The position and mobility vector. · the forwarded

The position computation of MHLVP as described in (Abumansoor & Azzedine, 2012) was based on triangulation calculations, from Fig. 3. 23, vehicle A wants to verify vehicle C's location; but, direct communication is not possible due to the existence of an obstacle. While vehicle B can communicate directly with both A and C, each vehicle know its GPS position (x, y) in a two-dimensional plane, the algorithm is given below:· Location and mobility information are monitored to detect inconsistencies, such as unpredicted changes in a vehicle location, mismatches in received information or expired records.· When an inconsistency is detected, vehicle A is triggered to verify a questioned neighbour (Vehicle C) from its list. · Vehicle A will check to determine whether it has a direct communication to C, If it does not have a direct communication to C, it will mark C in its table as a vehicle to be verified and forwards the request message to B and adds a flag that the vehicle has an NLOS· Before forwarding the message, vehicle A listens to its neighbours and checks to determine whether any of them has forwarded the same message.

· If it has been forwarded, the vehicle will ignore the forwarding process and wait for a reply.· If it was not forwarded and a maximum number of hops were not reached, it will forward the message. · Vehicle A will send a verification request Req to its direct neighbours (vehicle B) to verify location C with its announced position and mobility vector.· The forwarded message contains the original request, and information about a sender.

If a reply is not received after a certain time, the message will be discarded, and the record for C will be deleted.· If a vehicle B receives the request,

it will first verify the sender by checking its existence in its neighbourhood list· B can verify C’s location by determining its distance using radio measurements, such as Radio Receive Signal Indicator (RSSI), and compare with the announced position and measured values.· If both values match, B will send a response back to A containing the distance dbc and verifying the location of C. Once received, A verifies dab and calculates the angle ? between. Where ?= arcos ()…….

(3. 13)· A will then calculate its distance dac from C using the calculated values dbc , dab, and ?. Vehicle A now has the distance to C using RSS computation dac .

The information from the last record update Dac . Since the vehicles are not static, the actual positions changes due to the mobility of the vehicle, the values of dac and Dac will also be changed to reflect the new vehicles positions, the new estimated position of vehicle C is calculated as follows: