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Project 2

Discussion Questions

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1) We can use only bi-directinoal links in the computation because the routing tables must be exchanged both ways. In other words, if the links was a directed link AB, but BA did not exist, Node A would not be able to receive not only the neighbor discovery from B, but also the LSP would not be received. Therefore, A would not be able to use B as a next hop because it has no idea who B has access to.

2) Yes, because the “cost” between each node is uniform , meaning the cost to hop from a neighbor to a neighbor is always the same value. Therefore, producing symmetric rates.

3) If a node advertised its neighbors, then the shortest path calculations would most likely mark said node as the next hop. Therefore, a problem would arise, in which the node would receive messages intended for its neighbors, but never forward them to those neighbors. This, those neighbors would never receive those messages. To deal with this, the algorithm would have to take note of the ack messages (or lack of them ) and after some time, give up on the node in questions as the next hop, and fired a different hop.

4)Then link state tables would not be updated. This means it will take longer for some nodes to fill out their table, and this slow down the networking infrastructure.

5) Depending on the syncing of the neighbor discovery, what could happen is that it aligns with the “withdrawn” periods. Therefore the neighbor will time-out, and no longer be marked as such. Thus, this will cause link state tables to be changed, and therefore cause the network to pretend it does not exist. A simple way to combat this would to be either have a smaller updating window, or a randomized update window.