

# **Tape**

**Alpha & Distributed**

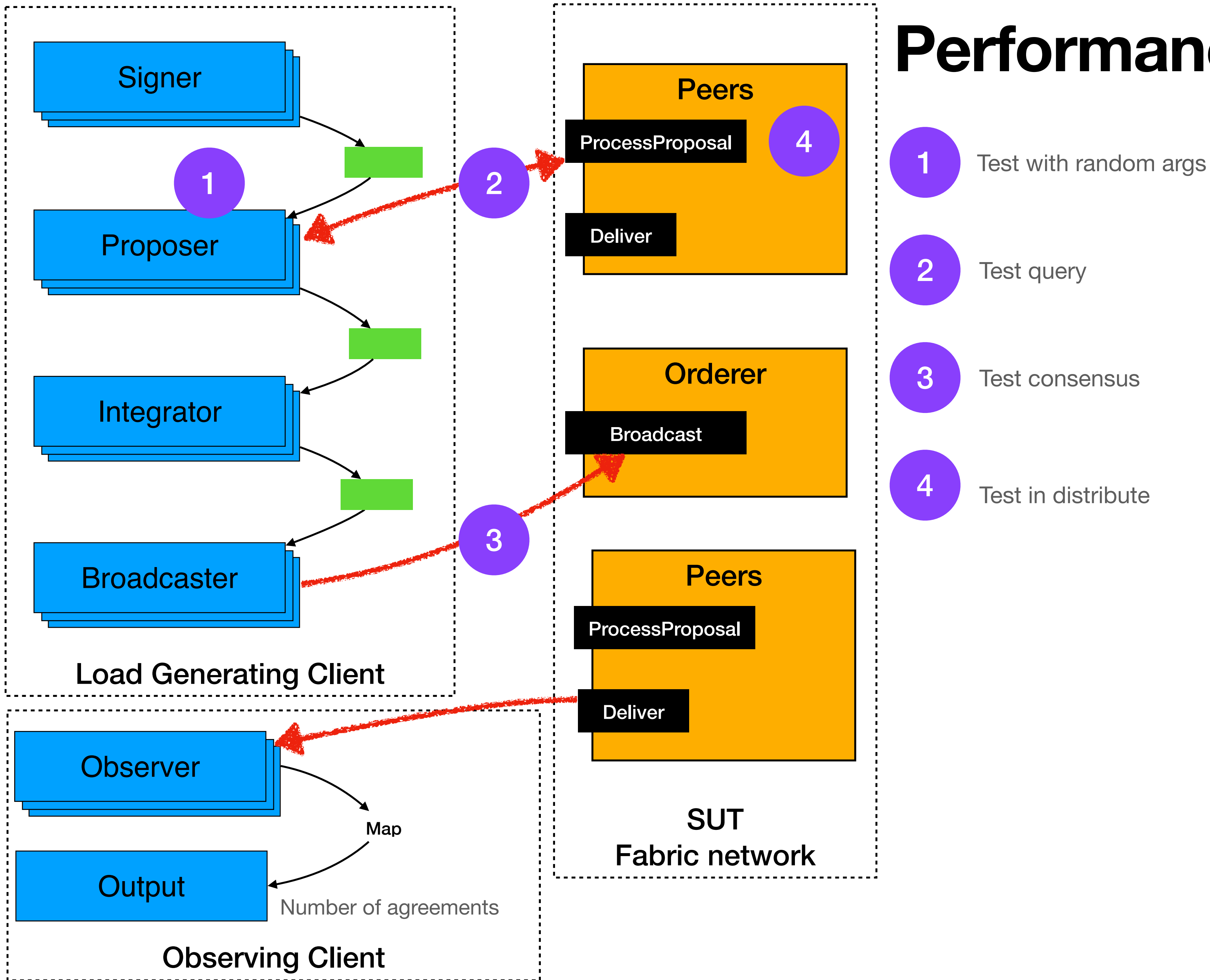
**Sam Yuan**

# Tape

## Alpha & Distributed

- Performance test in flexible
- New in Tape Alpha
- New in Tape Distributed

# Performance testing in flexible

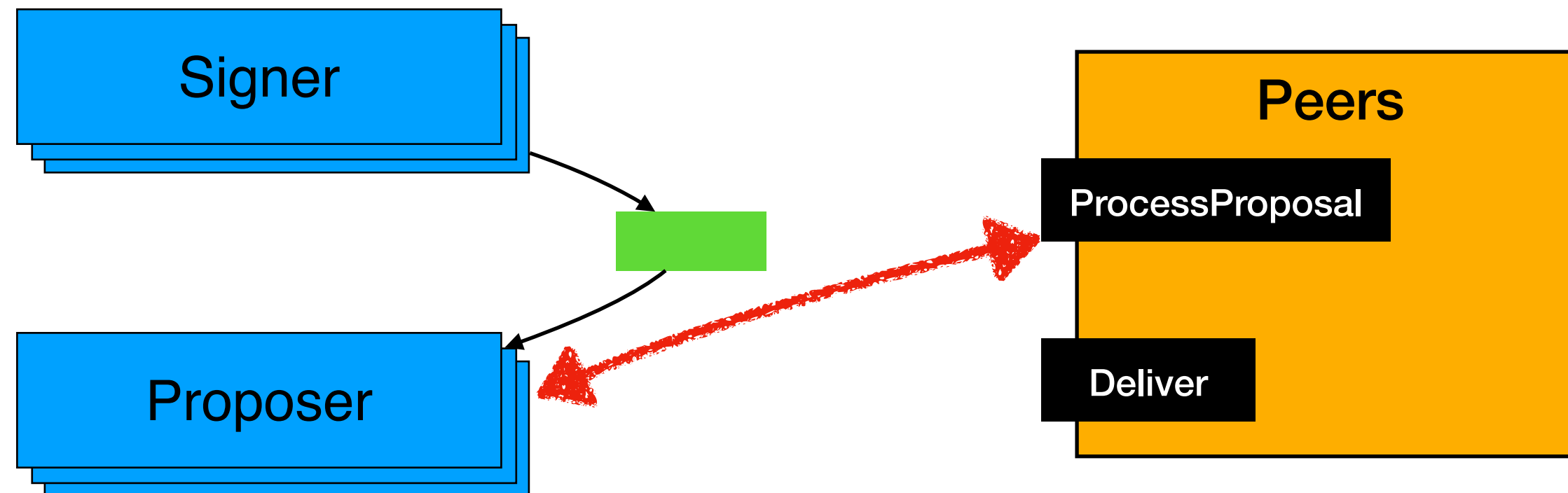


1

# Test with random args

Simulated transaction and avoid MVCC

It's keep generate traffic and then send to peer for endorsement



1

# Test with random args

Simulated transaction and avoid MVCC

```
# Invocation configs
channel: mychannel
chaincode: basic
# chain code args below, in a list of str
# we provides 3 kinds of randmon
# uuid
# randomString$length
# randomNumber$min_$max
args:
- CreateAsset
- uuid
- randomString8
- randomNumber0_50
- randomString8
- randomNumber0_50
# Tx submitter information
```

```
2021-08-28 12:18:35.817 UTC [validation] validateAndPrepareBatch -> WARN e9a Block
[f9576db46c03b2b2ab043b47fa007e3edba3e9d5e7ab225fa76a2acc9f33c0e4] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.817 UTC [validation] validateAndPrepareBatch -> WARN e9b Block
[79eff4e63ebaf84e98f4dc1998ab0b6459bf888bf9c315fa0f7005dc43289a68] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.817 UTC [validation] validateAndPrepareBatch -> WARN e9c Block
[79cc0b063a5ef87189948d6675bd5cc7c7875f719babf5364340e9225b26062f] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.817 UTC [validation] validateAndPrepareBatch -> WARN e9d Block
[1aaf2407ad233993bcf6a03fd0b3bb4638002a20a315f6539c6a415208e0dfe7] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.817 UTC [validation] validateAndPrepareBatch -> WARN e9e Block
[ecb02563413c8167f9f73b3ee74a9f7dac6da566961fb1a559822c5f18da06ab] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.817 UTC [validation] validateAndPrepareBatch -> WARN e9f Block
