# DOGE SAS

## Definitions

1. Path/Route - A collection of nodes and edges through which a single packet reaches its destination.
2. Single path routing– A single path exists in a routing table between a source and destination node.
3. Multipath routing – Multiple paths may exist in a routing table between a source and destination node.
4. Routing processor - Edison

# Web Interface Requirements

1. By default, the Web UI shall display all nodes, edges connecting nodes, and any routes present in the network.
2. The Web UI shall present the user with GUI element(s) to hide nodes, edges connecting nodes, or routes in the network graph.
3. The Web UI shall present the user with GUI element(s) to remove nodes, edges connecting nodes, or routes in the network graph.
4. The Web UI shall present the user with GUI element(s) to add nodes, edges connecting nodes, or routes in the network graph.
5. When the Web UI is initialized, the routing processor shall:
   1. Display all nodes and edges in the network.
   2. Calculate single-path routing tables for every source, destination pair in the network.
   3. Update the routing table for every node in the network.
   4. Display routes present in the network.
6. The routing processor shall guarantee that all nodes can send and receive messages from the routing processor.
7. When a user deletes an edge connecting two or more neighbors in the Web UI, the routing processor shall:
   1. Determine if there are routes using this neighbor edge.
   2. Remove these nodes from the corresponding node neighbor tables.
   3. Remove any routes present in any routing table that uses this edge for multi-hop communication.