HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: journey-schedule-benchmark

Description: Benchmarking the Hyperledger Fabric network with the JourneySchedule function

Benchmark Rounds: 5

Details

Benchmark results

Summary

journey-schedule-1

journey-schedule-2

journey-schedule-3

journey-schedule-4

journey-schedule-5

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)
journey-schedule-1	910	0	15.1	0.69	0.14	0.33	15.0
journey-schedule-2	1210	0	20.1	0.42	0.12	0.28	20.0
journey-schedule-3	1510	0	25.1	0.48	0.13	0.32	25.0
journey-schedule-4	1810	0	30.1	0.50	0.13	0.31	29.9
journey-schedule-5	1060	0	35.1	0.51	0.14	0.33	34.8

Benchmark round: journey-schedule-1

Benchmarking the JourneySchedule function with specific parameters.

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

Performance metrics for journey-schedule-1

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
journey-schedule-1	910	0	15.1	0.69	0.14	0.33	15.0

Resource utilization for journey-schedule-1

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

HYPERLEDGER CALIPER

Basic information

DLT: fabric

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Benchmark Rounds: 5

Details

Benchmark results

System under test

Details

Metric	Prometheus Query	Name
		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: journey-schedule-2

Another test case for JourneySchedule function.

```
txDuration: 60
rateControl:
  type: fixed-rate
  opts:
    tps: 20
```

Performance metrics for journey-schedule-2

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
journey-schedule-2	1210	0	20.1	0.42	0.12	0.28	20.0

Resource utilization for journey-schedule-2

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-

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: journey-schedule-benchmark

Description: Benchmarking the Hyperledger Fabric network with the JourneySchedule function

Benchmark Rounds: 5

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
		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: journey-schedule-3

Yet another test case for JourneySchedule function.

```
txDuration: 60
rateControl:
  type: fixed-rate
  opts:
    tps: 25
```

Performance metrics for journey-schedule-3

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
journey-schedule-3	1510	0	25.1	0.48	0.13	0.32	25.0

Resource utilization for journey-schedule-3

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

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: journey-schedule-benchmark

Description: Benchmarking the Hyperledger Fabric network with the JourneySchedule function

Benchmark Rounds: 5

Details

Benchmark results

Summary

journey-schedule-1

journey-schedule-2

journey-schedule-3

journey-schedule-4

journey-schedule-5

System under test

Details

Metric	Prometheus Query	Name
		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: journey-schedule-4

Additional test case for JourneySchedule function.

```
txDuration: 60
rateControl:
  type: fixed-rate
  opts:
    tps: 30
```

Performance metrics for journey-schedule-4

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
journey-schedule-4	1810	0	30.1	0.50	0.13	0.31	29.9

Resource utilization for journey-schedule-4

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

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: journey-schedule-benchmark

Description: Benchmarking the Hyperledger Fabric network with the JourneySchedule function

Benchmark Rounds: 5

Details

Benchmark results

Summary

journey-schedule-1

journey-schedule-2

journey-schedule-3

journey-schedule-4

journey-schedule-5

System under test

Details

Metric	Prometheus Query	Name
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: journey-schedule-5

Another additional test case for JourneySchedule function.

```
txDuration: 30
rateControl:
  type: fixed-rate
  opts:
    tps: 35
```

Performance metrics for journey-schedule-5

Name	Succ	Fail	Send Rate (TPS)	Max Latency (s)	Min Latency (s)	Avg Latency (s)	Throughput (TPS)
journey-schedule-5	1060	0	35.1	0.51	0.14	0.33	34.8

Resource utilization for journey-schedule-5

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

Basic information

DLT: fabric

Name: journey-schedule-benchmark

Description: Benchmarking the Hyperledger Fabric network with the JourneySchedule function

Benchmark Rounds: 5

[Details](#)

Benchmark results

[Summary](#)

[journey-schedule-1](#)
[journey-schedule-2](#)
[journey-schedule-3](#)
[journey-schedule-4](#)
[journey-schedule-5](#)

System under test

[Details](#)

Metric	Query	Name
		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: journey-schedule-benchmark
description: Benchmarking the Hyperledger Fabric network with the JourneySchedule
function
workers:
  number: 10
rounds:
  - label: journey-schedule-1
    description: Benchmarking the JourneySchedule function with specific
parameters.
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-rate
      opts:
        tps: 15
    workload:
      module: benchmarks/datamanagement/workloads/create-journey.js
      arguments:
        chaincodeID: basic
        byteSize: 100
  - label: journey-schedule-2
    description: Another test case for JourneySchedule function.
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-rate
      opts:
        tps: 20
    workload:
      module: benchmarks/datamanagement/workloads/create-journey.js
      arguments:
        chaincodeID: basic
        byteSize: 1000
  - label: journey-schedule-3
    description: Yet another test case for JourneySchedule function.
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-rate
      opts:
```

HYPERLEDGER CALIPER

Basic information

DLT: fabric

Name: journey-schedule-benchmark

Description: Benchmarking the Hyperledger Fabric network with the JourneySchedule function

Benchmark Rounds: 5

[Details](#)

Benchmark results

[Summary](#)

[journey-schedule-1](#)
[journey-schedule-2](#)
[journey-schedule-3](#)
[journey-schedule-4](#)
[journey-schedule-5](#)

System under test

[Details](#)

```
        tps: 25
    workload:
      module: benchmarks/datamanagement/workloads/create-journey.js
      arguments:
        chaincodeID: basic
        byteSize: 5000
  - label: journey-schedule-4
    description: Additional test case for JourneySchedule function.
    chaincodeID: basic
    txDuration: 60
    rateControl:
      type: fixed-rate
      opts:
        tps: 30
    workload:
      module: benchmarks/datamanagement/workloads/create-journey.js
      arguments:
        chaincodeID: basic
        byteSize: 10000
  - label: journey-schedule-5
    description: Another additional test case for JourneySchedule function.
    chaincodeID: basic
    txDuration: 30
    rateControl:
      type: fixed-rate
      opts:
        tps: 35
    workload:
      module: benchmarks/datamanagement/workloads/create-journey.js
      arguments:
        chaincodeID: basic
        byteSize: 15000
```

SUT

```
  not provided
```