[37b73ba9a6c35612bce3a5afce9e4c8f8322dd4fb7e33d7b7b55949b04f9c8fb] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.817 UTC [validation] validateAndPrepareBatch -> WARN ea0 Block
[652577032c2d6bb3bed5c5cf684689243361962cb3a52802ba03055b3a50203b] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.817 UTC [validation] validateAndPrepareBatch -> WARN ea1 Block
[64b093443e9507afacf4a33d8974786fcc139e6cbbbf3fd36c20ffa286f458d3] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.818 UTC [validation] validateAndPrepareBatch -> WARN ea2 Block
[36f00f68731f10d83ee16d15c2d973923a3af06faf460013fffb8fd3b914d5eb] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:35.823 UTC [kvledger] CommitLegacy -> INFO ea3 [mychannel] Committe
n(s) in 6ms (state_validation=1ms block_and_pvtdata_commit=3ms state_commit=1ms) com
6a622828ddf83828fb16247622f0f34f0d66fc5d30]
2021-08-28 12:18:36.537 UTC [gossip.privdata] StoreBlock -> INFO ea4 Received block
nel
2021-08-28 12:18:36.539 UTC [committer.txvalidator] Validate -> INFO ea5 [mychannel]
2021-08-28 12:18:36.539 UTC [validation] validateAndPrepareBatch -> WARN ea6 Block
[2fc83bee58c9e05135ac7010818cb9a1b5982431d31149b0b8e8f1bac8827ab2] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:36.539 UTC [validation] validateAndPrepareBatch -> WARN ea7 Block
[423596223733d2ad56a648ca77cc9cda323fbe270fba9c882d873246360e5f59] marked as invalid
e [MVCC_READ_CONFLICT]
2021-08-28 12:18:36.545 UTC [kvledger] CommitLegacy -> INFO ea8 [mychannel] Committe
(s) in 5ms (state_validation=0ms block_and_pvtdata_commit=3ms state_commit=1ms) com
8298ea7fec2c2871a16283de3463ad1c37e01ea3c]
^C%
```

