

DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

unction

Benchmark Rounds: 8

**Details** 

# Benchmark results

#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-4000 insert-historical-data-hash-4000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-34000 insert-historical-data-hash-64000

# 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-historical-data- offer-hash	850	55	15.1	65.75	1.35	41.02	10.2
insert-historical-data- hash-100	261	0	4.3	3.84	0.40	2.13	4.1
insert-historical-data- hash-1000	279	0	4.6	7.13	0.43	3.73	4.5
insert-historical-data- hash-4000	266	0	4.1	15.52	0.75	8.30	4.0
insert-historical-data- hash-8000	186	0	2.3	18.27	1.94	13.08	2.2
insert-historical-data- hash-16000	205	0	2.3	22.95	2.00	19.32	2.2
insert-historical-data- hash-32000	176	0	2.1	35.91	2.39	23.50	2.0
insert-historical-data- hash-64000	140	0	1.6	33.34	2.01	27.38	1.6

# Benchmark round: insert-historical-data-offer-hash

Benchmarking the InsertHistoricalDataHash function with specific parameters.

txDuration: 60
rateControl:
 type: fixed-rate
 opts:
 tps: 15

# Performance metrics for insert-historical-data-offer-hash

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-historical-data- offer-hash	850	55	15.1	65.75	1.35	41.02	10.2

# Resource utilization for insert-historical-data-offer-hash

Metric	Prometheus Query	Name
Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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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### Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-4000 insert-historical-data-hash-4000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-34000 insert-historical-data-hash-64000

# System under test

**Details** 

(0/)	[ [1m])) by (name)	I
(%)	[1m])) by (name)	
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
	I	

# Benchmark round: insert-historical-data-hash-100

 $Test\ Insert Historical Data Hash\ function\ with\ data\ hash\ size\ 100\ bytes$ 

txDuration: 60
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 10
 startingTps: 1

# Performance metrics for insert-historical-data-hash-100

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-historical-data- hash-100	261	0	4.3	3.84	0.40	2.13	4.1

# Resource utilization for insert-historical-data-hash-100

Metric	Prometheus Query	Name
Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer



# Basic information

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#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-4000 insert-historical-data-hash-4000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-34000 insert-historical-data-hash-64000

