Equinox E01 Performance and Stability Test Result

Version 1.0.0

Engineering Specification

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Document Control

Version History

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Document Conventions

The following typefaces are used throughout this guide:

* The ‘Courier’ typeface is used for directory objects and attributes, file names and command line code.
* ‘Italics’ are used for emphasis and for cross references.
* This bold typeface is used to represent information you should type in at the keyboard.

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| aperto-b | Note: This Note is used to illustrate that you should pay particular attention to its accompanying information. |

References

[1] None

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**Chapter1: Introduction**

**Chapter2: Environment Settings**

In order to perform performance test, the EAS including application need to be completely installed on the system under load test. In this engineering specification describes the basic setup of the system under load test which the EAS and its application is hosted.

Hardware Specification

The Factory Acceptance Tests were run on Virtual Machine which has following attributes:

- CPU 2397.4MHz x 8 Cores

vendor\_id : GenuineIntel

cpu family : 6

model : 2

model name : QEMU Virtual CPU version 1.2.0

stepping : 3

cpu MHz : 2397.400

cache size : 4096 KB

physical id : 0

siblings : 2

core id : 0

cpu cores : 2

apicid : 0

fpu : yes

fpu\_exception : yes

cpuid level : 4

wp : yes

flags : fpu de pse tsc msr pae mce cx8 apic mtrr pge mca cmov pat pse3

6 clflush mmx fxsr sse sse2 ht syscall nx lm pni cx16 popcnt lahf\_lm

bogomips : 4794.80

clflush size : 64

cache\_alignment : 64

address sizes : 40 bits physical, 48 bits virtual

power management:

- Memory 8GB

MemTotal: 8181732 kB

MemFree: 7023128 kB

Buffers: 400144 kB

Cached: 541672 kB

SwapCached: 0 kB

Active: 508116 kB

Inactive: 516444 kB

HighTotal: 0 kB

HighFree: 0 kB

LowTotal: 8181732 kB

LowFree: 7023128 kB

SwapTotal: 4192956 kB

SwapFree: 4192956 kB

Dirty: 48 kB

Writeback: 0 kB

AnonPages: 82672 kB

Mapped: 22032 kB

Slab: 103604 kB

PageTables: 7512 kB

NFS\_Unstable: 0 kB

Bounce: 0 kB

CommitLimit: 8283820 kB

Committed\_AS: 251020 kB

VmallocTotal: 34359738367 kB

VmallocUsed: 2932 kB

VmallocChunk: 34359733743 kB

HugePages\_Total: 0

HugePages\_Free: 0

HugePages\_Rsvd: 0

Hugepagesize: 2048 kB

HugePages\_Total: 0

HugePages\_Free: 0

HugePages\_Rsvd: 0

Hugepagesize: 2048 kB

**Software Specification**

All testing is based upon the following software and OS release:

- OS Red Hat Enterprise Linux Server release 5.7 (Tikanga)

- Equinox AS 1.3.0

- Equinox E01 1.6.0

Chapter3: Test Scenario

This section describes how to load test by a number of test scenario.

Scenario 1: E01 Provisioning (HTTP Protocol)

E01(…)

E01(1)

E01(0)

Simulator

HTTP

SDF

SDF

SDF

HTTP

From figure above 1 tps at simulator causes 2 tps at E01(main) and 1 tps at E01(replicate).

Scenario 2: ES05 (HTTP Protocol) by EAS platform

E01(…)

E01(1)

E01(0)

ES00/EC00/AF

E11

E00

ES05

Simulator

**HTTP**

**SF**

**SF**

**SF**

**SF**

**SF**

**SF**

**SF**

**SF**

**SDF**

**SDF**

**SDF**

**SF**

**SF**

**SF**

**SF**

**SF**

**SF**

**SF**

**HTTP**

**SF**

From figure above 1 tps at simulator causes 2 tps at ES05, 7 tps at E00, 4 tps at E11, 2 tps at ES00/EC00/AF,

2 tps at E01(main) and 1 tps at E01(replicate).

Scenario 3: E00 Simulator (SF Protocol)

E00 Simulator

E01(…)

E01(1)

E01(0)

SF

SDF

SDF

SDF

SF

From figure above 1 tps at simulator causes 2 tps at E01(main) and 1 tps at E01(replicate).