1

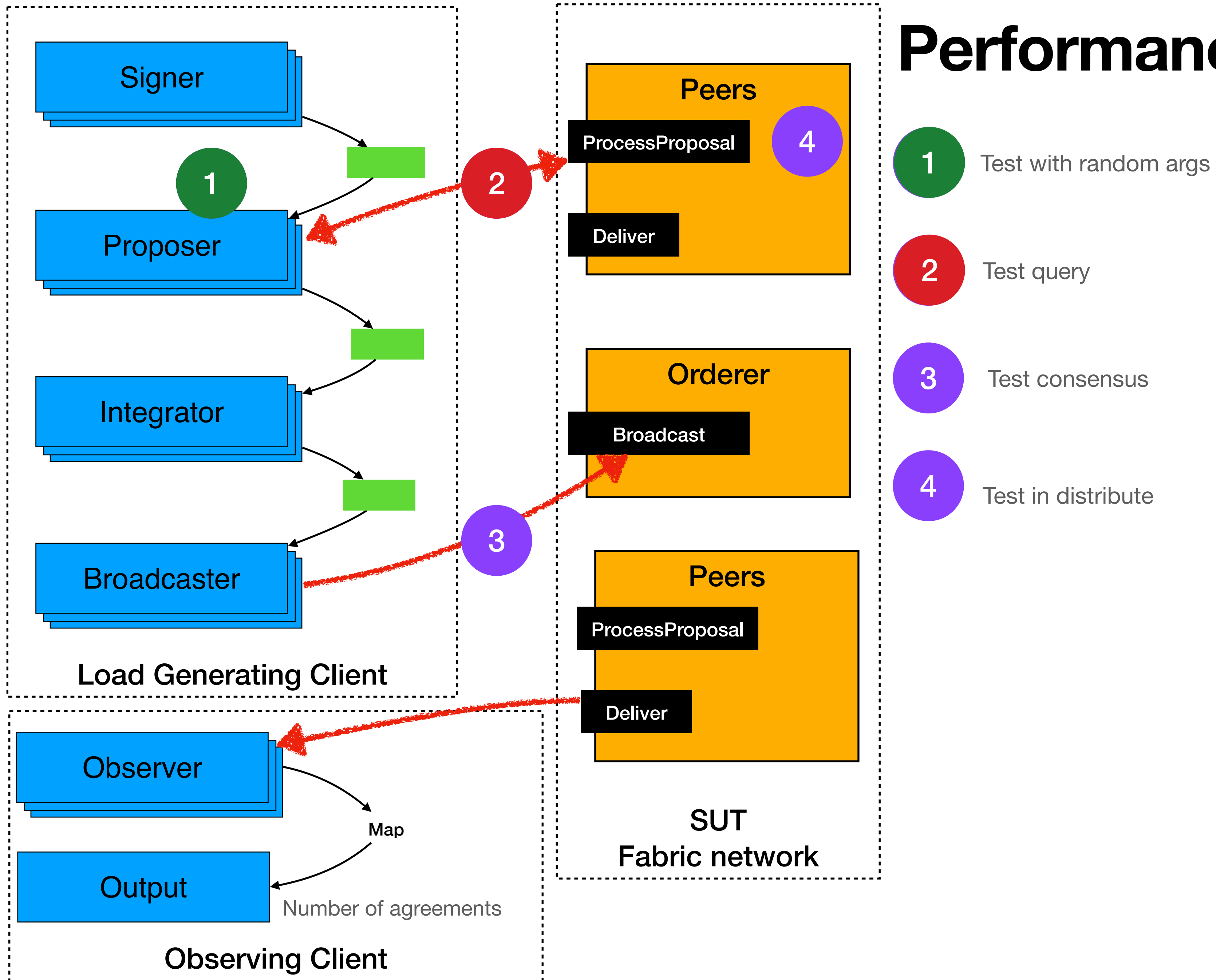
# Test with random args

Json format support

```
It("work accordingly for string mix mode", func() {
    input := "{\"key\":\"randomNumber1_50\",\"key1\":\"randomNumber1_20\"}"
    data, err := trafficGenerator.ConvertString(input)
    Expect(err).NotTo(HaveOccurred())
    regString, err := regexp.Compile("{\"key\":\"\\d*\",\"key1\":\"\\d*\"}")
    Expect(err).NotTo(HaveOccurred())
    Expect(regString.MatchString(data)).To(BeTrue())
})

It("work accordingly for string mix mode 2", func() {
    input := "{\"k1\":\"uuid\",\"key2\":\"randomNumber10000_20000\",\"keys\":\"randomString10\"}"
    data, err := trafficGenerator.ConvertString(input)
    Expect(err).NotTo(HaveOccurred())
    regString, err := regexp.Compile("{\"k1\":\".*\",\"key2\":\"\\d*\",\"keys\":\".*\"}")
    Expect(err).NotTo(HaveOccurred())
    Expect(regString.MatchString(data)).To(BeTrue())
})
```

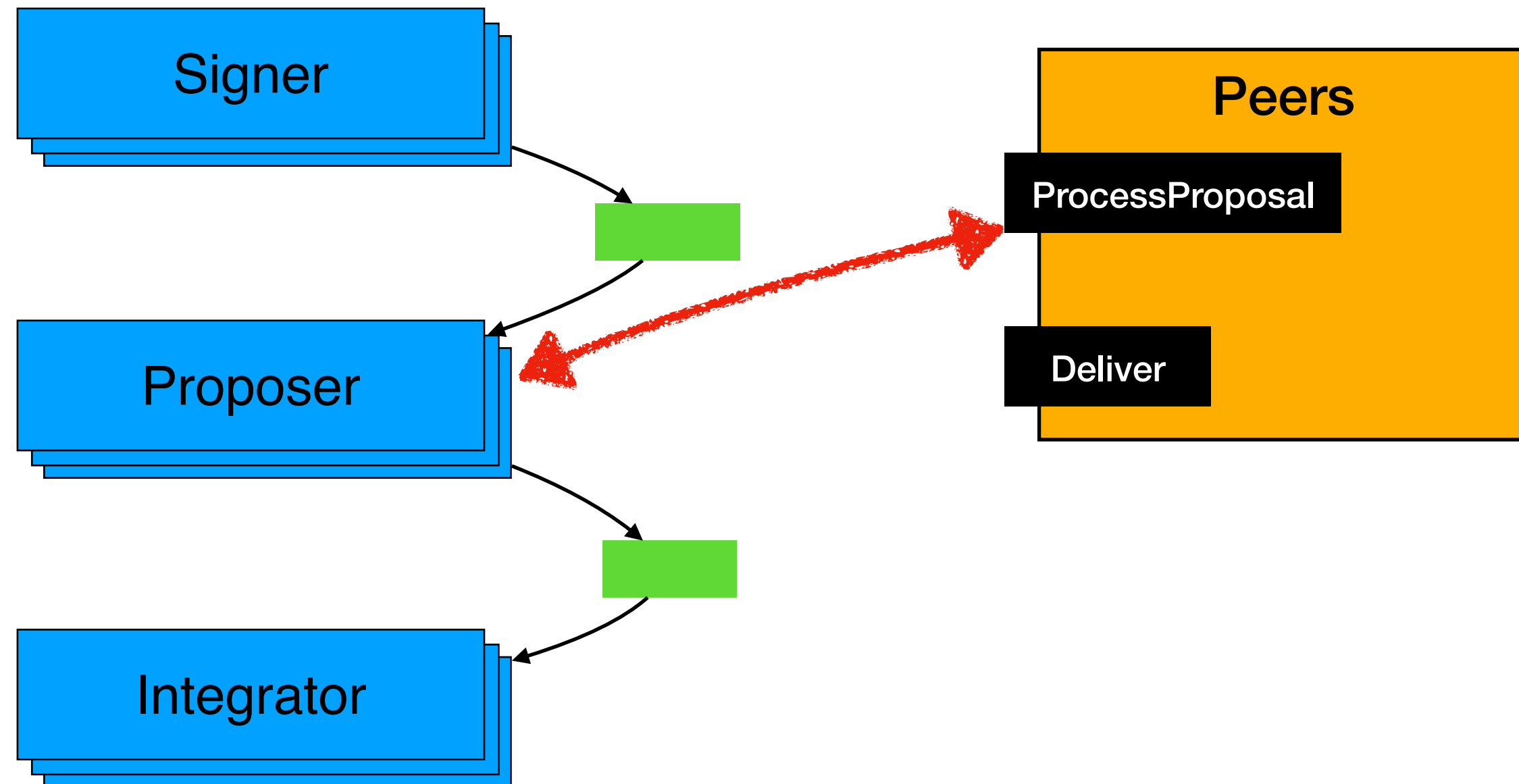
# Performance Testing in flexible



2

# Test query

## Endorsement duration



- Before tx been endorsement and form up with envelop
- As “read” performance for Hyperledger Fabric
- Validate results from peers for same tx.



