

DLT: fabric

Name: insert-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

Details

Benchmark results

Summary

insert-data-hash insert-data-hash-100 insert-data-hash-1000 insert-data-hash-4000 insert-data-hash-8000 insert-data-hash-16000 insert-data-hash-32000 insert-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-data-hash	910	0	15.1	0.67	0.14	0.36	15.0
insert-data-hash- 100	1957	0	33.3	2.39	0.12	0.39	32.3
insert-data-hash- 1000	2478	0	42.4	2.21	0.14	0.44	41.1
insert-data-hash- 4000	2797	0	47.9	2.40	0.15	0.52	46.3
insert-data-hash- 8000	2742	0	46.4	2.18	0.16	0.76	45.0
insert-data-hash- 16000	2928	0	49.7	2.23	0.20	0.95	48.3
insert-data-hash- 32000	2987	0	50.5	2.47	0.23	1.17	49.1
insert-data-hash- 64000	2902	0	48.8	2.49	0.23	1.36	47.2

Benchmark round: insert-data-hash

Benchmarking the InsertHistoricalDataHash function with specific parameters.

txDuration: 60
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	910	0	15.1	0.67	0.14	0.36	15.0

Resource utilization for insert-data-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=~".+"} [1m])) by (name)	ca_orderer

Hyperledger Caliper Report



Basic information

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System under test

Details

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		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
		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 InsertHistoricalDataHash function with data hash size 100 bytes

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

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	1957	0	33.3	2.39	0.12	0.39	32.3

Resource utilization for insert-data-hash-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- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com
		peer0.org1.example.com

Hyperledger Caliper Report



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<u>Summary</u>

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

System under test

Details

		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
		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 InsertHistoricalDataHash function with data hash size 1000 bytes

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

startingTps: 1

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	2478	0	42.4	2.21	0.14	0.44	41.1

Resource utilization for insert-data-hash-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_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576



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Summary insert-data-hash insert-data-hash-100 insert-data-hash-1000 insert-data-hash-4000 insert-data-hash-8000 insert-data-hash-16000 insert-data-hash-32000

