HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

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)
sensor-query-evaluate-100	278	0	2.3	27.24	0.38	18.48	2.3
sensor-query-evaluate-1000	320	0	2.2	30.99	0.37	21.04	2.2
sensor-query-evaluate-2000	322	0	3.0	35.04	0.51	24.37	2.9
sensor-query-evaluate-4000	374	0	2.2	44.15	0.42	29.60	2.2
sensor-query-evaluate-8000	375	0	2.4	53.07	0.40	38.98	2.4
sensor-query-evaluate-16000	248	169	5.5	59.92	4.84	40.04	4.1
sensor-query-evaluate-32000	198	276	6.6	59.31	0.57	42.88	4.4
sensor-query-evaluate-64000	181	345	7.8	59.62	1.44	35.74	5.6
sensor-query-evaluate-8000-fixed-tps	0	21050	335.6	-	-	-	182.5

Benchmark round: sensor-query-evaluate-100

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 100 bytes.

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 50
```

Performance metrics for sensor-query-evaluate-100

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-100	278	0	2.3	27.24	0.38	18.48	2.3

Resource utilization for sensor-query-evaluate-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_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		dev-peer0.org2.example.com-basic_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		orderer.example.com

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

		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: sensor-query-evaluate-1000

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 1000 bytes.

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 70
```

Performance metrics for sensor-query-evaluate-1000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-1000	320	0	2.2	30.99	0.37	21.04	2.2

Resource utilization for sensor-query-evaluate-1000

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

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

Benchmark round: sensor-query-evaluate-2000

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 2000 bytes.

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 90
```

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

Performance metrics for sensor-query-evaluate-2000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-2000	322	0	3.0	35.04	0.51	24.37	2.9

Resource utilization for sensor-query-evaluate-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_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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: sensor-query-evaluate-4000

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 4000 bytes.

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 120
```

Performance metrics for sensor-query-evaluate-4000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-4000	374	0	2.2	44.15	0.42	29.60	2.2

Resource utilization for sensor-query-evaluate-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_1.0-637b908e08b257332d955d5b7eadeac170c68a9499b6070bb44fcd2688726576
		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-

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

		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: sensor-query-evaluate-8000

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 8000 bytes.

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 150
```

Performance metrics for sensor-query-evaluate-8000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-8000	375	0	2.4	53.07	0.40	38.98	2.4

Resource utilization for sensor-query-evaluate-8000

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-

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

		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: sensor-query-evaluate-16000

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 16000 bytes.

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 200
```

Performance metrics for sensor-query-evaluate-16000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-16000	248	169	5.5	59.92	4.84	40.04	4.1

Resource utilization for sensor-query-evaluate-16000

Resource monitor: prometheus

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

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

		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: sensor-query-evaluate-32000

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 32000 bytes.

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 250
```

Performance metrics for sensor-query-evaluate-32000

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

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

sensor-query-evaluate-32000	198	276	6.6	59.31	0.57	42.88	4.4

Resource utilization for sensor-query-evaluate-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
		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

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

Benchmark round: sensor-query-evaluate-64000

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 64000 bytes.

```
txDuration: 60
rateControl:
  type: fixed-load
  opts:
    transactionLoad: 300
```

Performance metrics for sensor-query-evaluate-64000

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-64000	181	345	7.8	59.62	1.44	35.74	5.6

Resource utilization for sensor-query-evaluate-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
		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	sum(rate(container_fs_reads_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

(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: sensor-query-evaluate-8000-fixed-tps

Test an evaluateTransaction() Gateway method against the NodeJS `basic` Smart Contract method named `sensorQuery`. This method performs a getState on an item that matches an asset of size 8000 bytes at a fixed TPS.

```
txDuration: 60
rateControl:
  type: fixed-rate
  opts:
    tps: 350
```

Performance metrics for sensor-query-evaluate-8000-fixed-tps

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-8000-fixed-tps	0	21050	335.6	-	-	-	182.5

Resource utilization for sensor-query-evaluate-8000-fixed-tps

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	sum(rate(container_fs_writes_bytes_total{name=~".+"}[1m])) by (name)	ca_orderer

(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
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

benchmark config

```
name: sensor-query
description: >-
  This testcase is to determine the large numbers of consumer query the sensor
  from application to check the scalability on hyperledger. Successive rounds
  create and retrieve assets of larger byteSize.
workers:
  number: 50
rounds:
  - label: sensor-query-evaluate-100
    description: >-
      Test an evaluateTransaction() Gateway method against the NodeJS `basic`
      Smart Contract method named `sensorQuery`. This method performs a getState
      on an item that matches an asset of size 100 bytes.
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-load
      opts:
        transactionLoad: 50
    workload:
      module: benchmarks/datamanagement/workloads/sensor-query.js
      arguments:
        chaincodeID: basic
        create_sizes:
          - 100
          - 1000
          - 2000
          - 4000
          - 8000
          - 16000
          - 32000
          - 64000
        byteSize: 100
        consensus: false
  - label: sensor-query-evaluate-1000
    description: >-
      Test an evaluateTransaction() Gateway method against the NodeJS `basic`
      Smart Contract method named `sensorQuery`. This method performs a getState
      on an item that matches an asset of size 1000 bytes.
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-load
      opts:
        transactionLoad: 70
    workload:
      module: benchmarks/datamanagement/workloads/sensor-query.js
      arguments:
        chaincodeID: basic
        noSetup: true
        byteSize: 1000
        consensus: false
  - label: sensor-query-evaluate-2000
    description: >-
      Test an evaluateTransaction() Gateway method against the NodeJS `basic`
```

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