2

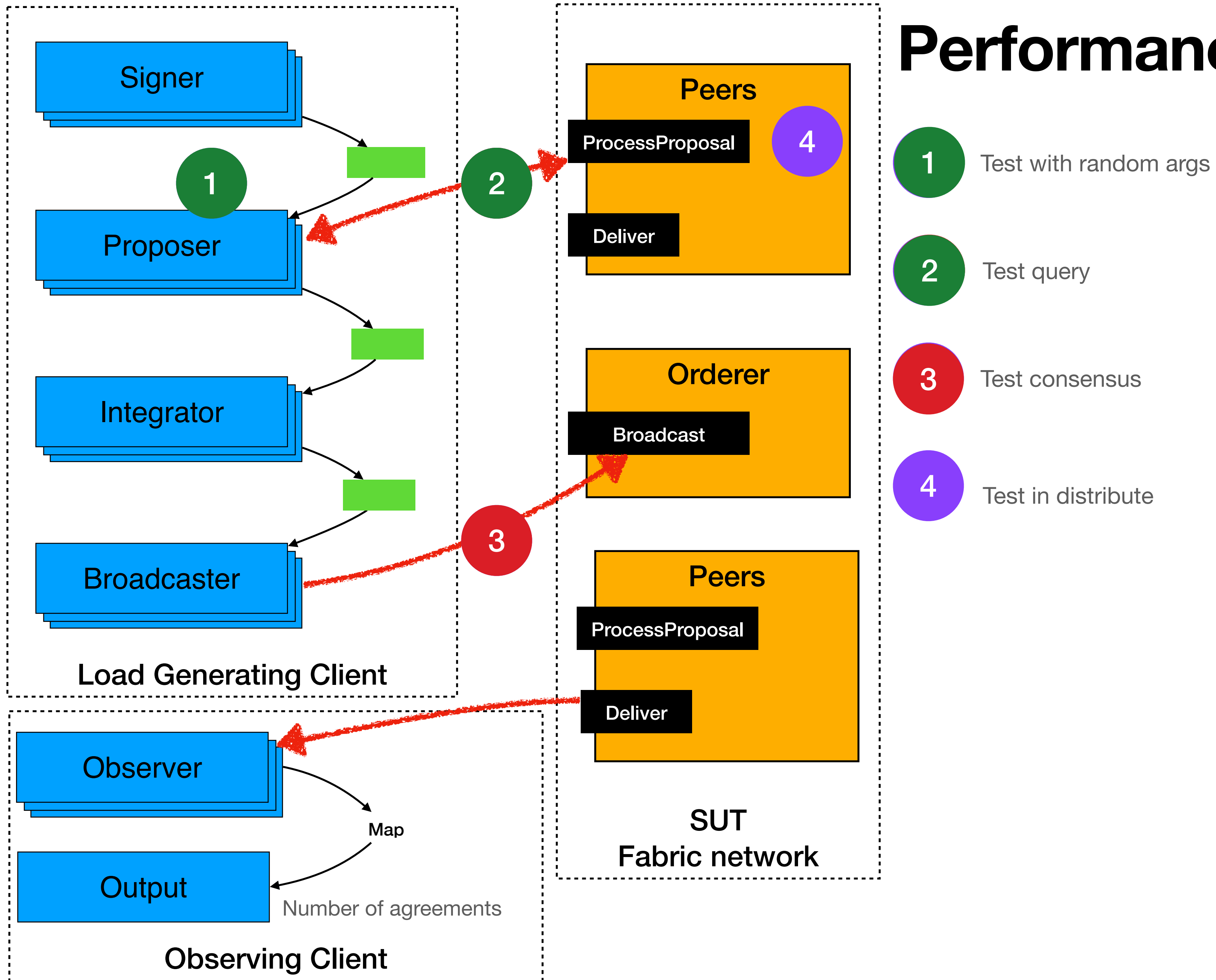
# Test query

## Endorsement duration

- `tape endorsementOnly -c ...`

```
776 + timeout 60 docker run -e TAPE_LOGLEVEL=debug --network fabric_test -v /home/vsts/work/1/s:/config tape tape endorsementOnly -c /config/test/configlatest.yaml -n 500
777 + timeout 60 docker run -e TAPE_LOGLEVEL=debug --network fabric_test -v /home/vsts/work/1/s:/config tape tape endorsementOnly -c /config/test/configlatest.yaml -n 500
778 time="2021-09-20T08:37:39Z" level=info msg="Will use rate 0.000000 as send rate\n"
779 time="2021-09-20T08:37:39Z" level=info msg="Will use 824633959864 as burst\n"
780 time="2021-09-20T08:37:39Z" level=debug msg="start observer for endorsement"
781 time="2021-09-20T08:37:39Z" level=info msg="Start sending transactions."
782 Time      0.04s Tx      1 Processed
783 Time      0.04s Tx      2 Processed
784 Time      0.04s Tx      3 Processed
785 Time      0.04s Tx      4 Processed
786 Time      0.05s Tx      5 Processed
787 Time      0.05s Tx      6 Processed
788 Time      0.13s Tx      7 Processed
789 Time      0.14s Tx      8 Processed
790 Time      0.14s Tx      9 Processed
791 Time      0.14s Tx     10 Processed
792 Time      0.14s Tx     11 Processed
```

