



Basic information

DLT: fabric
Name: insert-data-hash-benchmark
Description: Benchmarking the Hyperledger Fabric network with the InsertTestDataHash function
Benchmark Rounds: 4
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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	16	0	16.1	5.06	3.11	3.97	2.8
insert-data-hash-100	16	0	16.0	4.80	2.82	3.69	2.9
insert-data-hash-1000	16	0	16.0	4.79	2.79	3.67	2.9
insert-data-hash-2000	16	0	16.0	4.85	2.95	3.90	3.0

Benchmark round: insert-data-hash

Benchmarking the InsertTestDataHash function with specific parameters.

```
txDuration: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 15
```

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	16	0	16.1	5.06	3.11	3.97	2.8

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_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		orderer.example.com



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		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
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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: 15

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	16	0	16.0	4.80	2.82	3.69	2.9

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_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		orderer.example.com
		peer0.org1.example.com



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		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_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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: 15
```

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	16	0	16.0	4.79	2.79	3.67	2.9

Resource utilization for insert-data-hash-1000

Resource monitor: prometheus

Metric	Prometheus Query	Name



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Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		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
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

Benchmark round: insert-data-hash-2000

Test InsertTestDataHash function with asset size 2000 bytes

```
txDuration: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 15
```



Performance metrics for insert-data-hash-2000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data-hash-2000	16	0	16.0	4.85	2.95	3.90	3.0

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Resource utilization for insert-data-hash-2000

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_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~"."+"."}[1m])) by (name)	orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
Disc Write (MB)	sum(rate(container_fs_writes_bytes_total{name=~"."+"."}[1m])) by (name)	orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
Disc Read (MB)	sum(rate(container_fs_reads_bytes_total{name=~"."+"."}[1m])) by (name)	orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
		dev-peer0.org1.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8
		dev-peer0.org2.example.com-basic_1.0-06ae9571ee4eeadc6e98048d50ab0d2f300beed87dbecb5f570d58cf7a4fc8e8



		peer0.org1.example.com
		peer0.org2.example.com

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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: 15
    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: 15
    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
    chaincodeID: basic
    txDuration: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 15
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-hash.js
      arguments:
        chaincodeID: basic
        byteSize: 1000
  - label: insert-data-hash-2000
    description: Test InsertTestDataHash function with asset size 2000 bytes
    chaincodeID: basic
    txDuration: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 15
    workload:
      module: benchmarks/datamanagement/workloads/insert-data-hash.js
      arguments:
        chaincodeID: basic
        byteSize: 2000
```

SUT

not provided