System under test

insert-data-hash-64000

Details

dev-peer0.org2.example.com-basic_1.0-		,	· 1
			orderer.example.com
CPU (%) sumfrate(container_cpu_usage_seconds_total{name==",+"} a_a_orderer ca_orderer Image: container_cpu_usage_seconds_total{name==",+"} a_a_orderer couchdb0 Image: container_cpu_usage_seconds_total{name==",+"} a_a_orderer couchdb0 Image: container_cpu_usage_seconds_total{name==",+"} a_a_orderer couchdb0 Image: container_spu_usage_seconds_total{name==0,+ a_a_orderer} a_a_orderer dev-peer0.org1.example.com-basic_1.0-6379908e08b257332d955d5b7eadeat70c68a9499b6070bb44fcd268872657 Image: container_spu_usage_seconds_total{name=0,+ a_a_orderer} a_a_orderer peer0.org2.example.com Image: container_spu_usage_seconds_total{name=0,+ a_a_orderer} a_a_orderer peer0.org2.example.com Image: container_spu_usage_seconds_total{name=0,+ a_a_orderer} a_a_orderer couchdb0 Image: container_spu_usage_seconds_total{name=0,+ a_a_orderer} a_a_orderer peer0.org2.example.com Image: container_spu_usage_seconds_total{name=0,+ a_a_orderer} a_a_orderer peer0.org2.example.com Image: container_spu_usage_seconds_total{name=0,+ a_a_orderer} a_a_orderer peer0.org2.example.com Image: container_spu_usage_seconds_total{name=0,+ a_a_orderer} a_a_orderer ca_orderer Image: container_spu_usage_seconds_total_name=0,+ a_a_orderer ca_orderer Image: container_spu_usage_spu_usage_sconds_total_name=0,+ a_a_orderer ca_orderer </td <td></td> <td></td> <td>peer0.org1.example.com</td>			peer0.org1.example.com
(%) [Im]) by (name) ca_orderer couchdb0 couchdb1 couchdb1 dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d57eadeac170c68a9499b6070bb44fcd268872657 dev-peer0.org2.example.com-basic_1.0-637b908e00b257332d955d57eadeac170c68a9499b6070bb44fcd268872657 dev-peer0.org2.example.com mercer.example.com peer0.org1.example.com peer0.org2.example.com peer0.org2.example.com mercer.example.com peer0.org2.example.com mercer.example.com peer0.org2.example.com mercer.example.com peer0.org2.example.com mercer.example.com couchdb0 mercer.example.com couchdb1 mercer.example.com peer0.org2.example.com mercer.example.com peer0.org2.example.com mercer.example.com peer0.org2.example.com mercer.example.com peer0.org2.example.com mercer.example.com ca_orderer mercer.example.com couchdb0 mercer.example.com couchdb1 mercer.example.com orderer.example.com			peer0.org2.example.com
Couchdb1			ca_orderer
dev-peer0.org1.example.com-basic_1.0- dev-peer0.org2.example.com-basic_1.0- dev-			couchdb0
G37b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726574 dev-per0.org2.example.com-basic_1.0-G37b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726574 dev-per0.org2.example.com			couchdb1
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peer0.org1.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com ca_orderer ca_orderer ca_orderer couchdb0 couchdb1 ordere.example.com peer0.org1.example.com couchdb1 ordere.example.com peer0.org1.example.com couchdb1 orderer.example.com peer0.org1.example.com couchdb1 couchdb1 couchdb1 peer0.org1.example.com peer0.org2.example.com couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 orderer.example.com peer0.org1.example.com			dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
Disc Write (Im)) by (name) Sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer Couchdb0 Couchdb1 Couchdb1 Couchdb1 Couchdb1 Peer0.org1.example.com Peer0.org2.example.com Disc Read (MB) Sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer Couchdb1 Couchdb1 Couchdb1 Couchdb1 Couchdb1 Couchdb0 Couchdb1 Couch			orderer.example.com
Disc Read (MB) Sum(rate(container_fs_writes_bytes_total{name=~".+"}} ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com couchdb1 ca_orderer ca_orderer couchdb1 orderer.example.com peer0.org2.example.com couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 ca_orderer ca_orderer ca_orderer ca_orderer couchdb0 couchdb0 couchdb0 couchdb0 couchdb0 couchdb0 couchdb0 couchdb1 orderer.example.com peer0.org1.example.com peer0.org1.example.com			peer0.org1.example.com
Write (MB) sun(rate(container_is_writes_bytes_total{name=~".+"}} ca_orderer couchdb0 couchdb1 couchdb1 orderer.example.com peer0.org1.example.com peer0.org2.example.com Disc Read (MB) sum(rate(container_is_reads_bytes_total{name=~".+"}} ca_orderer Couchdb0 couchdb0 Couchdb1 couchdb1 orderer.example.com orderer.example.com peer0.org1.example.com peer0.org1.example.com			peer0.org2.example.com
couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 peer0.org1.example.com peer0.org2.example.com Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"}} ca_orderer couchdb0 couchdb1 couchdb1 couchdb1 couchdb1 couchdb1 peer0.org1.example.com peer0.org1.example.com	Write		ca_orderer
orderer.example.com peer0.org1.example.com peer0.org2.example.com Disc Read (MB)			couchdb0
peer0.org1.example.com Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer Couchdb0 Couchdb1 Couchdb1 Orderer.example.com peer0.org1.example.com			couchdb1
Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer Couchdb0 couchdb1			orderer.example.com
Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer couchdb0 couchdb1 couchdb1 orderer.example.com peer0.org1.example.com			peer0.org1.example.com
Read (MB) sum(rate(container_is_reads_bytes_total{name=~".+"} ca_orderer ca_orderer ca_orderer ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com			peer0.org2.example.com
couchdb1 orderer.example.com peer0.org1.example.com	Read		ca_orderer
orderer.example.com peer0.org1.example.com			couchdb0
peer0.org1.example.com			couchdb1
			orderer.example.com
peer0.org2.example.com			peer0.org1.example.com
			peer0.org2.example.com