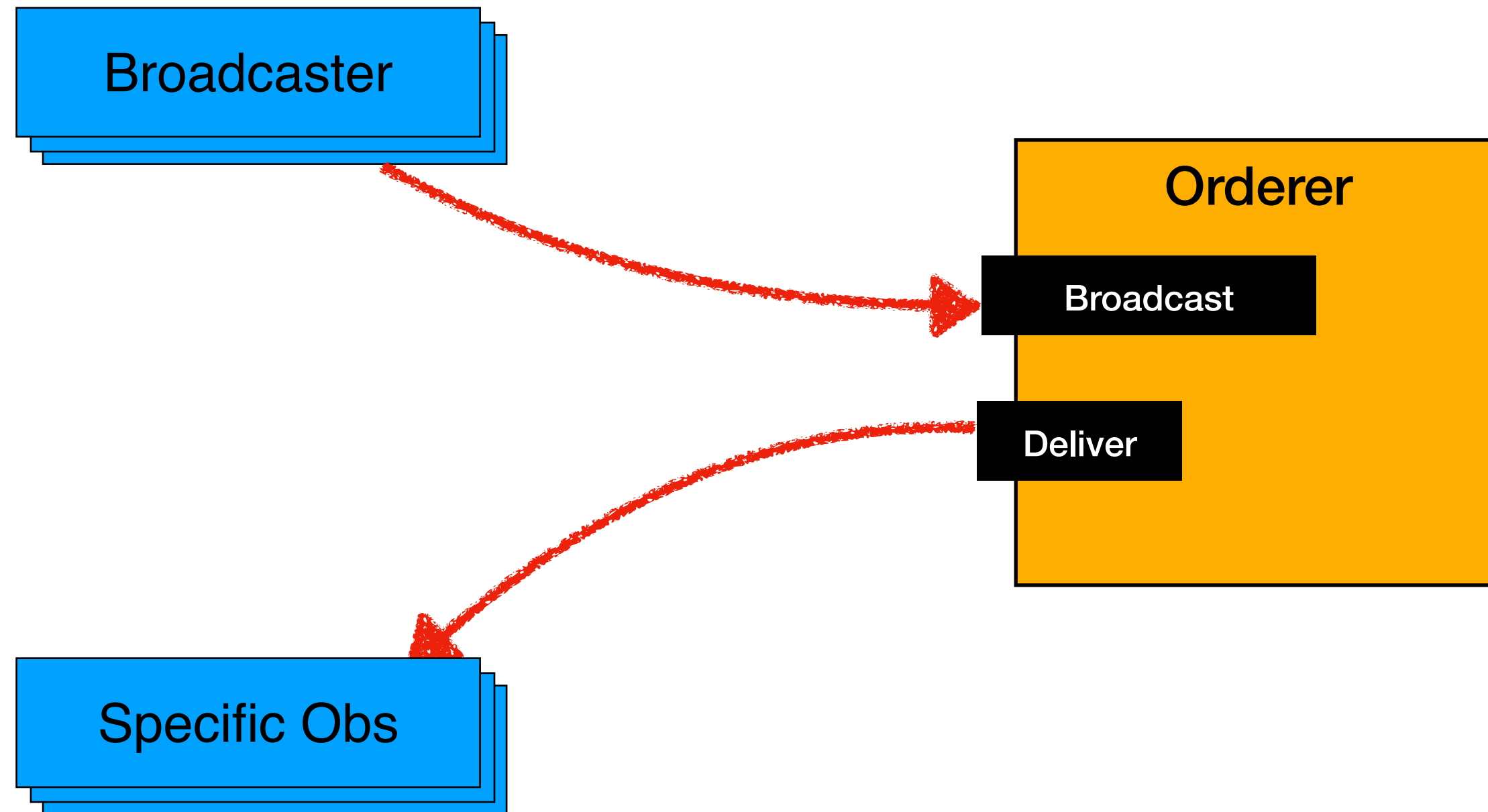
# Performance Testing in flexible



3

# Test consensus

## Consensus duration



- Consensus duration
- Time used for consensus
- Observers for deliver grpc from Orderer

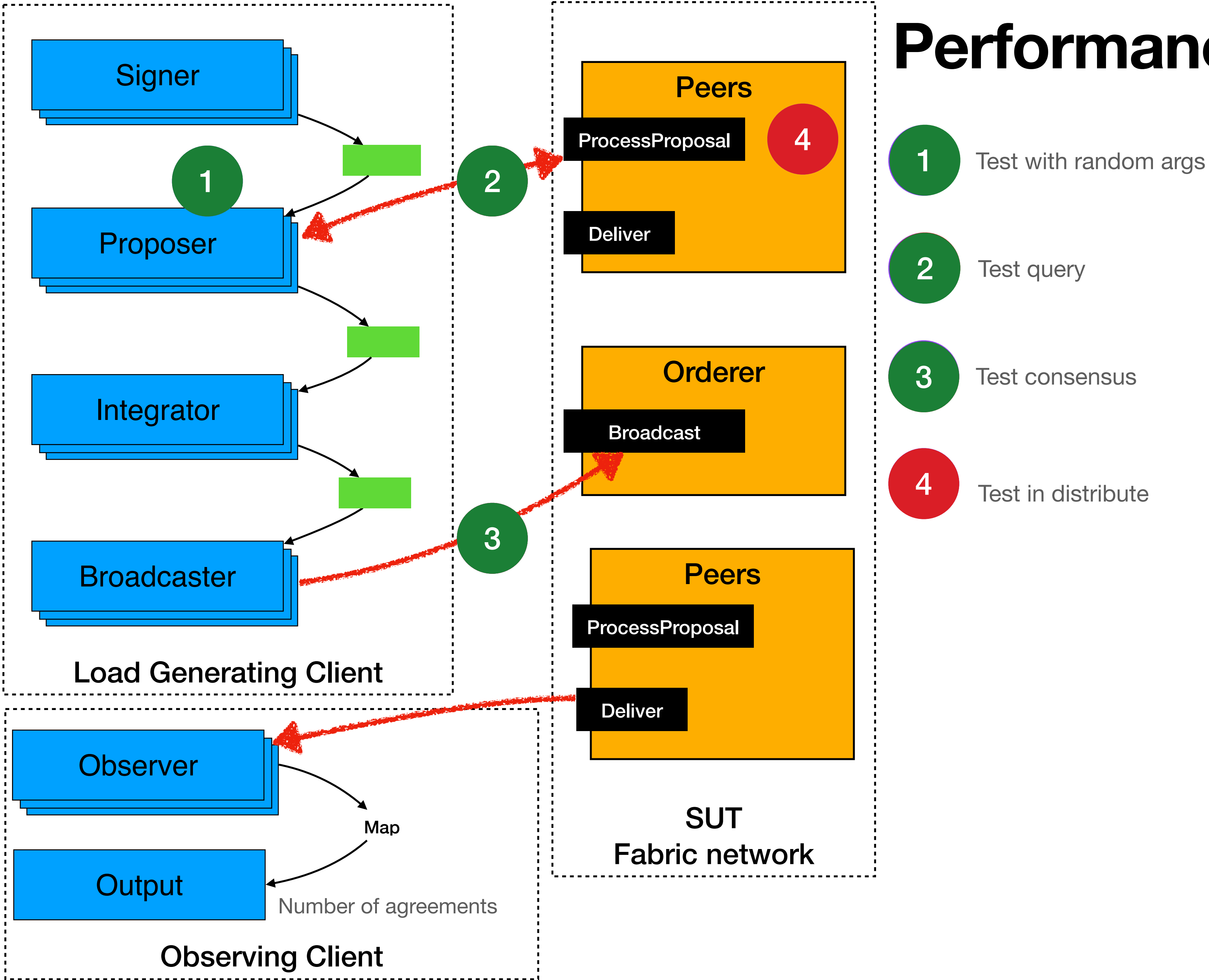
# 3 Test consensus

## Endorsement duration

- `tape commitOnly -c ...`
- Use fake envelopment

```
+ timeout 60 docker run -e TAPE_LOGLEVEL=debug --network fabric_test -v /home/vsts/work/1/s:/config tape tape commitOnly -c /config/test/config20selectendorser.yaml -n 500
time="2021-09-20T08:37:02Z" level=info msg="Will use rate 0.000000 as send rate\n"
time="2021-09-20T08:37:02Z" level=info msg="Will use 824633960200 as burst\n"
time="2021-09-20T08:37:02Z" level=debug msg="start observer as commit"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
time="2021-09-20T08:37:02Z" level=debug msg="Start sending broadcast"
Time      0.04s Block    10    Tx    10
Time      0.04s Block    20    Tx    10
Time      0.04s Block    30    Tx    10
Time      0.06s Block    40    Tx    10
```

