



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: 3
[Details](#)

Benchmark results

[Summary](#)
[sensor-query-evaluate-100](#)
[sensor-query-evaluate-1000](#)
[sensor-query-evaluate-2000](#)

System under test

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Caliper report

Summary of performance metrics

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
sensor-query-evaluate-100	300	0	39.3	6.02	0.21	4.26	29.3
sensor-query-evaluate-1000	300	0	44.8	4.67	0.07	3.43	32.8
sensor-query-evaluate-2000	300	0	45.2	5.32	0.11	3.90	33.3

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: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 200
```

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	300	0	39.3	6.02	0.21	4.26	29.3

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-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3



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		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-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		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-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		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: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 200
```

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	300	0	44.8	4.67	0.07	3.43	32.8

Resource utilization for sensor-query-evaluate-1000

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-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-



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Benchmark results

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[sensor-query-evaluate-2000](#)

System under test

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		e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		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-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		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-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		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: 1
rateControl:
  type: fixed-rate
  opts:
    tps: 200
```

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	300	0	45.2	5.32	0.11	3.90	33.3



Resource utilization for sensor-query-evaluate-2000

Resource monitor: prometheus

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System under test

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Metric	Prometheus Query	Name
Avg Memory (MB)	sum(container_memory_rss{name=~".+"}) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com
CPU (%)	sum(rate(container_cpu_usage_seconds_total{name=~".+"}[1m])) by (name)	ca_orderer
		couchdb0
		couchdb1
		dev-peer0.org1.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		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-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		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-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		dev-peer0.org2.example.com-basic_1.0-e961b826e2a1772403fa1461dc69e5cc120473a06e4fe1c3c9cd9eb35cdb2ab3
		orderer.example.com
		peer0.org1.example.com
		peer0.org2.example.com

Test Environment



Basic information

DLT: fabric
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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: 100
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: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 200
    workload:
      module: benchmarks/datamanagement/workloads/sensor-query.js
      arguments:
        chaincodeID: basic
        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: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 200
    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`
      Smart Contract method named `sensorQuery`. This method performs a getState
      on an item that matches an asset of size 2000 bytes.
    chaincodeID: basic
    txDuration: 1
    rateControl:
      type: fixed-rate
      opts:
        tps: 200
    workload:
      module: benchmarks/datamanagement/workloads/sensor-query.js
      arguments:
        chaincodeID: basic
        noSetup: true
        byteSize: 2000
        consensus: false
```

SUT

not provided