Initiate Enhanced Dijkstra \((G,g,v)\), calculate the shortest route from the gateway to each node.

Assign regular pheromones to these routes, update pheromone tables and graph tables.

Receive “keep-alive” messages?

Yes:
- Calculate bootstrapped value.

Have regular pheromone?

Yes:
- Update virtual pheromone by bootstrapped value, send out proactive forward ants.

This route exists?

Yes:
- Update regular pheromone by virtual pheromone, add this route to graph table.

No:
- Discard forward ant, delete information about this route.

All routes have regular pheromones?

Yes:
- Update regular pheromone by bootstrapped value.

No:
- Retain regular pheromone.

Figure 2. The flow chart of the hybrid multi-path routing algorithm DAWMNet.