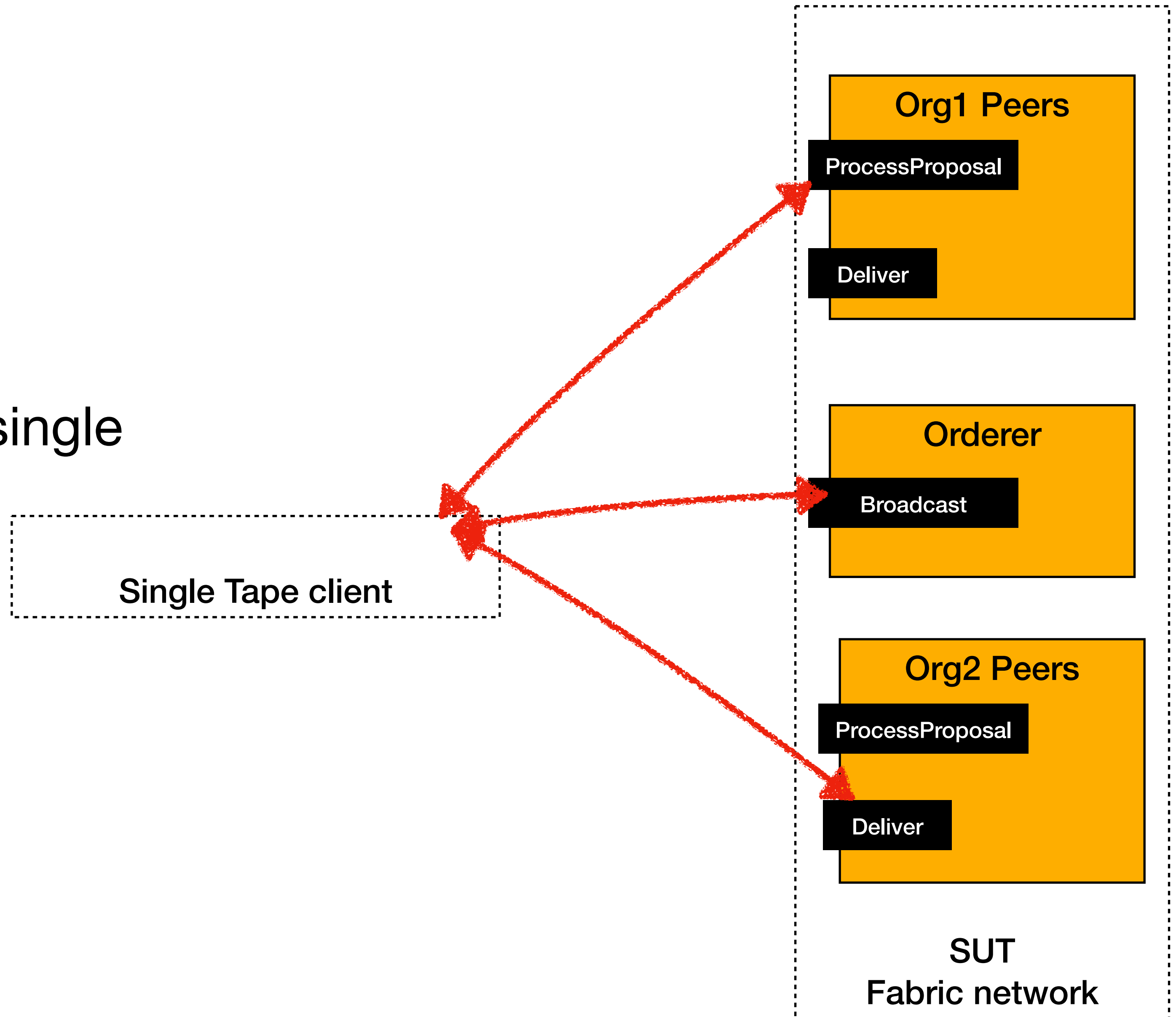
# Performance Testing in flexible



# 4 Test distribute

## A step further

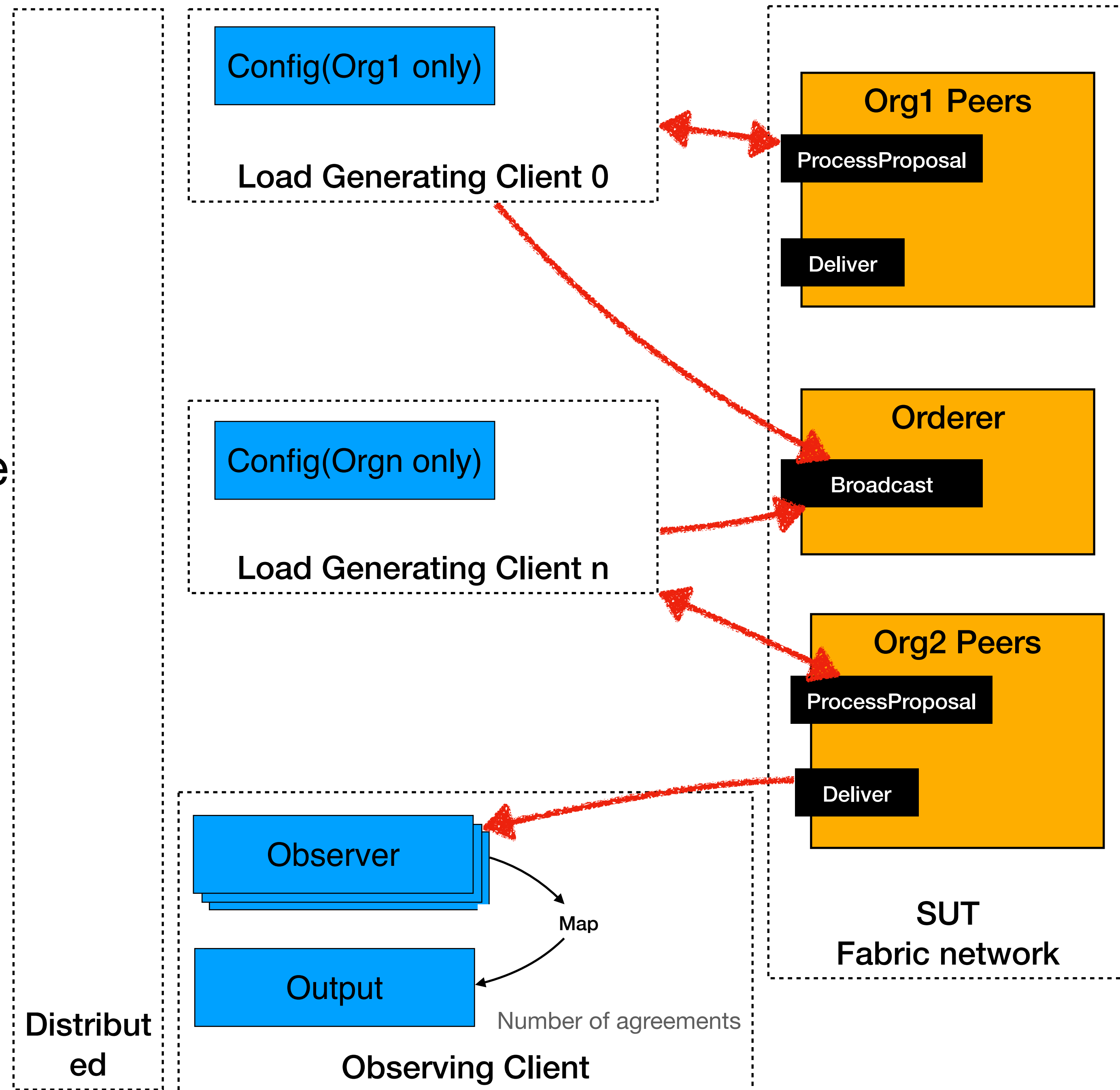
- OR in endorsement policy.
- Max Connection number for single peer.
- Multiple Channels support