# System under test

**Details** 

dev-peer0.org2.example.com-basic_1.0-637h908e08b257332d955d5h7eadeac170c68a9499b6070bb44fcd268872d    orderer.example.com		nyperiedger Cali	
dev-peerd.org1.example.com-basic_1.0-6375908e08b257332d955d5b7eadear170c68a9499b6070b144fcd2688724   dev-peerd.org2.example.com basic_1.0-6375908e08b257332d955d5b7eadear170c68a9499b6070b144fcd2688724   dev-peerd.org2.example.com   peer0.org2.example.com   peer0.org2.ex			
6379908e08b257332d955d5b7eadeact 70c68a9499b6070bb44fcd268872t   dev-peerd.org2.example.com-basic_1.0-   orderez.example.com   peerd.org2.example.com     peerd.org2.example.com   peerd.org2.example.com     peerd.org2.example.com   peerd.org2.example.com     peerd.org2.example.com   peerd.org2.example.com     couchdb0   couchdb0     couchdb1   dev-peerd.org1.example.com-basic_1.0-   6379908e08b257332d955d5b7eadeact70c68a9499b6070bb44fcd268872t   dev-peerd.org2.example.com-basic_1.0-   6379908e08b257332d955d5b7eadeact70c68a9499b6070bb44fcd268872t   dev-peerd.org2.example.com-basic_1.0-   6379908e08b257332d955d5b7eadeact70c68a9499b6070bb44fcd268872t   dev-peerd.org2.example.com-basic_1.0-   couchdb1   peerd.org2.example.com     peerd.org2.example.com   peerd.org2.example.com     dev-peerd.org2.example.com   peerd.org3.example.com     dev-peerd.org3.example.com   peerd.org3.example.com     dev-peerd.org3.example.com   peerd.org3.example.com     dev-peerd.org3.example.com   peerd.org3.example.com     dev-peerd.org3.example.com   peerd.org3.example.com     dev-peerd.org3.example.com   peerd.org3.example.com   peerd.org3.example.com-basic_1.0-   637908e08b257332d955d5b7eadeact70c68a9499b6070bb44fcd268872t   dev-peerd.org3.example.com   peerd.org3.example.com   peerd.org3.example.c			couchdb1
637b908-08b.257332d955d5b7eadeact 70c68a9499b6070bb44fcd2688728   orderer.example.com			dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
			dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
			orderer.example.com
Sumf(rate(container_cpu_usage_seconds_total{name==",+"}   ca_orderer			peer0.org1.example.com
Cauchebo			peer0.org2.example.com
couchdb1   dev-per0.org1.example.com-basic_1.0-   6375908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872t   dev-per0.org2.example.com   ordere.example.com   per0.org1.example.com   per0.org2.example.com   per0.org3.example.com   per0.org3.example.com   couchdb1   dev-per0.org3.example.com-basic_1.0-   6375908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872t   dev-per0.org2.example.com-basic_1.0-   6375908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872t   dev-per0.org2.example.com-basic_1.0-   6375908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872t   dev-per0.org3.example.com   per0.org3.example.com   per0.org3.example.com			ca_orderer
dev-peer0.org1.example.com-basic_1.0-   637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872d   dev-peer0.org2.example.com-basic_1.0-   637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872d   orderer.example.com   peer0.org1.example.com   peer0.org1.example.com   peer0.org2.example.com   peer0.org2.example.com   ca_orderer   orderer.example.com   ca_orderer   orderer.example.com   ca_orderer   orderer.example.com   orderer.example.com   orderer.example.com   orderer.example.com-basic_1.0-   637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872d   orderer.example.com-basic_1.0-   637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872d   orderer.example.com   orderer.example.com   peer0.org1.example.com   peer0.org2.example.com   peer0.org3.example.com   pe			couchdb0
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peer0.org1.example.com  peer0.org2.example.com  peer0.org2.example.com  peer0.org2.example.com  peer0.org2.example.com  peer0.org2.example.com  ca_orderer  ca_orderer  couchdb0  couchdb1  dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  dev-peer0.org2.example.com  peer0.org1.example.com  ca_orderer  ca_orderer  ca_orderer  ca_orderer			dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
Disc Write (MB) sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer  couchdb0  couchdb1  dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  dev-peer0.org2.example.com  orderer.example.com  peer0.org1.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  dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  orderer.example.com  peer0.org1.example.com  ca_orderer  ca_orderer  ca_orderer			peer0.org1.example.com
Write (MB) sum(rate(container_is_writes_bytes_total{name=~".+"} ca_orderer  couchdb0  couchdb1  dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  orderer.example.com  peer0.org1.example.com  couchdb1  dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720  orderer.example.com  peer0.org1.example.com  ca_orderer  ca_orderer			peer0.org2.example.com
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dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720 dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720 orderer.example.com peer0.org1.example.com  peer0.org1.example.com  ca_orderer  ca_orderer  ca_orderer			couchdb0
637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720 dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720 orderer.example.com peer0.org1.example.com  peer0.org2.example.com  ca_orderer  ca_orderer  ca_orderer			couchdb1
637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726  orderer.example.com  peer0.org1.example.com  peer0.org2.example.com  Disc Read (MB)  sum(rate(container_fs_reads_bytes_total{name=~".+"}}  ca_orderer  ca_orderer			dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
peer0.org1.example.com  peer0.org2.example.com  Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer  ca_orderer			dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer ca_orderer			orderer.example.com
Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer ca_orderer			peer0.org1.example.com
Read (MB) sum[rate(container_is_reads_bytes_total{name=~".+"} ca_orderer ca_orderer			peer0.org2.example.com
couchdb0	Read		ca_orderer
			couchdb0
couchdb1			couchdb1
dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720			dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688720			dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
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-historical-data-hash-1000

Test InsertHistoricalDataHash function with data hash size 1000 bytes

txDuration: 60
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 20
 startingTrs: 1

Performance metrics for insert-historical-data-hash-1000

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Benchmark Rounds: 8

**Details** 

# Benchmark results

# Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-1000 insert-historical-data-hash-4000 insert-historical-data-hash-8000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-64000

# System under test

**Details** 

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-historical-data- hash-1000	279	0	4.6	7.13	0.43	3.73	4.5