```
    Smart Contract method named `sensorQuery`. This method performs a getState
    on an item that matches an asset of size 2000 bytes.
  chaincodeID: basic
  txDuration: 60
  rateControl:
    type: fixed-load
    opts:
      transactionLoad: 90
  workload:
    module: benchmarks/datamanagement/workloads/sensor-query.js
    arguments:
      chaincodeID: basic
      noSetup: true
      byteSize: 2000
      consensus: false
- label: sensor-query-evaluate-4000
  description: >-
    Test an evaluateTransaction() Gateway method against the NodeJS `basic`
    Smart Contract method named `sensorQuery`. This method performs a getState
    on an item that matches an asset of size 4000 bytes.
  chaincodeID: basic
  txDuration: 60
  rateControl:
    type: fixed-load
    opts:
      transactionLoad: 120
  workload:
    module: benchmarks/datamanagement/workloads/sensor-query.js
    arguments:
      chaincodeID: basic
      noSetup: true
      byteSize: 4000
      consensus: false
- label: sensor-query-evaluate-8000
  description: >-
    Test an evaluateTransaction() Gateway method against the NodeJS `basic`
    Smart Contract method named `sensorQuery`. This method performs a getState
    on an item that matches an asset of size 8000 bytes.
  chaincodeID: basic
  txDuration: 60
  rateControl:
    type: fixed-load
    opts:
      transactionLoad: 150
  workload:
    module: benchmarks/datamanagement/workloads/sensor-query.js
    arguments:
      chaincodeID: basic
      noSetup: true
      byteSize: 8000
      consensus: false
- label: sensor-query-evaluate-16000
  description: >-
    Test an evaluateTransaction() Gateway method against the NodeJS `basic`
    Smart Contract method named `sensorQuery`. This method performs a getState
    on an item that matches an asset of size 16000 bytes.
  chaincodeID: basic
  txDuration: 60
  rateControl:
    type: fixed-load
    opts:
      transactionLoad: 200
  workload:
    module: benchmarks/datamanagement/workloads/sensor-query.js
    arguments:
      chaincodeID: basic
      noSetup: true
      byteSize: 16000
      consensus: false
- label: sensor-query-evaluate-32000
  description: >-
    Test an evaluateTransaction() Gateway method against the NodeJS `basic`
    Smart Contract method named `sensorQuery`. This method performs a getState
    on an item that matches an asset of size 32000 bytes.
  chaincodeID: basic
  txDuration: 60
  rateControl:
    type: fixed-load
    opts:
      transactionLoad: 250
  workload:
    module: benchmarks/datamanagement/workloads/sensor-query.js
    arguments:
      chaincodeID: basic
      noSetup: true
      byteSize: 32000
      consensus: false
- label: sensor-query-evaluate-64000
  description: >-
    Test an evaluateTransaction() Gateway method against the NodeJS `basic`
    Smart Contract method named `sensorQuery`. This method performs a getState
    on an item that matches an asset of size 64000 bytes.
  chaincodeID: basic
  txDuration: 60
  rateControl:
    type: fixed-load
    opts:
      transactionLoad: 300
  workload:
    module: benchmarks/datamanagement/workloads/sensor-query.js
    arguments:
      chaincodeID: basic
      noSetup: true
      byteSize: 64000
      consensus: false
- label: sensor-query-evaluate-8000-fixed-tps
  description: >-
    Test an evaluateTransaction() Gateway method against the NodeJS `basic`
    Smart Contract method named `sensorQuery`. This method performs a getState
```

Basic information

DLT: fabric

Name: sensor-query

Description: This testcase is to determine the large numbers of consumer query the sensor from application to check the scalability on hyperledger. Successive rounds create and retrieve assets of larger byteSize.

Benchmark Rounds: 9

Details

Benchmark results

System under test

Details

```
  on an item that matches an asset of size 8000 bytes at a fixed TPS.
chaincodeID: basic
txDuration: 60
rateControl:
  type: fixed-rate
  opts:
    tps: 350
workload:
  module: benchmarks/datamanagement/workloads/sensor-query.js
  arguments:
    chaincodeID: basic
    noSetup: true
    byteSize: 8000
    consensus: false
```

SUT

```
not provided
```