Exercise No. 3

Peer-To-Peer Networks

Summer 2008

Exercise 5  Chord

Show that an interval on the Chord ring of size $c \cdot \frac{2^m \log n}{n}$ contains at least one node with high probability $1 - n^{-c}$ ($c$ constant, $n$ number of nodes, $2^m$ size of the ring).

Exercise 6  DHash++

DHash++ uses node samples in its proximity neighbor selection (PNS). Given $n$ nodes randomly distributed in a square and the sample size $m$. What is a node’s smallest distance to a node in the random sample with high probability? You can use the $L_1$-norm.