# Resource utilization for insert-historical-data-hash-1000

Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer  couchdb0  couchdb1  dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576  dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		couchdb1  dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576  dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576  dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576  dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
_		ordoror ovample com
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
	sum(rate(container_cpu_usage_seconds_total{name=~".+"} [1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
	sum(rate(container_fs_writes_bytes_total{name=~".+"} [1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com



DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

Benchmark Rounds: 8

**Details** 

# Benchmark results

#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-1000 insert-historical-data-hash-4000 insert-historical-data-hash-8000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-64000

# System under test

**Details** 

# Benchmark round: insert-historical-data-hash-4000

Test InsertHistoricalDataHash function with data hash size 4000 bytes

txDuration: 60 rateControl: type: fixed-load opts:

transactionLoad: 40

startingTps: 1

# Performance metrics for insert-historical-data-hash-4000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-historical-data- hash-4000	266	0	4.1	15.52	0.75	8.30	4.0

# Resource utilization for insert-historical-data-hash-4000

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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872657
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd26887265
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd26887265
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd26887265
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd26887265
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd26887265
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
Disc Read	sum(rate(container_fs_reads_bytes_total{name=~".+"} [1m])) by (name)	ca_orderer



DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

unction

Benchmark Rounds: 8

**Details** 

# Benchmark results

#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-1000 insert-historical-data-hash-1000 insert-historical-data-hash-4000 insert-historical-data-hash-8000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-64000

# System under test

**Details** 

	Trype Treager Camper Report							
(MB)								
		couchdb0						
		couchdb1						
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576						
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576						
		orderer.example.com						
		peer0.org1.example.com						
		peer0.org2.example.com						

# Benchmark round: insert-historical-data-hash-8000

Test InsertHistoricalDataHash function with data hash size 8000 bytes

txDuration: 60
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 60
 startingTps: 1

# Performance metrics for insert-historical-data-hash-8000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-historical-data- hash-8000	186	0	2.3	18.27	1.94	13.08	2.2

#### Resource utilization for insert-historical-data-hash-8000

Prometheus Query	Name
sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
	couchdb0
	couchdb1
	dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
	dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
	orderer.example.com
	peer0.org1.example.com
	peer0.org2.example.com
sum(rate(container_cpu_usage_seconds_total{name=~".+"} [1m])) by (name)	ca_orderer
	couchdb0
	couchdb1
	dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
	dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
	orderer.example.com
	peer0.org1.example.com
	peer0.org2.example.com
sum(rate(container_fs_writes_bytes_total{name=~".+"} [1m])) by (name)	ca_orderer
	sum(rate(container_cpu_usage_seconds_total{name=~".+"} [1m])) by (name)  sum(rate(container_fs_writes_bytes_total{name=~".+"}



#### Basic information

DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

unction

Benchmark Rounds: 8

**Details** 

# Benchmark results

#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-4000 insert-historical-data-hash-4000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-34000 insert-historical-data-hash-64000

# System under test

**Details** 

	Hyperledger Calij	per Report
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

# Benchmark round: insert-historical-data-hash-16000

Test InsertHistoricalDataHash function with data hash size 16000 bytes

txDuration: 60
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 80
 startingTps: 1

# Performance metrics for insert-historical-data-hash-16000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-historical-data- hash-16000	205	0	2.3	22.95	2.00	19.32	2.2

# Resource utilization for insert-historical-data-hash-16000

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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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



#### Basic information

DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

Benchmark Rounds: 8

**Details** 

# Benchmark results

#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-1000 insert-historical-data-hash-4000 insert-historical-data-hash-8000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-64000

# System under test

**Details** 

I	nyperiedger Cai	couchdb1
		Couchidat
		dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
	•	·

# Benchmark round: insert-historical-data-hash-32000

Test InsertHistoricalDataHash function with data hash size 32000 bytes

txDuration: 60 rateControl: type: fixed-load opts: transactionLoad: 100 startingTps: 1

# Performance metrics for insert-historical-data-hash-32000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-historical-data- hash-32000	176	0	2.1	35.91	2.39	23.50	2.0

# Resource utilization for insert-historical-data-hash-32000

Metric	Prometheus Query	Name
Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
		couchdb0
		couchdb1



# Basic information

DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

unction

Benchmark Rounds: 8

**Details** 

# Benchmark results

#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-1000 insert-historical-data-hash-1000 insert-historical-data-hash-4000 insert-historical-data-hash-8000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-64000