# 4 Test distribute

## A step further

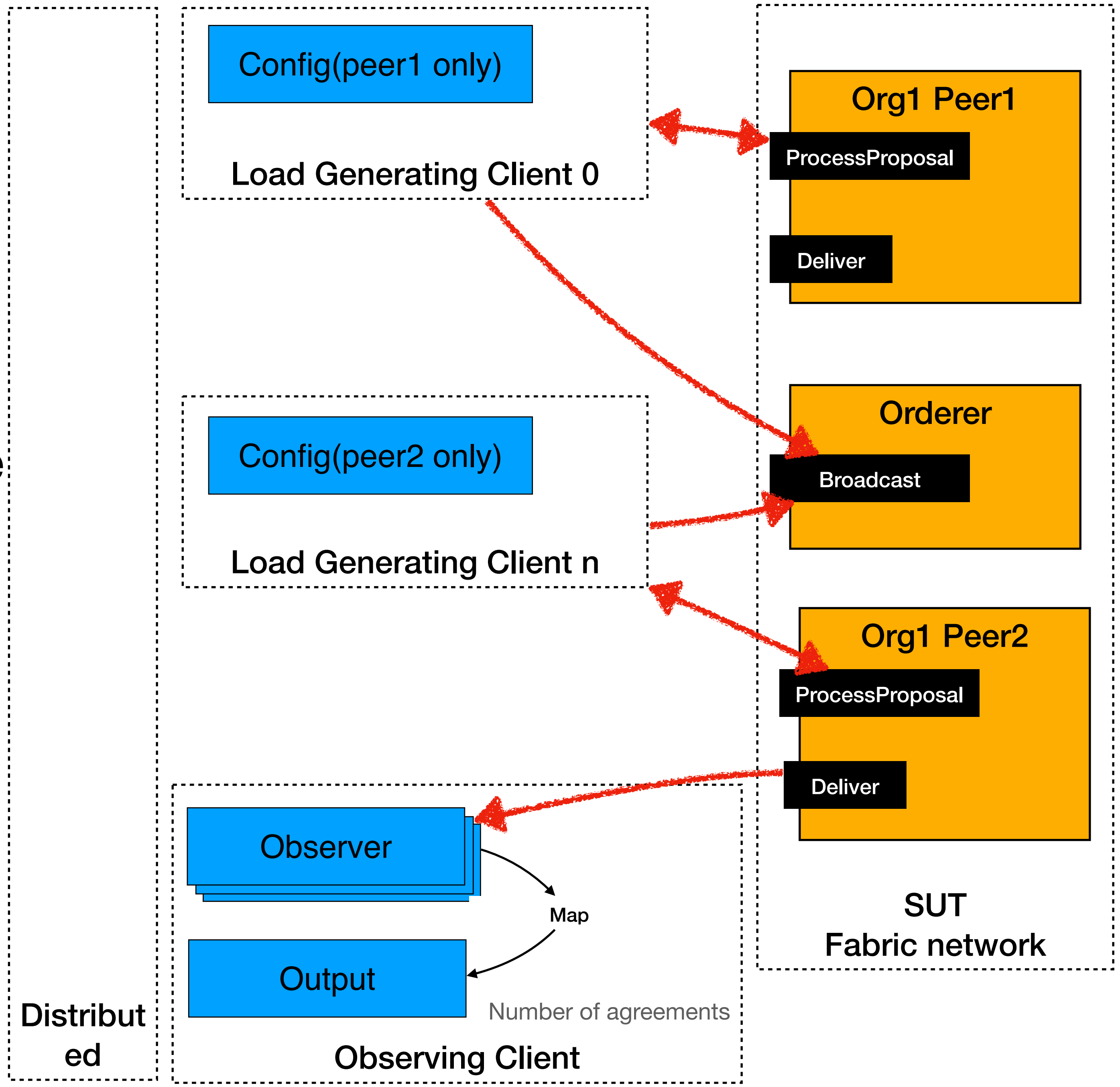
- OR in endorsement policy.
- Max Connection number for single peer.
- Multiple Channels support



# 4 Test distribute

## A step further

- OR in endorsement policy.
- Max Connection number for single peer.
- Multiple Channels support