Benchmark round: insert-data-hash-4000

Test InsertHistoricalDataHash function with data hash size 4000 bytes

txDuration: 60 rateControl:
type: fixed-load
opts:
transactionLoad: 30 startingTps: 1

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	2797	0	47.9	2.40	0.15	0.52	46.3

Resource utilization for insert-data-hash-4000

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



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insert-data-hash insert-data-hash-100

insert-data-hash-1000

insert-data-hash-4000 insert-data-hash-8000

insert-data-hash-16000

insert-data-hash-32000 insert-data-hash-64000

System under test

Details

dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576 orderer.example.com		Hyperledger Calip	per Report
G37b908e08b257332d955d5b7eadeac170c58a9499b6070bb44fcd268872657 orderer.example.com			dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
peer0.org1.example.com peer0.org1.example.com			dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
peer0.org2.example.com CPU (%) sum(rate(container_cpu_usage_seconds_total(name=>",+") ca_orderer couchdb0 couchdb1 dev-peer0.org1.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeact70c68a9499b6070bb44fcd268872657 dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeact70c68a9499b6070bb44fcd268872657 orderer.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com			orderer.example.com
CPU (%) sum(rate(container_cpu_usage_seconds_total(name=~".*") ca_orderer			peer0.org1.example.com
Ca_orderer Couchdb0 Couchdb1 Couchdb0 Couchdb1 Couchdb0 Couchdb1 Couchdb0 Couchdb1 Couchdb0 Couchdb0 Couchdb0 Couchdb1 Couchdb0 Couchdb0 Couchdb1 Couchdb0 Couchdb1 Couchdb0 Couchdb1 Couchdb0 Couchdb1 Couchdb0 Couchdb1 Couchdb			peer0.org2.example.com
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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.org1.example.com peer0.org2.example.com ca_orderer (MB) 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 couchdb1 orderer.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com peer0.org2.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com			couchdb0
637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872657 dev-peer0.org2.example.com-basic_1.0- 637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd268872657 orderer.example.com peer0.org1.example.com peer0.org2.example.com peer0.org2.example.com ca_orderer (Im])) by (name) 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 couchdb1 orderer.example.com ca_orderer couchdb1 orderer.example.com peer0.org1.example.com ca_orderer couchdb1 orderer.example.com peer0.org2.example.com orderer.example.com peer0.org2.example.com orderer.example.com couchdb1 orderer.example.com orderer.example.com peer0.org1.example.com orderer.example.com peer0.org1.example.com			couchdb1
G37b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576 orderer.example.com peer0.org1.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com peer0.org1.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com ca_orderer couchdb0 couchdb0 couchdb0 couchdb0 couchdb0 couchdb0 couchdb0 couchdb1 peer0.org1.example.com pe			dev-peer0.org1.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
peer0.org1.example.com peer0.org2.example.com peer0.org2.example.com peer0.org2.example.com ca_orderer ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com ca_orderer ca_orderer ca_orderer couchdb1 orderer.example.com peer0.org1.example.com couchdb1 orderer.example.com peer0.org2.example.com ca_orderer ca_orderer ca_orderer ca_orderer ca_orderer ca_orderer ca_orderer ca_orderer couchdb1 couchdb1 couchdb1 couchdb1 orderer.example.com peer0.org1.example.com			dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
Disc Write (MB) sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com peer0.org2.example.com ca_orderer couchdb1 orderer.example.com peer0.org2.example.com ca_orderer ca_orderer ca_orderer ca_orderer couchdb1 orderer.example.com peer0.org2.example.com ca_orderer couchdb1 couchdb0 couchdb0 couchdb1 orderer.example.com peer0.org1.example.com			orderer.example.com
Disc Read (MB) Sum(rate(container_fs_writes_bytes_total{name=~".+"} ca_orderer couchdb0 couchdb1 ordere.example.com peer0.org1.example.com bisc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"}} ca_orderer couchdb1 ordere.example.com peer0.org2.example.com ca_orderer ca_orderer couchdb0 couchdb0 couchdb0 couchdb0 couchdb0 couchdb0 ordere.example.com peer0.org1.example.com peer0.org2.example.com couchdb0 peer0.org1.example.com peer0.org1.example.com			peer0.org1.example.com
Write (MB) sum(rate(container_is_writes_bytes_total{name=~".+"}} ca_orderer couchdb0 couchdb1 couchdb1 orderer.example.com peer0.org1.example.com peer0.org2.example.com Disc Read (MB) sum(rate(container_is_reads_bytes_total{name=~".+"}} ca_orderer (MB) couchdb0 couchdb1 couchdb1 orderer.example.com orderer.example.com peer0.org1.example.com peer0.org1.example.com			peer0.org2.example.com
couchdb1 couchdb1 orderer.example.com peer0.org1.example.com peer0.org2.example.com peer0.org2.example.com ca_orderer ca_orderer couchdb0 couchdb1 couchdb1 couchdb1 orderer.example.com peer0.org2.example.com	Write		ca_orderer
orderer.example.com peer0.org1.example.com peer0.org2.example.com Disc Read (MB) [Im])) by (name) ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com			couchdb0
peer0.org1.example.com peer0.org2.example.com Disc Read (MB) [1m])) by (name) ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com			couchdb1
Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org2.example.com			orderer.example.com
Disc Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer couchdb0 couchdb1 couchdb1 orderer.example.com peer0.org1.example.com			peer0.org1.example.com
Read (MB) sum(rate(container_fs_reads_bytes_total{name=~".+"} ca_orderer ca_orderer ca_orderer ca_orderer ca_orderer couchdb0 couchdb1 orderer.example.com peer0.org1.example.com			peer0.org2.example.com
couchdb1 orderer.example.com peer0.org1.example.com	Read		ca_orderer
orderer.example.com peer0.org1.example.com			couchdb0
peer0.org1.example.com			couchdb1
			orderer.example.com
peer0.org2.example.com			peer0.org1.example.com
			peer0.org2.example.com