# System under test

**Details** 

	. Tryperieager can	,
		dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

# Benchmark round: insert-historical-data-hash-64000

Test InsertHistoricalDataHash function with data hash size 64000 bytes

txDuration: 60
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 100
 ctartingToc. 1

Performance metrics for insert-historical-data-hash-64000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)



insert-historical-data- hash-64000	140	0	1.6	33.34	2.01	27.38	1.6
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# Resource utilization for insert-historical-data-hash-64000

# Basic information

DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

**Details** 

# Benchmark results

# Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-4000 insert-historical-data-hash-4000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-34000 insert-historical-data-hash-64000

# System under test

**Details** 

# 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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

# **Test Environment**



DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

unction

Benchmark Rounds: 8

**Details** 

#### Benchmark results

#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-1000 insert-historical-data-hash-4000 insert-historical-data-hash-8000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-64000

#### System under test

**Details** 

# benchmark config

```
name: insert-historical-data-hash-benchmark
description:
  Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash
  function
workers:
 number: 5
rounds:
    label: insert-historical-data-offer-hash
    description: >
      Benchmarking the InsertHistoricalDataHash function with specific
      parameters
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-rate
opts:
    tps: 15
workload:
      module: benchmarks/datamanagement/workloads/historical-insert-data-hash.js
arguments:
         chaincodeID: basic
    label: insert-historical-data-hash-100 description: Test InsertHistoricalDataHash function with data hash size 100
bytes
    chaincodeID: basic
    txDuration: 60
rateControl:
      type: fixed-load
opts:
        transactionLoad: 10
         startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/historical-insert-data-hash.is
      arguments:
         chaincodeID: basic
   byteSize: 100
label: insert-historical-data-hash-1000
description: Test InsertHistoricalDataHash function with data hash size 1000
bytes chaincodeID: basic
    txDuration: 60 rateControl:
       type: fixed-load
      opts:
        transactionLoad: 20
         startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/historical-insert-data-hash.js
arguments:
         chaincodeID: basic
   byteSize: 1000
label: insert-historical-data-hash-4000
    description: Test InsertHistoricalDataHash function with data hash size 4000
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-load
      opts:
transactionLoad: 40
         startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/historical-insert-data-hash.js
      arguments:
         chaincodeID: basic
    byteSize: 4000
label: insert-historical-data-hash-8000
    description: Test InsertHistoricalDataHash function with data hash size 8000
bytes
    chaincodeID: basic txDuration: 60
    rateControl:
      type: fixed-load opts:
         transactionLoad: 60
         startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/historical-insert-data-hash.js
      arguments:
         chaincodeID: basic
   byteSize: 8000
label: insert-historical-data-hash-16000
    description: Test InsertHistoricalDataHash function with data hash size 16000
bvtes
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-load
opts:
         transactionLoad: 80
         startingTps: 1
    workload:
      module: benchmarks/datamanagement/workloads/historical-insert-data-hash.js
      arguments
         chaincodeTD: basic
  byteSize: 16000
- label: insert-historical-data-hash-32000
description: Test InsertHistoricalDataHash function with data hash size 32000
bytes
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-load
      opts:
         transactionLoad: 100
         startingTps: 1
```



DLT: fabric

Name: insert-historical-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

**Details** 

# Benchmark results

#### Summary

insert-historical-data-offer-hash insert-historical-data-hash-100 insert-historical-data-hash-4000 insert-historical-data-hash-4000 insert-historical-data-hash-16000 insert-historical-data-hash-32000 insert-historical-data-hash-34000 insert-historical-data-hash-64000

# System under test

**Details** 

```
workload:
    module: benchmarks/datamanagement/workloads/historical-insert-data-hash.js
    arguments:
        chaincodeID: basic
        byteSize: 32000
- label: insert-historical-data-hash-64000
    description: Test InsertHistoricalDataHash function with data hash size 64000
bytes
    chaincodeID: basic
    txDuration: 60
    rateControl:
        type: fixed-load
        opts:
            transactionLoad: 100
            startingTps: 1
workload:
        module: benchmarks/datamanagement/workloads/historical-insert-data-hash.js
        arguments:
        chaincodeID: basic
        byteSize: 64000
```

# SUT

not provided