

Communications Network Design: the Routing Game

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Read the rules, but do not do anything until your lecturer instructs you to.

Link-state Game:

1. Each person will represent a DESTINATION.
2. Everyone starts with no knowledge of the destinations (except their own).
3. The lecturer will give you a packet, which has to get to a particular destination as quickly as possible.
4. It is up to the students to work out how to get the packet to its destination as quickly as possible.
5. The packet may only be passed, not thrown.
6. The lecturer will time how long the packet takes.

Path-vector Game: The rules are all the same as for the link-state game, except

1. People are only allowed to talk to their neighbours.
2. The lecturer will count how many “hops” the packet takes to reach its destination.

You represent DESTINATION STRING

Note that this game is intended to give you a bit of intuition for the types of routing. It is not quite like real routing because:

1. You can see/hear each other at the start.
2. We are only routing one, or two packets.

Normally routing protocols would be used to build tables that are then used to forward the packets at each hop. We are effectively constructing a table on the fly for a particular destination (because I don't have time here to let you build a complete table).

Questions:

- What are the advantages and disadvantages of the two types of routing
- build your routing table, e.g. build a table that looks like

destination	next hop
10.0.1.0/24	behind me
10.0.2.0/24	to my left
10.0.3.0/24	
10.0.4.0/24	