HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: insert-data-hash-benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertTestDataHash function

Benchmark Rounds: 4

Details

Benchmark results

Summary

insert-data-hash

insert-data-hash-100

insert-data-hash-1000

insert-data-hash-4000

System under test

Details

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-hash	96	1	93.0	2.40	0.29	0.75	30.1
insert-data-hash-100	101	0	100.9	2.32	0.19	0.52	30.4
insert-data-hash-1000	98	0	98.7	2.42	0.14	0.63	30.0
insert-data-hash-4000	99	0	97.4	2.29	0.20	0.59	31.5

Benchmark round: insert-data-hash

Benchmarking the InsertTestDataHash function with specific parameters.

```
txDuration: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 100
```

Performance metrics for insert-data-hash

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data-hash	96	1	93.0	2.40	0.29	0.75	30.1

Resource utilization for insert-data-hash

Resource monitor: prometheus

Metric	Prometheus Query	Name
Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab...
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab...
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab...
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab...

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: insert-data-hash-benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertTestDataHash function

Benchmark Rounds: 4

Details

Benchmark results

Summary

insert-data-hash

insert-data-hash-100

insert-data-hash-1000

insert-data-hash-4000

System under test

Details

Metric	Prometheus Query	Name
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Write (MB)	sum(rate(container_fs_writes_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Read (MB)	sum(rate(container_fs_reads_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

Benchmark round: insert-data-hash-100

Test InsertTestDataHash function with asset size 100 bytes

```
txDuration: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 100
```

Performance metrics for insert-data-hash-100

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data-hash-100	101	0	100.9	2.32	0.19	0.52	30.4

Resource utilization for insert-data-hash-100

Resource monitor: prometheus

Metric	Prometheus Query	Name
Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab...
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab...
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: insert-data-hash-benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertTestDataHash function

Benchmark Rounds: 4

Details

Benchmark results

System under test

Details

Metric	Prometheus Query	Name
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Write (MB)	sum(rate(container_fs_writes_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Read (MB)	sum(rate(container_fs_reads_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

Benchmark round: insert-data-hash-1000

Test InsertTestDataHash function with asset size 1000 bytes

```
txDuration: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 100
```

Performance metrics for insert-data-hash-1000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data-hash-1000	98	0	98.7	2.42	0.14	0.63	30.0

Resource utilization for insert-data-hash-1000

Resource monitor: prometheus

Metric	Prometheus Query	Name
Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

Metric	Prometheus Query	Name
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Write (MB)	sum(rate(container_fs_writes_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Read (MB)	sum(rate(container_fs_reads_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

Benchmark round: insert-data-hash-4000

Test InsertTestDataHash function with asset size 2000 bytes

```
txDuration: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 100
```

Performance metrics for insert-data-hash-4000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data-hash-4000	99	0	97.4	2.29	0.20	0.59	31.5

Resource utilization for insert-data-hash-4000

Resource monitor: prometheus

Metric	Prometheus Query	Name
Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: insert-data-hash-benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertTestDataHash function

Benchmark Rounds: 4

Details

Benchmark results

Summary

insert-data-hash

insert-data-hash-100

insert-data-hash-1000

insert-data-hash-4000

System under test

Details

		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab...
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab...
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Write (MB)	sum(rate(container_fs_writes_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Read (MB)	sum(rate(container_fs_reads_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

Test Environment

benchmark config

```
name: insert-data-hash-benchmark
description: >-
  Benchmarking the Hyperledger Fabric network with the InsertTestDataHash
  function
workers:
  number: 1
rounds:
  - label: insert-data-hash
    description: Benchmarking the InsertTestDataHash function with specific
parameters.
    chaincodeID: basic
    txDuration: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 100
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-hash.js
      arguments:
        chaincodeID: basic
  - label: insert-data-hash-100
    description: Test InsertTestDataHash function with asset size 100 bytes
    chaincodeID: basic
    txDuration: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 100
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-hash.js
      arguments:
        chaincodeID: basic
        byteSize: 100
  - label: insert-data-hash-1000
    description: Test InsertTestDataHash function with asset size 1000 bytes
```

Hyperledger Caliper Report

Basic information

DLT: fabric

Name: insert-data-hash-benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertTestDataHash function

Benchmark Rounds: 4

Details

Benchmark results

Summary

insert-data-hash

insert-data-hash-100

insert-data-hash-1000

insert-data-hash-4000

System under test

Details

```
    chaincodeID: basic
    txDuration: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 100
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-hash.js
      arguments:
        chaincodeID: basic
        byteSize: 1000
  - label: insert-data-hash-4000
    description: Test InsertTestDataHash function with asset size 2000 bytes
    chaincodeID: basic
    txDuration: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 100
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-hash.js
      arguments:
        chaincodeID: basic
        byteSize: 2000
```

SUT

```
  not provided
```