Advanced Network Communications H - Assessed Coursework Status Report

Name: Dominic Houston-Watt **Matric:** 2253422h

Status of the program

The network simulation program is written in the Java programming language. The program is executable and runs as intended with the features described in the assessed coursework document. Through a text-based interface in the terminal, the program successfully allows the user to load in a network description, simulate distance vector routing, perform link updates, perform DVT computation with split horizon capability, print all the connections in the network and print the route and cost between two nodes, if known.

Limitations

As it stands in the submission, the one feature that doesn't work fully is the ability to make a node "fail" within the network (i.e make a node unreachable through a failed connection). There is an implementation which partially works and allows a node to be classed as "unreachable", however upon recalculation of the DVTs for nodes, this information is not passed to all nodes correctly and thus the links become reestablished.

Given more time, a fix that could be implemented is to change how links themselves are managed. I would create a separate class for links, such that each instance of a link is connected to two node instances. By marking a link as unusable, a check can be performed when recalculating the DVTs of the nodes to prevent the use of a node with broken links.