Benchmark round: insert-data-hash-8000

Test InsertHistoricalDataHash function with data hash size 8000 bytes

txDuration: 60
rateControl:
 type: fixed-load opts: transactionLoad: 50 startingTps: 1

Performance metrics for insert-data-hash-8000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data-hash- 8000	2742	0	46.4	2.18	0.16	0.76	45.0

Resource utilization for insert-data-hash-8000

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



DLT: fabric

Name: insert-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

Details

Benchmark results

Summary

insert-data-hash insert-data-hash-100 insert-data-hash-1000 insert-data-hash-4000 insert-data-hash-8000 insert-data-hash-16000 insert-data-hash-32000

System under test

insert-data-hash-64000

Details

	Hyperledger Calip	l
		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
		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-16000

Test InsertHistoricalDataHash function with data hash size 16000 bytes

txDuration: 60 rateControl: type: fixed-load opts: transactionLoad: 70 startingTps: 1

Performance metrics for insert-data-hash-16000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data-hash- 16000	2928	0	49.7	2.23	0.20	0.95	48.3

Resource utilization for insert-data-hash-16000



DLT: fabric

Name: insert-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

Details

Benchmark results

<u>Summary</u>

insert-data-hash insert-data-hash-100 insert-data-hash-1000 insert-data-hash-4000 insert-data-hash-8000 insert-data-hash-16000 insert-data-hash-32000

System under test

insert-data-hash-64000

Details

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
		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-32000

Test InsertHistoricalDataHash function with data hash size 32000 bytes

txDuration: 60
rateControl:
 type: fixed-load
 opts:
 transactionLoad: 90
 startingTps: 1

Performance metrics for insert-data-hash-32000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
insert-data-hash- 32000	2987	0	50.5	2.47	0.23	1.17	49.1



DLT: fabric

Name: insert-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

Details

Benchmark results

Summary

insert-data-hash insert-data-hash-100 insert-data-hash-4000 insert-data-hash-8000 insert-data-hash-16000 insert-data-hash-32000