Scenario 4: Baton Simulator (SDF Protocol)

Baton Simulator

E01(…)

E01(1)

E01(0)

SDF

SDF

SDF

SDF

From figure above 1 tps at simulator causes 1 tps at E01.

Chapter4: Performance Test Result

Scenario 1: E01 Provisioning (HTTP Protocol)

Condition 1:

- 2 E01 (Replicate)

- 500 concurrent connections

- Command “replace”

Result : ~1550 tps

Tasks: 149 total, 2 running, 147 sleeping, 0 stopped, 0 zombie

Cpu0 : 9.7%us, 19.4%sy, 0.0%ni, 71.0%id, 0.0%wa, 0.0%hi, 0.0%si, 0.0%st

Cpu1 : 12.9%us, 19.4%sy, 0.0%ni, 61.3%id, 0.0%wa, 0.0%hi, 6.5%si, 0.0%st

Cpu2 : 3.2%us, 9.7%sy, 0.0%ni, 83.9%id, 0.0%wa, 0.0%hi, 3.2%si, 0.0%st

Cpu3 : 3.2%us, 9.7%sy, 0.0%ni, 22.6%id, 0.0%wa, 25.8%hi, 38.7%si, 0.0%st

Mem: 8181732k total, 2074904k used, 6106828k free, 400940k buffers

Swap: 4192956k total, 0k used, 4192956k free, 895264k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

32219 toro 18 0 291m 273m 620 R 100.6 3.4 7:19.76 E01

32247 toro 16 0 277m 260m 588 S 22.7 3.3 1:50.41 E01

31378 toro 15 0 66248 1628 1196 S 0.0 0.0 0:00.05 bash

32193 toro 18 0 6060 524 376 S 0.0 0.0 0:00.04 E00

32194 toro 15 0 7148 1584 348 S 0.0 0.0 0:00.58 E00

32218 toro 18 0 9244 1628 552 S 0.0 0.0 0:00.02 E01

32246 toro 18 0 9504 1628 544 S 0.0 0.0 0:00.01 E01

Result Explanation:

Condition 2:

- 8 E01 (Replicate)

- 500 concurrent connections

- Command “replace”

Result : ~1380 tps

Tasks: 157 total, 3 running, 154 sleeping, 0 stopped, 0 zombie

Cpu0 : 10.0%us, 27.0%sy, 0.0%ni, 58.0%id, 0.0%wa, 0.0%hi, 5.0%si, 0.0%st

Cpu1 : 14.0%us, 36.0%sy, 0.0%ni, 41.0%id, 0.0%wa, 0.0%hi, 9.0%si, 0.0%st

Cpu2 : 10.1%us, 27.3%sy, 0.0%ni, 56.6%id, 0.0%wa, 0.0%hi, 6.1%si, 0.0%st

Cpu3 : 10.8%us, 23.5%sy, 0.0%ni, 12.7%id, 0.0%wa, 18.6%hi, 34.3%si, 0.0%st

Mem: 8181732k total, 3832036k used, 4349696k free, 412972k buffers

Swap: 4192956k total, 0k used, 4192956k free, 1011500k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

