Testbed for RBD.

Nodes 16, Grid (4 x 4)

Objective

Measure the RBD performance under different network parameters - Duty Cycle, Network depth, Node density, RBD Table Size, RBDMsgCache-.

Network depth and node density can be controlled by changing the RX power of the node.

RBD Table size and RBDMsgCache affect to the number of route errors and duplicated messages delivered respectively and both increase to the memory footprint of the mechanism.

Parameters to measure.

Delivery Success 🡪Number of messages delivered successfully.

Delivery Time 🡪 (Max, min, avg.) delivery time for RBD messages.

Duplicated RBD messages 🡪Number of messages duplicated received by the application layer.

Route Error Detected 🡪 Number of route error report delivered to the root

Error Recovery time 🡪Time from an error report is delivered to the root until a new route is created.

Message lost 🡪 Number of messages that were not delivered to the destination node neither reported to the root as route error.

RB Table full 🡪 Times that a node has to add a route to the RB Table while it is full.