

For an arbitrary metric given by a distance oracle, we want a self-stabilizing algorithm for overlay networks that constructs the graph representing that metric. The graph representing a metric is the unique minimal graph such that for any pair of nodes the length of a shortest path between the nodes corresponds to the distance between the nodes according to the metric.

Our algorithm works under both asynchronous and synchronous daemons.

For the synchronous case, the algorithm converges in linear time.

The algorithm is almost silent.