

DLT: fabric

Name: insert-data-offer-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

Details

Benchmark results

<u>Summary</u>

insert-data-offer

insert-data-offer-100

insert-data-offer-1000

 $\underline{insert\text{-}data\text{-}offer\text{-}4000}$

insert-data-offer-8000

 $\underline{insert\text{-}data\text{-}offer\text{-}13000}$

insert-data-offer-32000

insert-data-offer-64000

System under test

<u>Details</u>

Caliper report

Summary of performance metrics

| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|-----------------------------|------|------|--------------------|--------------------|--------------------|--------------------|---------------------|
| insert-data- offer | 460 | 0 | 15.1 | 0.58 | 0.06 | 0.26 | 15.1 |
| insert-data- offer-100 | 2043 | 0 | 71.7 | 2.06 | 0.07 | 0.17 | 67.1 |
| insert-data- offer-1000 | 2217 | 0 | 78.1 | 2.07 | 0.07 | 0.23 | 73.2 |
| insert-data- offer-4000 | 2170 | 0 | 76.4 | 0.54 | 0.09 | 0.31 | 76.2 |
| insert-data- offer-8000 | 2342 | 0 | 82.1 | 2.07 | 0.11 | 0.44 | 77.0 |
| insert-data- offer-13000 | 2348 | 0 | 80.9 | 2.19 | 0.13 | 0.57 | 77.2 |
| insert-data- offer-32000 | 2387 | 0 | 81.7 | 2.08 | 0.10 | 0.70 | 78.1 |
| insert-data- offer-64000 | 2422 | 0 | 82.3 | 2.08 | 0.08 | 0.77 | 77.1 |

Benchmark round: insert-data-offer



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System under test

Details

Benchmarking the InsertHistoricalDataHash function with specific parameters.

txDuration: 30
rateControl:

type: fixed-rate

opts: tps: 15

Performance metrics for insert-data-offer

| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|-----------------------|------|------|--------------------|--------------------|--------------------|--------------------|---------------------|
| insert-data- offer | 460 | 0 | 15.1 | 0.58 | 0.06 | 0.26 | 15.1 |

Resource utilization for insert-data-offer

Benchmark round: insert-data-offer-100

Test InsertHistoricalDataHash function with data hash size 100 bytes

txDuration: 30
rateControl:

type: fixed-load

opts:

transactionLoad: 10 startingTps: 1

Performance metrics for insert-data-offer-100

| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|---------------------------|------|------|--------------------|--------------------|--------------------|--------------------|---------------------|
| insert-data- offer-100 | 2043 | 0 | 71.7 | 2.06 | 0.07 | 0.17 | 67.1 |



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System under test

Details

Resource utilization for insert-data-offer-100

Benchmark round: insert-data-offer-1000

Test InsertHistoricalDataHash function with data hash size 1000 bytes

txDuration: 30
rateControl:

type: fixed-load

opts:

transactionLoad: 20
startingTps: 1

Performance metrics for insert-data-offer-1000

| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|----------------------------|------|------|--------------------|--------------------|--------------------|--------------------|---------------------|
| insert-data- offer-1000 | 2217 | 0 | 78.1 | 2.07 | 0.07 | 0.23 | 73.2 |

Resource utilization for insert-data-offer-1000

Benchmark round: insert-data-offer-4000

Test InsertHistoricalDataHash function with data hash size 4000 bytes

txDuration: 30
rateControl:

type: fixed-load

opts:

transactionLoad: 30
startingTps: 1



DLT: fabric

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Benchmark Rounds: 8

Details

Benchmark results

<u>Summary</u>

insert-data-offer

insert-data-offer-100

insert-data-offer-1000

insert-data-offer-4000

insert-data-offer-8000

insert-data-offer-13000

insert-data-offer-32000

insert-data-offer-64000

System under test

<u>Details</u>

Performance metrics for insert-data-offer-4000

| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|----------------------------|------|------|--------------------|--------------------|--------------------|--------------------|---------------------|
| insert-data- offer-4000 | 2170 | 0 | 76.4 | 0.54 | 0.09 | 0.31 | 76.2 |

Resource utilization for insert-data-offer-4000

Benchmark round: insert-data-offer-8000

Test InsertHistoricalDataHash function with data hash size 8000 bytes

txDuration: 30
rateControl:

type: fixed-load

opts:

transactionLoad: 50
startingTps: 1

Performance metrics for insert-data-offer-8000

| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|----------------------------|------|------|--------------------|--------------------|--------------------|--------------------|---------------------|
| insert-data- offer-8000 | 2342 | 0 | 82.1 | 2.07 | 0.11 | 0.44 | 77.0 |

Resource utilization for insert-data-offer-8000

Benchmark round: insert-data-offer-13000



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function

Benchmark Rounds: 8

<u>Details</u>

Benchmark results

<u>Summary</u>

insert-data-offer

insert-data-offer-100

insert-data-offer-1000

insert-data-offer-4000

insert-data-offer-8000

insert-data-offer-13000

insert-data-offer-32000

insert-data-offer-64000

System under test

<u>Details</u>

Test InsertHistoricalDataHash function with data hash size 13000 bytes

txDuration: 30 rateControl:

type: fixed-load

opts:

transactionLoad: 70
startingTps: 1

Performance metrics for insert-data-offer-13000

| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|-----------------------------|------|------|--------------------|--------------------|--------------------|--------------------|---------------------|
| insert-data- offer-13000 | 2348 | 0 | 80.9 | 2.19 | 0.13 | 0.57 | 77.2 |

