COP5615 – Fall 2014

Project 3 – Bonus Report

Group Member 1:

Name: Vineeta Chelamkuri

UFID: 05149111

Email ID: vchelamkuri@ufl.edu

Group Member 2:

Name: RajaDinesh Kumar Murugesan

UFID: 41181658

Email ID: mrajadinesh@ufl.edu

Working of Failure:

The number of failure nodes is given as input from the user. The failure nodes will then be generated randomly and broadcasted to all the nodes in the network. While calculating the nextNodeID for a message, we will check whether the nextNodeId is not in the broadcasted failure nodes. Only if the nextNodeId is not present in the broadcasted failure nodes, the message will be forwarded to the nextNodeId. Else, the next numerically closest alive node will be calculated and the message will be forwarded to that node. Once, no other next numerically closest alive node is available, we found the numerically closest alive node for the particular request.

Following is the sample experiment details for the failure model:

Number of Nodes	Number of Requests	Number of Failure Nodes	Average Hops
100	10	0	2.39
100	10	5	5.46
100	10	10	5.13
100	10	20	4.06
100	10	25	3.19
100	10	50	2.25

Number of Nodes	Number of Requests	Number of Failure Nodes	Average Hops
1000	10	0	2.91
1000	10	50	3.21
1000	10	100	2.91
1000	10	250	2.84
1000	10	500	2.51
1000	10	700	2.42

Observation:

As the number of failure nodes increases, the average hop count decreases, since there are only few nodes in the network. As you can see from both the tables, the average hop count of the last row is less than that of first row.