System under test

insert-data-hash-64000

Details

Resource utilization for insert-data-hash-32000

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
		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-64000

 $Test\ Insert Historical Data Hash\ function\ with\ data\ hash\ size\ 64000\ bytes$

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

Performance metrics for insert-data-hash-64000

Name	Succ	Fail	Send Rate	Max	Min	Avg	Throughput	

Hyperledger Caliper Report



			(TPS)	Latency (s)	Latency (s)	Latency (s)	(TPS)
insert-data-hash- 64000	2902	0	48.8	2.49	0.23	1.36	47.2

Basic information

DLT: fabric

Name: insert-data-hashbenchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

Details

Benchmark results

Summary,
insert-data-hash
insert-data-hash-100
insert-data-hash-4000
insert-data-hash-8000
insert-data-hash-16000
insert-data-hash-32000

System under test

insert-data-hash-64000

<u>Details</u>

Resource utilization for insert-data-hash-64000

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
		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 InsertHistoricalDataHash
function
workers:
 number: 10



DLT: fabric

Name: insert-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

Details

Benchmark results

Summary

insert-data-hash

insert-data-hash-100

insert-data-hash-1000

insert-data-hash-4000

insert-data-hash-8000

insert-data-hash-16000

insert-data-hash-32000

insert-data-hash-64000

System under test

Details

```
rounds:
    label: insert-data-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/insert-data-hash.is
       arguments:
         chaincodeID: basic
    label: insert-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/insert-data-hash.is
       arguments:
         chaincodeID: basic
         byteSize: 100
    label: insert-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/insert-data-hash.js
       arguments:
          chaincodeID: basic
    byteSize: 1000
label: insert-data-hash-4000
     description: Test InsertHistoricalDataHash function with data hash size 4000
bytes
     chaincodeID: basic
     txDuration: 60
     rateControl:
       type: fixed-load opts:
         transactionLoad: 30
startingTps: 1
     workload:
   module: benchmarks/datamanagement/workloads/insert-data-hash.js
       arguments:
          chaincodeID: basic
    byteSize: 4000
label: insert-data-hash-8000
description: Test InsertHistoricalDataHash function with data hash size 8000
bytes
     chaincodeID: basic
     txDuration: 60 rateControl:
       type: fixed-load
       opts:
         transactionLoad: 50
         startingTps: 1
     workload:
       module: benchmarks/datamanagement/workloads/insert-data-hash.js
       arguments:
         chaincodeID: basic
     byteSize: 8000
label: insert-data-hash-16000
description: Test InsertHistoricalDataHash function with data hash size 16000
bytes
     chaincodeID: basic txDuration: 60
     rateControl:
type: fixed-load
opts:
         transactionLoad: 70 startingTps: 1
     workload:
  module: benchmarks/datamanagement/workloads/insert-data-hash.js
       arguments:
          chaincodeID: basic
    byteSize: 16000
label: insert-data-hash-32000
     description: Test InsertHistoricalDataHash function with data hash size 32000
bvtes
     chaincodeID: basic
     txDuration: 60
     rateControl:
       type: fixed-load
       opts:
         transactionLoad: 90
         startingTps: 1
     workload:
       module: benchmarks/datamanagement/workloads/insert-data-hash.js
       arguments:
          chaincodeID: basic
    byteSize: 32000
label: insert-data-hash-64000
     description: Test InsertHistoricalDataHash function with data hash size 64000
bytes
     chaincodeID: basic
```



DLT: fabric

Name: insert-data-hash-

benchmark

Description: Benchmarking the Hyperledger Fabric network with the InsertHistoricalDataHash

function

Benchmark Rounds: 8

Details

Benchmark results

Summary

insert-data-hash

insert-data-hash-100

insert-data-hash-1000

insert-data-hash-4000

insert-data-hash-8000

insert-data-hash-16000

insert-data-hash-32000 insert-data-hash-64000

System under test

Details

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 100
    startingTps: 1
workload:
    module: benchmarks/datamanagement/workloads/insert-data-hash.js
    arguments:
        chaincodeID: basic
        byteSize: 64000
```

SUT

not provided