used for poisoning.

reinit:

Initializes nodename, lkcost, costs, assigns first values to mincost, and through as a result. Then sends packets to neighbors.

calcMinCost:

Using this nodes cost matrix, calculate the mincost and store it into the mincost array.

Compare:

Compares 2 int arrays. Returns true if equal, false otherwise.

Rtupdate:

Updates the cost table of given node using the rcvdpkt’s mincost table. If it detects that it’s mincost table changed, inform neighbors. Poison values back to original sender based on through, to prevent looping.

Linkhandler:

Update lkcost variable and then cost table. If it detects that it’s mincost table changed, inform neighbors. Poison values back to original sender based on through, to prevent looping.