730 toro 18 0 290m 272m 620 R 82.2 3.4 3:03.10 E01

928 toro 15 0 277m 260m 584 S 17.8 3.3 1:03.02 E01

900 toro 15 0 277m 260m 604 S 20.8 3.3 1:08.94 E01

758 toro 16 0 277m 260m 608 S 15.9 3.3 0:54.71 E01

814 toro 15 0 277m 260m 604 S 19.8 3.3 1:04.34 E01

786 toro 15 0 277m 260m 608 S 19.8 3.3 1:02.54 E01

844 toro 15 0 277m 260m 604 S 20.8 3.3 1:02.75 E01

872 toro 15 0 277m 260m 604 S 19.8 3.3 1:07.11 E01

706 toro 15 0 10244 4680 348 R 0.0 0.1 0:00.32 E00

757 toro 18 0 9244 1636 552 S 0.0 0.0 0:00.04 E01

843 toro 18 0 9244 1636 552 S 0.0 0.0 0:00.02 E01

729 toro 18 0 9244 1632 552 S 0.0 0.0 0:00.03 E01

871 toro 18 0 9244 1632 552 S 0.0 0.0 0:00.04 E01

785 toro 18 0 9244 1628 552 S 0.0 0.0 0:00.03 E01

813 toro 18 0 9244 1628 552 S 0.0 0.0 0:00.02 E01

899 toro 18 0 9244 1628 552 S 0.0 0.0 0:00.04 E01

31378 toro 15 0 66248 1628 1196 S 0.0 0.0 0:00.08 bash

927 toro 18 0 9504 1624 544 S 0.0 0.0 0:00.03 E01

705 toro 18 0 6060 524 376 S 0.0 0.0 0:00.03 E00

Result Explanation:

Condition 3:

- 32 E01 (Replicate)

- 500 concurrent connections

- Command “replace”

Result : ~850 tps

Tasks: 205 total, 6 running, 199 sleeping, 0 stopped, 0 zombie

Cpu0 : 21.6%us, 46.4%sy, 0.0%ni, 23.7%id, 1.0%wa, 0.0%hi, 7.2%si, 0.0%st

Cpu1 : 21.2%us, 47.5%sy, 0.0%ni, 26.3%id, 0.0%wa, 0.0%hi, 5.1%si, 0.0%st

Cpu2 : 18.6%us, 48.5%sy, 0.0%ni, 27.8%id, 0.0%wa, 1.0%hi, 4.1%si, 0.0%st

Cpu3 : 18.4%us, 39.8%sy, 0.0%ni, 20.4%id, 0.0%wa, 8.2%hi, 13.3%si, 0.0%st

Mem: 8181732k total, 4244724k used, 3937008k free, 414512k buffers

Swap: 4192956k total, 0k used, 4192956k free, 1337248k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

1181 toro 18 0 299m 281m 620 R 43.0 3.5 1:16.88 E01

1519 toro 16 0 277m 260m 604 S 40.0 3.3 0:24.67 E01

1209 toro 15 0 277m 260m 608 S 16.4 3.3 0:23.17 E01

1840 toro 15 0 277m 260m 604 S 15.2 3.3 0:24.19 E01

1940 toro 16 0 277m 260m 604 R 8.5 3.3 0:23.54 E01

1969 toro 16 0 277m 260m 604 D 7.3 3.3 0:23.31 E01

2025 toro 16 0 277m 260m 604 R 7.3 3.3 0:23.45 E01

1552 toro 15 0 20524 2240 588 D 6.7 0.0 0:23.12 E01

1997 toro 15 0 277m 260m 604 D 6.7 3.3 0:23.46 E01

2053 toro 16 0 20524 2468 588 D 6.7 0.0 0:22.83 E01

2081 toro 16 0 20524 2252 568 D 6.7 0.0 0:22.82 E01

1265 toro 16 0 20524 2268 596 R 6.1 0.0 0:23.24 E01

1293 toro 16 0 20524 2256 596 S 6.1 0.0 0:22.84 E01

1405 toro 16 0 20524 2220 568 S 6.1 0.0 0:22.94 E01

1237 toro 15 0 20524 2360 596 D 5.5 0.0 0:23.20 E01

1349 toro 15 0 20524 2348 576 S 5.5 0.0 0:23.09 E01

1377 toro 16 0 20524 2252 568 D 5.5 0.0 0:22.93 E01

1435 toro 16 0 20524 2244 568 R 5.5 0.0 0:22.92 E01

1463 toro 16 0 20524 2248 568 D 5.5 0.0 0:23.11 E01

1613 toro 16 0 20524 2240 588 S 5.5 0.0 0:22.98 E01

1321 toro 16 0 20524 2380 596 D 4.9 0.0 0:22.92 E01

1491 toro 15 0 20524 2304 588 D 4.9 0.0 0:22.94 E01

1580 toro 16 0 20524 2236 588 D 4.2 0.0 0:23.14 E01

1641 toro 16 0 20524 2300 588 D 4.2 0.0 0:23.04 E01

1669 toro 16 0 20524 2260 588 D 4.2 0.0 0:23.01 E01

1698 toro 15 0 20524 2248 588 S 4.2 0.0 0:23.42 E01

1783 toro 15 0 20524 2288 588 S 4.2 0.0 0:23.02 E01

1811 toro 15 0 20524 2264 588 S 4.2 0.0 0:22.85 E01

1872 toro 16 0 20524 2256 588 D 4.2 0.0 0:23.24 E01

1726 toro 16 0 20524 2388 588 D 3.6 0.0 0:22.94 E01

1754 toro 15 0 20524 2252 588 S 3.6 0.0 0:23.16 E01

1906 toro 15 0 20524 2260 568 D 3.0 0.0 0:21.14 E01

1156 toro 18 0 6060 524 376 S 0.0 0.0 0:00.01 E00

Result Explanation:

