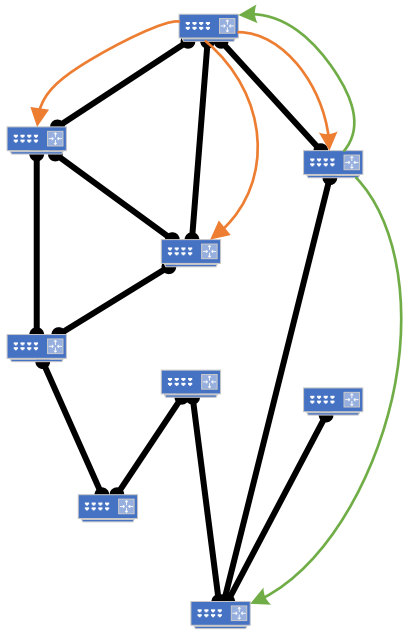
Setup – Establish Routing Table

Routers generate an initial routing table with ids of all neighbouring routers, then a router is elected to initiate by broadcasting their local table



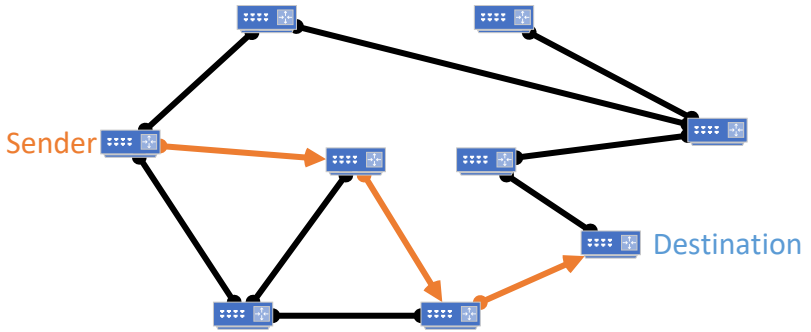
When a router receives new information, it is merged with the existing routing table and forwarded to neighbours

Information propagates across the network until routers are aware of edges between all other routers in the network

Convergence is reached when no routers are receiving new information, so setup is complete

Calculate Optimal Path

When a router receives “Send_Message”,
it first calculates a path across the network to the destination



This is achieved with a recursive brute force solution,
which will return the optimal path in terms of distance (hops)

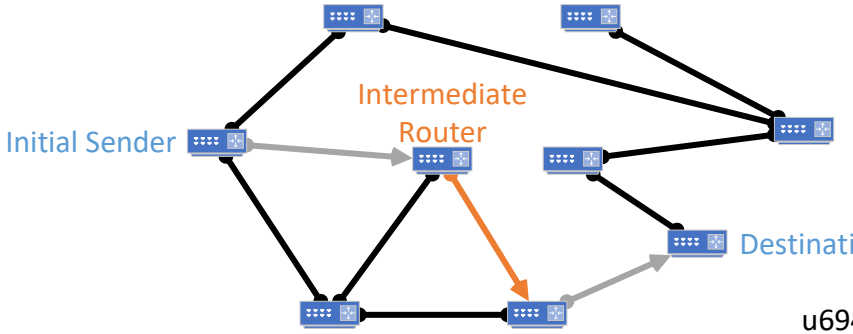
Message Structure

Messages are composed of 2 layers:
The “Messages_Mailbox” has the core content that receiver needs
This is contained within a frame which contains information needed to transport the message across the network

The sender will populate the initial frame with the path it calculates.
Whenever a router forwards a message, it strips the frame and creates a new one with updated information

Message Forwarding

When routers receive a request to forward a message,
they use the path data contained within the message frame to determine which neighbour to forward the message



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