

DLT: fabric

Name: insert-data-offer-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertDataOffer function Benchmark Rounds: 4

**Details** 

### Benchmark results

Summary insert-data-offer insert-data-offer-100 insert-data-offer-2000

#### 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-offer	100	1	100.6	0.48	0.14	0.33	73.2
insert-data- offer-100	5	0	6.0	2.19	1.35	1.77	2.3
insert-data- offer-1000	5	0	6.0	2.17	1.33	1.74	2.3
insert-data- offer-2000	5	0	5.9	2.17	1.32	1.74	2.3

# Benchmark round: insert-data-offer

Benchmarking the InsertDataOffer function with specific parameters.

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

### 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	100	1	100.6	0.48	0.14	0.33	73.2

## Resource utilization for insert-data-offer

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
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



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	peer0.org1.example.com						
	peer0.org2.example.com						
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						
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						
	sum(rate(container_fs_writes_bytes_total{name=~".+"} [1m])) by (name)  sum(rate(container_fs_reads_bytes_total{name=~".+"}						

# Benchmark round: insert-data-offer-100

Test InsertDataOffer function with data hash size 100 bytes

txDuration: 1
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 100
 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	5	0	6.0	2.19	1.35	1.77	2.3

### Resource utilization for insert-data-offer-100

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
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~".+"} [1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-



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dev-peer0.org2.example.com-basic_1.0- e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2a orderer.example.com  peer0.org1.example.com  peer0.org2.example.com  sum(rate(container_fs_writes_bytes_total{name=~",+"}} ca_orderer  couchdb0  couchdb1 orderer.example.com  peer0.org1.example.com  peer0.org1.example.com  peer0.org2.example.com  couchdb1 orderer.example.com  peer0.org1.example.com  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer		Hyperledger Calip	per Report
e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2a  orderer.example.com  peer0.org1.example.com  peer0.org2.example.com  Ca_orderer  ca_orderer  couchdb0  couchdb1  orderer.example.com  peer0.org1.example.com  ca_orderer  couchdb1  orderer.example.com  peer0.org2.example.com  couchdb1  orderer.example.com  peer0.org1.example.com  couchdb1  orderer.example.com  peer0.org1.example.com  couchdb1  orderer.example.com  peer0.org1.example.com  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer		1	e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
peer0.org1.example.com  peer0.org2.example.com  Disc Write (MB) sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer  couchdb0 couchdb1  orderer.example.com  peer0.org1.example.com  couchdb1  orderer.example.com  peer0.org2.example.com  couchdb1  orderer.example.com  peer0.org2.example.com  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer			dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
Disc Write (MB) sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer  couchdb0  couchdb1  orderer.example.com  peer0.org2.example.com  peer0.org1.example.com  peer0.org2.example.com  ca_orderer  ca_orderer  couchdb1  orderer.example.com  peer0.org2.example.com  ca_orderer  ca_orderer  ca_orderer			orderer.example.com
Disc Write (MB)  Sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer  couchdb0  couchdb1  orderer.example.com  peer0.org1.example.com  Disc Read (MB)  Sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer  couchdb0  couchdb1  orderer.example.com  peer0.org2.example.com  ca_orderer  ca_orderer  couchdb0  couchdb0  couchdb0  couchdb0			peer0.org1.example.com
Write (MB)  sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer  couchdb0  couchdb1  orderer.example.com  peer0.org1.example.com  Disc Read (MB)  sum(rate(container_fs_reads_bytes_total{name=~".+"} [1m])) by (name)  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer  ca_orderer			peer0.org2.example.com
couchdb1 couchdb1 orderer.example.com peer0.org1.example.com  Disc Read (MB) [1m])) by (name)  couchdb1  couchdb1	Write		ca_orderer
orderer.example.com  peer0.org1.example.com  peer0.org2.example.com  Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer  couchdb0  couchdb1			couchdb0
peer0.org1.example.com  peer0.org2.example.com  Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer  couchdb0  couchdb1			couchdb1
peer0.org2.example.com  Disc Read (MB)			orderer.example.com
Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer ca_orderer  couchdb0  couchdb1			peer0.org1.example.com
Read (MB) sum(rate(container_ts_reads_bytes_total{name=~".+"} ca_orderer ca_o			peer0.org2.example.com
couchdb1	Read		ca_orderer
			couchdb0
			couchdb1
orderer.example.com			orderer.example.com
peer0.org1.example.com			peer0.org1.example.com
peer0.org2.example.com			peer0.org2.example.com

# Benchmark round: insert-data-offer-1000

Test InsertDataOffer function with data hash size 1000 bytes

txDuration: 1
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 100
 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	5	0	6.0	2.17	1.33	1.74	2.3

## Resource utilization for insert-data-offer-1000

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
CPU	sum(rate(container_cpu_usage_seconds_total{name=~".+"}	ca_orderer



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(%)	[1m])) by (name)	
		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-offer-2000

Test InsertDataOffer function with data hash size 2000 bytes

txDuration: 1
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 100
 startingTps: 1

### Performance metrics for insert-data-offer-2000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data- offer-2000	5	0	5.9	2.17	1.32	1.74	2.3

#### Resource utilization for insert-data-offer-2000

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



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#### Benchmark results

Summary insert-data-offer insert-data-offer-100 insert-data-offer-2000

#### System under test

**Details** 

orderer.example.com	b35cdb2ab3
peer0.org2.example.com	b35cdb2ab3
CPU (%)         sum(rate(container_cpu_usage_seconds_total{name=~".+"}         ca_orderer           couchdb0         couchdb1           dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9c         dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9c	b35cdb2ab3
(%) [1m])) by (name)  ca_outhdb0  couchdb1  dev-peer0.org1.example.com-basic_1.0- e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9c	b35cdb2ab3
couchdb1  dev-peer0.org1.example.com-basic_1.0- e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9c  dev-peer0.org2.example.com-basic_1.0- e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9c	b35cdb2ab3
dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd96  dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd96	b35cdb2ab3
dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9e	b35cdb2ab3
e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9e	,
orderer.example.com	b35cdb2ab3
peer0.org1.example.com	
peer0.org2.example.com	
Disc Write (MB) sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer 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=~".+"} ca_orderer	
couchdb0	
couchdb1	
orderer.example.com	
peer0.org1.example.com	
peer0.org2.example.com	

# **Test Environment**

#### benchmark config

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



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Benchmark Rounds: 4

**Details** 

### Benchmark results

Summary

insert-data-offer

insert-data-offer-100

insert-data-offer-1000

insert-data-offer-2000

#### System under test

**Details** 

```
chaincodeID: basic
txDuration: 1
rateControl:
    type: fixed-load
    opts:
        transactionLoad: 100
        startingTps: 1
workload:
    module: benchmarks/datamanagement/workloads/insert-data-offer.js
    arguments:
        chaincodeID: basic
        byteSize: 1000
- label: insert-data-offer-2000
description: Test InsertDataOffer function with data hash size 2000 bytes
chaincodeID: basic
txDuration: 1
rateControl:
    type: fixed-load
    opts:
        transactionLoad: 100
        startingTps: 1
workload:
    module: benchmarks/datamanagement/workloads/insert-data-offer.js
    arguments:
        chaincodeID: basic
        byteSize: 2000
```

**SUT** 

not provided