Scenario 2: ES05 (HTTP Protocol) by EAS Platform

Condition 1:

- EAS platform version 1.3

- 2 E01 (Replicate)

- 100 concurrent connections

- Command “replace”

Result : ~85 tps

Tasks: 176 total, 2 running, 174 sleeping, 0 stopped, 0 zombie

Cpu0 : 59.4%us, 1.0%sy, 0.0%ni, 36.6%id, 0.0%wa, 0.0%hi, 3.0%si, 0.0%st

Cpu1 : 2.0%us, 4.1%sy, 0.0%ni, 89.8%id, 0.0%wa, 0.0%hi, 4.1%si, 0.0%st

Cpu2 : 7.0%us, 2.0%sy, 0.0%ni, 88.0%id, 0.0%wa, 0.0%hi, 3.0%si, 0.0%st

Cpu3 : 40.6%us, 1.0%sy, 0.0%ni, 53.5%id, 0.0%wa, 1.0%hi, 4.0%si, 0.0%st

Mem: 8181732k total, 2718312k used, 5463420k free, 155716k buffers

Swap: 4192956k total, 8k used, 4192948k free, 1653648k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

16722 toro 18 0 32568 22m 424 R 98.3 0.3 3:19.19 EC00

16692 toro 15 0 13592 7656 612 S 11.9 0.1 0:26.57 E11

16612 toro 15 0 8700 3152 356 S 7.9 0.0 0:16.31 E00

16746 toro 15 0 29940 11m 624 S 3.0 0.1 0:09.88 ES00

16774 toro 15 0 34100 13m 648 S 3.0 0.2 0:05.97 ES05

16636 toro 15 0 278m 260m 612 S 1.0 3.3 0:02.96 E01

16664 toro 15 0 278m 260m 612 S 1.0 3.3 0:02.97 E01

16469 toro 15 0 66112 1616 1196 S 0.0 0.0 0:00.02 bash

16611 toro 18 0 6060 524 376 S 0.0 0.0 0:00.01 E00

16635 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.02 E01

16663 toro 18 0 9760 1624 544 S 0.0 0.0 0:00.02 E01

16691 toro 18 0 6516 812 440 S 0.0 0.0 0:00.01 E11

16721 toro 18 0 10176 556 420 S 0.0 0.0 0:00.00 EC00

16745 toro 18 0 8296 720 440 S 0.0 0.0 0:00.00 ES00

16773 toro 18 0 15792 6136 428 S 0.0 0.1 0:00.01 ES05

Result Explanation:

Condition 2:

- EAS platform version 1.3

- 16 E01 (Replicate)

- 100 concurrent connections

- Command “replace”

Result : ~85 tps

Tasks: 196 total, 3 running, 193 sleeping, 0 stopped, 0 zombie

Cpu(s): 27.9%us, 3.4%sy, 0.0%ni, 66.0%id, 0.0%wa, 0.2%hi, 2.4%si, 0.0%st

Mem: 8181732k total, 6455708k used, 1726024k free, 160252k buffers

Swap: 4192956k total, 8k used, 4192948k free, 1653916k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

