

DHT Definitions Reference Sheet

Andrew Rosen

May 17, 2015

1 Chord

- m is the key length, 2^m is the size of the keyspace.
- The range of the keyspace is $[0, 2^m)$

$$\begin{aligned} distance(a, b) &= (b - a + 2^m) \mod 2^m \\ midpoint(a, b) &= a + \frac{distance(a, b)}{2} \mod 2^m \end{aligned}$$

Ownership A node own everything falling into the range from my predecessor on the ring to myself. In other words, I own *key* if

$$key \in (predecessor, me]$$