

Hanoi Performance Metrics

Metrics

- Image/Executable Footprint
- Service Uptime
- CPU Usage
- Memory Usage
- Ping API Latency
- Measure Event's Exported Time

Image Footprint

- Test Cases
 - Image Footprint
- Aggregations
 - Size
- Unit: MB
- Approach
 - Execute “*docker images*” command to get image size
- Threshold
 - Geneva + 10%

Executable Footprint

- Test Cases
 - Executable Footprint
- Aggregations
 - Size
- Unit: MB
- Approach
 - Copy the executable file from the container and retrieve the file size
- Threshold
 - Geneva + 10%

Service Uptime - Deploy all services at once

- Test Cases

- With creating container
- Without create container

- Aggregations

- Maximum
- Minimum
- Average

- Unit: Seconds/Milliseconds

- Approach

- Get the binary uptime from log "Service started in: 3.827602404s"
- Get the container uptime = ["Service started in" log timestamp - deploy started timestamp]
- Loop **5** times, print out the CPU utilization before each loop
- Clear the buffers and cache before each loop using command "`sudo sync && echo 3 | sudo tee /proc/sys/vm/drop_caches`"

- Threshold

- **300** seconds

CPU Usage

- Test Cases

- Get CPU utilization after device-virtual is working

Device Virtual contains the following 4 auto-events. Boolean(Per 10s), Integer(Per 15s), UInteger(Per 20s), Float(Per 30s)

- Aggregation

- Maximum
- Minimum
- Average

- Unit: Percent

- Approach

- Execute “*docker stats*” command per **7s** to get data
- Loop **10** times

- Threshold

- **50%**

Memory Usage

- Test Cases

- Get Memory utilization after device-virtual is working

Device Virtual contains the following 4 auto-events. Boolean(Per 10s), Integer(Per 15s), UInteger(Per 20s), Float(Per 30s)

- Aggregation

- Maximum
- Minimum
- Average

- Unit: MB

- Approach

- Execute “*docker stats*” command per **7s** to get data
- Loop **10** times

- Threshold

- **300** MB

Ping API Latency

- Test Cases
 - Ping API
- Aggregation
 - Maximum
 - Minimum
 - Average
- Unit: Seconds/Milliseconds
- Approach
 - Sending Ping API request to get response time
 - Loop 100 times
- Threshold
 - 100ms

Measure event's exported time

- Test Cases
 - Sending Boolean events from device-virtual
 - Sending Integer events from device-virtual
 - Sending UnsignedInteger events from device-virtual
- Aggregation
 - Maximum
 - Minimum
 - Average
- Unit: Seconds/Milliseconds
- Approach
 - Last 10 events for each event type
- Threshold
 - 200ms