17628 toro 18 0 23596 13m 424 R 98.0 0.2 1:35.61 EC00

17598 toro 15 0 13592 7656 612 R 11.9 0.1 0:13.42 E11

17124 toro 15 0 15920 10m 356 S 8.9 0.1 0:08.01 E00

17652 toro 15 0 29872 11m 624 S 3.0 0.1 0:05.04 ES00

17680 toro 15 0 34100 13m 648 S 3.0 0.2 0:03.31 ES05

17288 toro 15 0 278m 260m 608 S 2.0 3.3 0:01.73 E01

17542 toro 15 0 278m 260m 608 S 2.0 3.3 0:01.41 E01

17176 toro 15 0 278m 260m 612 S 1.0 3.3 0:01.10 E01

17316 toro 15 0 278m 260m 608 S 1.0 3.3 0:01.60 E01

17458 toro 15 0 278m 260m 608 S 1.0 3.3 0:01.63 E01

16469 toro 15 0 66112 1616 1196 S 0.0 0.0 0:00.04 bash

17123 toro 18 0 6060 524 376 S 0.0 0.0 0:00.00 E00

17147 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.02 E01

17148 toro 15 0 278m 260m 612 S 0.0 3.3 0:01.10 E01

17175 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.03 E01

17203 toro 18 0 9244 1608 536 S 0.0 0.0 0:00.01 E01

17204 toro 15 0 278m 260m 612 S 0.0 3.3 0:01.25 E01

17231 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

17232 toro 15 0 278m 260m 612 S 0.0 3.3 0:01.46 E01

17259 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.01 E01

17260 toro 15 0 278m 260m 608 S 0.0 3.3 0:01.78 E01

17287 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.04 E01

17315 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.01 E01

17345 toro 18 0 9760 1628 544 S 0.0 0.0 0:00.01 E01

17346 toro 15 0 278m 260m 608 S 0.0 3.3 0:01.50 E01

17373 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.02 E01

17374 toro 15 0 278m 260m 608 S 0.0 3.3 0:01.63 E01

17401 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.01 E01

17402 toro 15 0 278m 260m 608 S 0.0 3.3 0:01.80 E01

17429 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.01 E01

17430 toro 15 0 278m 260m 608 S 0.0 3.3 0:01.88 E01

17457 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.04 E01

17485 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

17486 toro 15 0 278m 260m 608 S 0.0 3.3 0:01.74 E01

17513 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.01 E01

17514 toro 15 0 278m 260m 608 S 0.0 3.3 0:01.76 E01

17541 toro 15 0 278m 260m 608 S 0.0 3.3 0:01.75 E01

Result Explanation:

Scenario 3: E00 Simulator (SF Protocol)

Condition 1:

- 2 E01 (Replicate)

- 10 SF connections

- Command “replace”

Result : ~2800 tps

Tasks: 158 total, 2 running, 156 sleeping, 0 stopped, 0 zombie

Cpu0 : 0.0%us, 0.0%sy, 0.0%ni,100.0%id, 0.0%wa, 0.0%hi, 0.0%si, 0.0%st

Cpu1 : 3.1%us, 4.1%sy, 0.0%ni, 90.8%id, 0.0%wa, 0.0%hi, 2.0%si, 0.0%st

Cpu2 : 1.0%us, 0.0%sy, 0.0%ni, 99.0%id, 0.0%wa, 0.0%hi, 0.0%si, 0.0%st

Cpu3 : 14.9%us, 10.9%sy, 0.0%ni, 0.0%id, 0.0%wa, 21.8%hi, 52.5%si, 0.0%st

Mem: 8181732k total, 2774072k used, 5407660k free, 230324k buffers

Swap: 4192956k total, 8k used, 4192948k free, 1698312k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

11180 toro 23 0 282m 264m 620 R 100.3 3.3 2:17.98 E01

11208 toro 15 0 278m 260m 596 S 9.9 3.3 0:13.35 E01

11155 toro 18 0 6060 520 376 S 0.0 0.0 0:00.02 E00

11156 toro 15 0 6628 1060 344 S 0.0 0.0 0:00.04 E00

11179 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.01 E01

11207 toro 18 0 9760 1624 544 S 0.0 0.0 0:00.01 E01

27929 toro 15 0 66120 1628 1196 S 0.0 0.0 0:00.22 bash

Result Explanation:

Condition 2:

- 8 E01 (Replicate)

- 10 SF connections

- Command “replace”