Resource utilization for insert-data-offer-13000

Benchmark round: insert-data-offer-32000

Test InsertHistoricalDataHash function with data hash size 32000 bytes

txDuration: 30
rateControl:

type: fixed-load

opts:

transactionLoad: 90
startingTps: 1

Performance metrics for insert-data-offer-32000

| Name Suc | c Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|----------|--------|--------------------|--------------------|--------------------|--------------------|---------------------|
|----------|--------|--------------------|--------------------|--------------------|--------------------|---------------------|



| insert-data- offer-32000 2387 | 0 | 81.7 | 2.08 | 0.10 | 0.70 | 78.1 |
|----------------------------------|---|------|------|------|------|------|
|----------------------------------|---|------|------|------|------|------|

Resource utilization for insert-data-offer-32000

Basic information

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Benchmark Rounds: 8

<u>Details</u>

Benchmark round: insert-data-offer-64000

Test InsertHistoricalDataHash function with data hash size 64000 bytes

txDuration: 30
rateControl:

type: fixed-load

opts:

transactionLoad: 100
startingTps: 1

Benchmark results

Summary

insert-data-offer

insert-data-offer-100

insert-data-offer-1000

insert-data-offer-4000

insert-data-offer-8000

insert-data-offer-13000

insert-data-offer-32000

insert-data-offer-64000

Performance metrics for insert-data-offer-64000

| Name | Succ | Fail | Send Rate (TPS) | Max Latency (s) | Min Latency (s) | Avg Latency (s) | Throughput (TPS) |
|-----------------------------|------|------|--------------------|--------------------|--------------------|--------------------|---------------------|
| insert-data- offer-64000 | 2422 | 0 | 82.3 | 2.08 | 0.08 | 0.77 | 77.1 |

Resource utilization for insert-data-offer-64000

System under test

Details

Test Environment

benchmark config

name: insert-data-offer-benchmark

description: >-

Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash



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Benchmark Rounds: 8

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Benchmark results

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insert-data-offer-8000

insert-data-offer-13000

insert-data-offer-32000

insert-data-offer-64000

System under test

Details

```
function
workers:
 number: 10
rounds:
  - label: insert-data-offer
    description: >-
      Benchmarking the InsertHistoricalDataHash function with specific
      parameters.
    chaincodeID: basic
    txDuration: 30
    rateControl:
      type: fixed-rate
      opts:
        tps: 15
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-offer.js
      arguments:
        chaincodeID: basic
  - label: insert-data-offer-100
    description: Test InsertHistoricalDataHash function with data hash size 100
bytes
    chaincodeID: basic
    txDuration: 30
    rateControl:
      type: fixed-load
      opts:
        transactionLoad: 10
        startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-offer.js
      arguments:
        chaincodeID: basic
        bvteSize: 100
  - label: insert-data-offer-1000
    description: Test InsertHistoricalDataHash function with data hash size 1000
bytes
    chaincodeID: basic
    txDuration: 30
    rateControl:
      type: fixed-load
      opts:
        transactionLoad: 20
        startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-offer.js
      arguments:
        chaincodeID: basic
        byteSize: 1000
  - label: insert-data-offer-4000
    description: Test InsertHistoricalDataHash function with data hash size 4000
bytes
```



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insert-data-offer-4000

insert-data-offer-8000

insert-data-offer-13000

insert-data-offer-32000

insert-data-offer-64000

System under test

Details

```
chaincodeID: basic
    txDuration: 30
    rateControl:
      type: fixed-load
      opts:
        transactionLoad: 30
        startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-offer.js
      arguments:
        chaincodeID: basic
        byteSize: 4000
  - label: insert-data-offer-8000
    description: Test InsertHistoricalDataHash function with data hash size 8000
bvtes
    chaincodeID: basic
    txDuration: 30
    rateControl:
      type: fixed-load
      opts:
        transactionLoad: 50
        startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-offer.js
      arguments:
        chaincodeID: basic
        byteSize: 8000
  - label: insert-data-offer-13000
    description: Test InsertHistoricalDataHash function with data hash size 13000
bytes
    chaincodeID: basic
    txDuration: 30
    rateControl:
      type: fixed-load
      opts:
        transactionLoad: 70
        startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-offer.js
      arguments:
        chaincodeID: basic
        byteSize: 13000
  - label: insert-data-offer-32000
    description: Test InsertHistoricalDataHash function with data hash size 32000
bytes
    chaincodeID: basic
    txDuration: 30
    rateControl:
      type: fixed-load
      opts:
        transactionLoad: 90
```



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 $\underline{insert\text{-}data\text{-}offer\text{-}32000}$

insert-data-offer-64000

System under test

Details

```
startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-offer.js
      arguments:
        chaincodeID: basic
        byteSize: 32000
  - label: insert-data-offer-64000
    description: Test InsertHistoricalDataHash function with data hash size 64000
bvtes
    chaincodeID: basic
    txDuration: 30
    rateControl:
     type: fixed-load
      opts:
        transactionLoad: 100
        startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-offer.js
      arguments:
        chaincodeID: basic
        byteSize: 64000
```

SUT

not provided