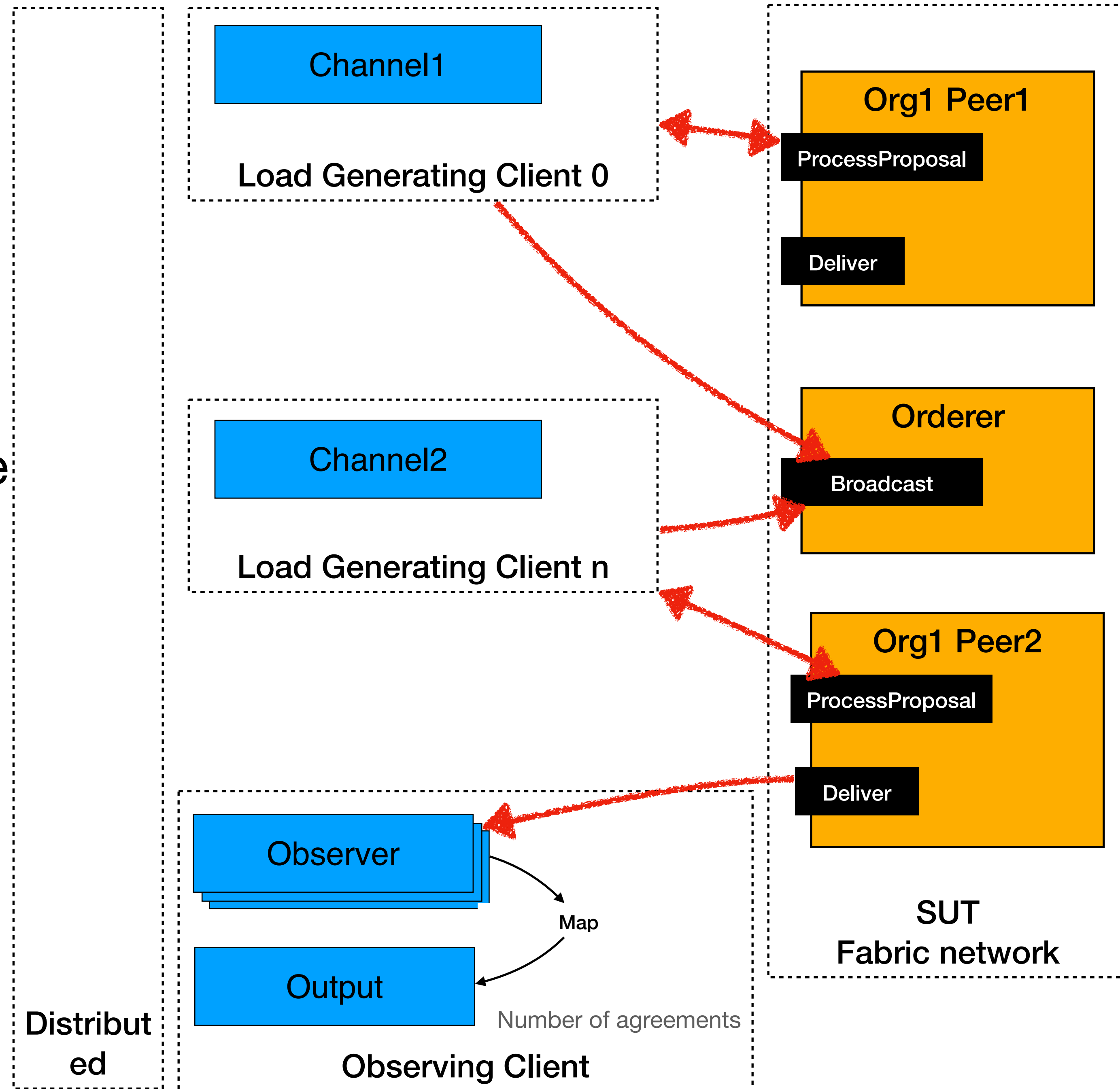




# 4 Test distribute

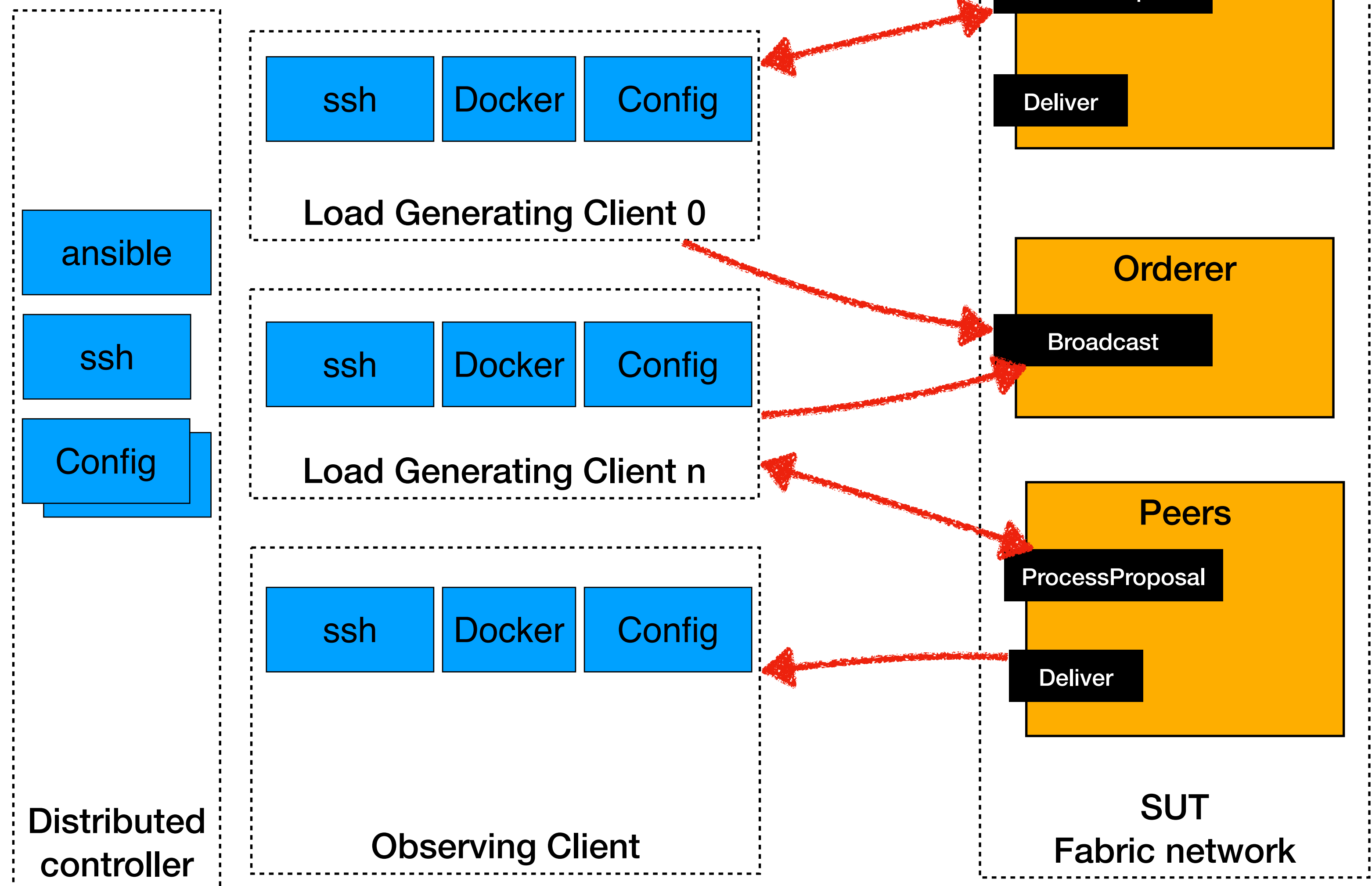
## A step further

- OR in endorsement policy.
- Max Connection number for single peer.
- Multiple Channels support



# 4 Test distribute

## A step further



- Copy config files to client server
- Start Tape with specific mode

# QA

## Tape Alpha & Distributed

- Performance test in flexible

- New in Tape Alpha



- New in Tape Distributed