Result : ~2500 tps

Tasks: 170 total, 2 running, 168 sleeping, 0 stopped, 0 zombie

Cpu0 : 6.6%us, 8.6%sy, 0.0%ni, 77.4%id, 0.0%wa, 0.0%hi, 7.3%si, 0.0%st

Cpu1 : 7.7%us, 8.7%sy, 0.0%ni, 77.0%id, 0.0%wa, 0.0%hi, 6.7%si, 0.0%st

Cpu2 : 6.7%us, 9.0%sy, 0.0%ni, 78.0%id, 0.0%wa, 0.0%hi, 6.3%si, 0.0%st

Cpu3 : 13.3%us, 10.0%sy, 0.0%ni, 0.3%id, 0.0%wa, 26.9%hi, 49.5%si, 0.0%st

Mem: 8181732k total, 4384356k used, 3797376k free, 231152k buffers

Swap: 4192956k total, 8k used, 4192948k free, 1699056k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

11451 toro 18 0 282m 264m 640 R 98.9 3.3 4:42.43 E01

11537 toro 15 0 278m 260m 596 S 13.3 3.3 0:43.03 E01

11479 toro 15 0 278m 260m 596 S 9.6 3.3 0:45.99 E01

11566 toro 15 0 278m 260m 596 S 9.6 3.3 0:43.10 E01

11622 toro 15 0 278m 260m 616 S 9.6 3.3 0:43.39 E01

11594 toro 15 0 278m 260m 596 S 9.3 3.3 0:45.23 E01

11507 toro 15 0 278m 260m 596 S 9.0 3.3 0:45.32 E01

11650 toro 15 0 278m 260m 612 S 7.3 3.3 2:12.82 E01

11426 toro 18 0 6060 528 376 S 0.0 0.0 0:00.03 E00

11427 toro 15 0 9728 4164 348 S 0.0 0.1 0:00.06 E00

11450 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.01 E01

11478 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.01 E01

11506 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.00 E01

11536 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

11565 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.01 E01

11593 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.04 E01

11621 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.04 E01

11649 toro 18 0 9760 1632 544 S 0.0 0.0 0:00.02 E01

27929 toro 15 0 66120 1628 1196 S 0.0 0.0 0:00.23 bash

Result Explanation:

Condition 3:

- 16 E01 (Replicate)

- 10 SF connections

- Command “replace”

Result : ~2400 tps

Tasks: 186 total, 2 running, 184 sleeping, 0 stopped, 0 zombie

Cpu0 : 16.9%us, 19.6%sy, 0.0%ni, 48.8%id, 0.0%wa, 0.0%hi, 14.6%si, 0.0%st

Cpu1 : 19.3%us, 21.6%sy, 0.0%ni, 38.9%id, 0.0%wa, 0.0%hi, 20.3%si, 0.0%st

Cpu2 : 14.9%us, 16.5%sy, 0.0%ni, 54.1%id, 0.3%wa, 0.3%hi, 13.9%si, 0.0%st

Cpu3 : 10.3%us, 9.6%sy, 0.0%ni, 2.0%id, 0.0%wa, 29.2%hi, 48.8%si, 0.0%st

Mem: 8181732k total, 6524960k used, 1656772k free, 231876k buffers

Swap: 4192956k total, 8k used, 4192948k free, 1698736k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

