

Caliper Report

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Our test suite basically tests available methods of the “Marbles” chaincode provided as an example by Hyperledger Fabric. We also used a sample network provided by Hyperledger Fabric to run the benchmarks on. Methods we are testing are: `initMarble`, `getHistoryForMarble`, `transferMarblesBasedOnColor`, `queryMarblesByOwner` and `delete`.

All tests ran successfully. When testing the functions `transferMarblesBasedOnColor` and `delete`, the generated report shows disk writing activity.

Memory usage

The Peers have an average memory usage of 170MB - 200MB, the CAs have a memory usage of 9MB – 18MB, the orderer has a memory of about 14MB.

When testing the `getHistoryByMarble` function, the memory usage of the peers rises by 3MB. When testing the `deleteMarble` function it rises again by 2MB.

For every additional test, the orderer utilizes about 2MB more of RAM.

The memory usage of the CAs is stable over all tests.

CPU load

The peers utilize about 24% CPU load in the `init` method and about 11% in the other tests.

Tuning

To get more accurate results, we increased the number of generated marbles to 250. To optimize the test runtime, we test every combination of a user and a color exactly one time. Since we initialize 7 colors and 4 users, we need exactly 28 tests. To accomplish best test coverage, we get the history of all generated marbles and delete all marbles.