Pervasive Computing - Course Work 1 Reprot

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1 Introduction

In NetworkNodeC file I use following techniques to make the dissemination :
1.Using a flag called flagPacketHold indicates if the node already hold the packet.Note initial node set this flag to TRUE as default.

2.Using a flag called flagForwardLimit indicates the chance remain for the node to forward the message. If the physical environment is remain the same , this flag can set to 1 as default. If the flag less or equal to 0, means the node consume all the chance for forwarding.

3.Using a timer which will periodically trigger every 500ms to check both states of flags in the node, if flagPacketHold == TRUE && flagForwardLimit bigger then 0 , broadcast package.

Project Github https://github.com/nl1010/PevComp_CW1
Sample running result can be found in simulation_result.txt
If you need more information about how everything running , please active the comment of channel . System channel monitoring hardware, Flag channel monitoring flag status.

2 Random Network

Total Packets Received : 48/48 (100%)
Total Packets Send : 49 SNDs
Wave 1: Initial Node(1) send, 44 RCVs, Time to the first RCV:0.002319322 sec
Wave 2: 44 nodes forwarded, 5 RCVs, Time to the first RCV:0.00202941 sec
Wave 3: 4 nodes Send , 0 RCV
Done.
Total Time Consumed: 1.953125000 Seconds

3 Uniform Network

Total Packets Received : 48/48 (100%)
Total Packets Send : 49 SNDs
Wave 1: Initial Node(1) send, 36 RCVs, Time to the first RCV:0.003311137 sec
Wave 2: 36 nodes forwarded, 13 RCVs, Time to the first RCV:0.00138854 sec
Wave 3: 13 nodes Send , 0 node received.
Done.
Total Time Consumed: 1.953125000 Seconds

4 Grid Network

Total Packets Received : 48/48 (100%)
Total Packets Send : 49 SNDs
Wave 1: Initial Node(1) send, 48 RCVs, Time to the first RCV:0.005447415 sec
Wave 2: 48 nodes forwarded, 0 RCVs
Done.
Total Time Consumed: 0.976562500 Seconds

5 Conclusion

Grid Network seems to be the best network solution to place these nodes , since it consume much less time then other networks.
However, in time consume between sending and receiving package,grid network seems consume much longer time then other networks.