

S^1 and p is the probability that a node has a p -bit in the i -th position of its n -bit address. Let $\mathbf{A} = (A_1, A_2, \dots, A_n)$ be the address of a node. Then, the probability that a node has a p -bit in the i -th position of its n -bit address is $P(A_i = p) = 2^{-n} \sum_{A: A_i = p} 1$. For a node \mathbf{A} , $\mathbf{A} \cdot \mathbf{B} = A_1 B_1 + A_2 B_2 + \dots + A_n B_n$ is the dot product of \mathbf{A} and \mathbf{B} . Let $\mathbf{A} \cdot \mathbf{B} = \sum_{i=1}^n A_i B_i$.