12068 toro 18 0 282m 264m 620 R 84.6 3.3 3:19.88 E01

12180 toro 15 0 278m 260m 596 S 14.9 3.3 0:31.91 E01

12377 toro 15 0 278m 260m 592 S 13.3 3.3 0:33.50 E01

12152 toro 15 0 278m 260m 596 S 12.6 3.3 0:32.14 E01

12208 toro 15 0 278m 260m 596 S 11.9 3.3 0:32.85 E01

12293 toro 15 0 278m 260m 592 S 11.6 3.3 0:32.76 E01

12433 toro 15 0 278m 260m 592 S 11.3 3.3 0:31.99 E01

12124 toro 15 0 278m 260m 596 S 10.9 3.3 0:32.37 E01

12461 toro 15 0 278m 260m 592 S 10.9 3.3 0:31.14 E01

12405 toro 15 0 278m 260m 592 S 10.3 3.3 0:33.02 E01

12096 toro 15 0 278m 260m 596 S 10.0 3.3 0:33.54 E01

12321 toro 15 0 278m 260m 592 S 10.0 3.3 0:33.68 E01

12349 toro 15 0 278m 260m 592 S 9.6 3.3 0:32.91 E01

12489 toro 15 0 278m 260m 592 S 9.6 3.3 0:32.28 E01

12236 toro 15 0 278m 260m 592 S 9.0 3.3 0:34.13 E01

12264 toro 15 0 278m 260m 592 S 8.0 3.3 0:30.92 E01

12043 toro 18 0 6060 528 376 S 0.0 0.0 0:00.03 E00

12044 toro 15 0 13856 8300 352 S 0.0 0.1 0:00.16 E00

12067 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.01 E01

12095 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

12123 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.04 E01

12151 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

12179 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.02 E01

12207 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.04 E01

12235 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.03 E01

12263 toro 18 0 9760 1628 544 S 0.0 0.0 0:00.01 E01

12292 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.01 E01

12320 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.02 E01

12348 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.01 E01

12376 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.02 E01

12404 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.03 E01

12432 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.03 E01

12460 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.04 E01

12488 toro 18 0 9760 1624 544 S 0.0 0.0 0:00.01 E01

Result Explanation:

Condition 4:

- 16x2 E01 (Replicate)

- 10 SF connections

- Command “replace”

Result : ~2400 tps

Tasks: 181 total, 3 running, 178 sleeping, 0 stopped, 0 zombie

Cpu0 : 22.6%us, 28.6%sy, 0.0%ni, 28.6%id, 0.0%wa, 0.0%hi, 20.3%si, 0.0%st

Cpu1 : 27.9%us, 28.9%sy, 0.0%ni, 12.6%id, 0.0%wa, 0.0%hi, 30.6%si, 0.0%st

Cpu2 : 20.7%us, 26.3%sy, 0.0%ni, 32.0%id, 0.0%wa, 0.0%hi, 21.0%si, 0.0%st

Cpu3 : 6.0%us, 1.0%sy, 0.0%ni, 0.0%id, 0.0%wa, 42.5%hi, 50.5%si, 0.0%st

Mem: 8181732k total, 6526120k used, 1655612k free, 232932k buffers

Swap: 4192956k total, 8k used, 4192948k free, 1698656k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

13613 toro 21 0 278m 260m 644 R 99.7 3.3 2:13.88 E01

13417 toro 17 0 282m 264m 620 R 63.8 3.3 1:49.34 E01

13725 toro 15 0 278m 260m 592 S 13.0 3.3 0:16.74 E01

13445 toro 15 0 278m 260m 596 S 12.6 3.3 0:18.54 E01

13697 toro 15 0 278m 260m 592 S 12.6 3.3 0:17.53 E01

13753 toro 15 0 278m 260m 592 S 12.3 3.3 0:17.39 E01

13473 toro 15 0 278m 260m 596 S 12.0 3.3 0:17.00 E01

13501 toro 15 0 278m 260m 596 S 12.0 3.3 0:17.25 E01

13837 toro 15 0 278m 260m 592 S 11.6 3.3 0:17.22 E01

13585 toro 15 0 278m 260m 592 S 11.3 3.3 0:17.34 E01

13641 toro 15 0 278m 260m 592 S 11.3 3.3 0:17.15 E01

13669 toro 15 0 278m 260m 592 S 11.3 3.3 0:17.42 E01

13809 toro 15 0 278m 260m 592 S 11.3 3.3 0:17.17 E01

13781 toro 15 0 278m 260m 592 S 11.0 3.3 0:16.47 E01

13557 toro 15 0 278m 260m 596 S 10.6 3.3 0:17.34 E01

13529 toro 15 0 278m 260m 596 S 10.0 3.3 0:17.00 E01

13392 toro 18 0 6060 524 376 S 0.0 0.0 0:00.04 E00

13393 toro 15 0 13852 8292 348 S 0.0 0.1 0:00.07 E00

13416 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.01 E01

13444 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.01 E01

13472 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.04 E01

13500 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.03 E01

13528 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.03 E01

13556 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.01 E01

13584 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

13612 toro 18 0 9760 1488 412 S 0.0 0.0 0:00.04 E01

13640 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.04 E01

13668 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.04 E01

13696 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.03 E01

13724 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.04 E01

13752 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

13780 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.03 E01

13808 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

13836 toro 18 0 9760 1628 544 S 0.0 0.0 0:00.00 E01

Result Explanation:

Scenario 4: Baton Simulator (SDF Protocol)

Condition 1:

- 2 E01 (Replicate)

- 1 SDF connections

- Command “replace”

