Test Packs

This document explains the (hidden) test cases for Part 2 of Assignment 3.

Note: you will be tested on all three test packs.

Test Pack 1

Test case 1: testThreeIndependentContiguousProposals

A node is asked to propose three independent[1] (key, value) pairs sequentially. The proposals are **NOT** simultaneous, i.e. a new proposal is made after the current one has committed.

Test case 2: testFiveIndependentSimultaneousProposals

A node is asked to propose five independent (key, value) pairs. These proposals **ARE SIMULTANEOUS**, i.e. proposals are made without waiting for the preceding proposals to finish / commit.

Test Pack 2

Test case 1: testTwoProposersIndependentProposalsOneRound

Two nodes simultaneously propose one (key, value) pair each. These proposals are independent.

Test case 2: testMultipleProposersIndependentProposalsMultipleRounds

Multiple nodes simultaneously propose one (key, value) pair each. These proposals are independent.

Test case 3: testTwoDuelingProposers

Two nodes simultaneously propose one (key, value) pair each. These proposals are **NOT** independent.

Test case 4: testThreeDuelingProposers

Three nodes simultaneously propose one (key, value) pair each. These proposals are **NOT** independent.

Test Pack 3

Test case 1: testOneNodeReplaced

After a few sequential proposals, a node is crashed. Then, to take its place, a replacement node is started.

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[1]   "Independent" here means that the keys of all proposed (key, value) pairs were distinct.

Using the test packs

Choose a test pack and then follow the following instructions to use it:

1. Place **paxostest_pack1, paxostest_pack2** and **paxostest_pack3** executables in **$GOPATH/bin**.
2. Run the tests by executing **./paxostest_pack1.sh** or **./paxostest_pack2.sh** or **./paxostest_pack3.sh** from **$GOPATH/src/paxosapp**.

For each test pack, you can configure a subset of the flags:

- timeout (test packs 1-3): the time (in seconds) for a test case to timeout and fail. (default: 40)
- initwait (test packs 1-3): the time (in seconds) to wait the Paxos nodes to connect with one another. (default: 2)
- testRegex (test packs 1-2): a regular expression to specify name of the test case to run. (default: "", i.e. run all test cases).
- repWait (test pack 3): the time (in seconds) to wait for the replacement node to be brought up to speed before testing it. (default 20)
- repRetries (test pack 3): the number of retries the replace node should make to connect to all the other nodes. (default 5)

You can add or edit these flags on the line **${PAXOS_TEST} -port=${TESTER_PORT}** … in **paxostest_pack*.sh**. Also, executing **paxostest_pack* -h** will give a list of all the flags with their descriptions. [* = 1, 2 or 3]