Result : ~15000 tps

Tasks: 160 total, 6 running, 154 sleeping, 0 stopped, 0 zombie

Cpu0 : 59.4%us, 19.8%sy, 0.0%ni, 20.8%id, 0.0%wa, 0.0%hi, 0.0%si, 0.0%st

Cpu1 : 59.8%us, 17.6%sy, 0.0%ni, 16.7%id, 0.0%wa, 0.0%hi, 5.9%si, 0.0%st

Cpu2 : 17.0%us, 32.0%sy, 0.0%ni, 31.0%id, 0.0%wa, 0.0%hi, 20.0%si, 0.0%st

Cpu3 : 81.0%us, 10.0%sy, 0.0%ni, 0.0%id, 0.0%wa, 0.0%hi, 9.0%si, 0.0%st

Mem: 8181732k total, 4957288k used, 3224444k free, 446828k buffers

Swap: 4192956k total, 8k used, 4192948k free, 3628076k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

5824 toro 25 0 278m 260m 588 R 99.3 3.3 22:39.80 E01

5852 toro 16 0 278m 260m 588 R 70.5 3.3 13:00.02 E01

739 toro 15 0 66116 1624 1196 S 0.0 0.0 0:00.22 bash

5799 toro 18 0 6060 524 376 S 0.0 0.0 0:00.02 E00

5800 toro 15 0 7148 1584 348 R 0.0 0.0 0:00.08 E00

5823 toro 18 0 9244 1608 536 S 0.0 0.0 0:00.01 E01

5851 toro 18 0 9760 1624 544 S 0.0 0.0 0:00.03 E01

Result Explanation:

Condition 2:

- 8 E01 (Replicate)

- 1 SDF connections

- Command “replace”

Result : ~8000 tps

Tasks: 174 total, 8 running, 166 sleeping, 0 stopped, 0 zombie

Cpu0 : 38.6%us, 37.6%sy, 0.0%ni, 7.9%id, 0.0%wa, 0.0%hi, 15.8%si, 0.0%st

Cpu1 : 63.4%us, 22.8%sy, 0.0%ni, 4.0%id, 0.0%wa, 0.0%hi, 9.9%si, 0.0%st

Cpu2 : 61.4%us, 27.7%sy, 0.0%ni, 0.0%id, 0.0%wa, 0.0%hi, 10.9%si, 0.0%st

Cpu3 : 63.4%us, 22.8%sy, 0.0%ni, 1.0%id, 0.0%wa, 0.0%hi, 12.9%si, 0.0%st

Mem: 8181732k total, 6572368k used, 1609364k free, 447900k buffers

Swap: 4192956k total, 8k used, 4192948k free, 3628064k cached

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND

9657 toro 25 0 278m 260m 608 R 62.5 3.3 0:32.69 E01

9797 toro 25 0 278m 260m 608 R 46.6 3.3 0:30.49 E01

9629 toro 15 0 278m 260m 612 R 33.7 3.3 0:34.05 E01

9713 toro 15 0 278m 260m 588 S 29.8 3.3 0:26.68 E01

9825 toro 15 0 278m 260m 604 R 29.8 3.3 0:26.36 E01

9685 toro 15 0 278m 260m 588 S 27.8 3.3 0:27.63 E01

9741 toro 15 0 278m 260m 588 R 25.8 3.3 0:25.72 E01

9769 toro 15 0 278m 260m 588 S 23.8 3.3 0:26.27 E01

739 toro 15 0 66116 1624 1196 S 0.0 0.0 0:00.28 bash

9604 toro 18 0 6060 524 376 S 0.0 0.0 0:00.01 E00

9605 toro 15 0 10244 4680 348 S 0.0 0.1 0:00.08 E00

9628 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.02 E01

9656 toro 18 0 9244 1612 536 S 0.0 0.0 0:00.01 E01

9684 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.00 E01

9712 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.01 E01

9740 toro 18 0 9244 1620 536 S 0.0 0.0 0:00.02 E01

9768 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

9796 toro 18 0 9244 1616 536 S 0.0 0.0 0:00.02 E01

9824 toro 18 0 9760 1624 544 S 0.0 0.0 0:00.00 E01

Result Explanation:

Chapter5: Stability Test Result